Measuring Up: Canadian Results of the OECD PISA 2022 Study

The Performance of Canadian 15-Year-Olds in Mathematics, Reading, and Science

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Canada

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Authors

Vanja Elez, Council of Ministers of Education, Canada
Edouard Imbeau, Employment and Social Development Canada
Yitian Tao, Council of Ministers of Education, Canada
Vincent Paquet, Employment and Social Development Canada
Asia Kotasinska, Council of Ministers of Education, Canada
Ashley Rostamian, Council of Ministers of Education, Canada
Laure Subtil-Smith, Council of Ministers of Education, Canada
Manuel Cardoso, Council of Ministers of Education, Canada
Tanya Scerbina, Council of Ministers of Education, Canada
Gulam Khan, Council of Ministers of Education, Canada

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The Council of Ministers of Education, Canada (CMEC) was established in 1967 by education ministers from various provinces and territories. Its primary purpose is to serve as a platform for discussing mutual interests, coordinating educational initiatives, and advocating for the provinces and territories in dealings with national educational organizations, the federal government, foreign governments, and international organizations. CMEC functions as the collective voice for education in Canada, facilitating collective efforts among provinces and territories to achieve common objectives across a wide spectrum of activities at the elementary, secondary, and postsecondary levels.

Through the CMEC Secretariat, the Council serves as the central organization where ministries and departments of education collaborate on activities, projects, and initiatives of interest to all provinces and territories. One such collaborative effort involves the development and implementation of pan-Canadian assessment, which is grounded in contemporary research and best practices for assessing student achievement in core subjects.

Ce rapport est également disponible en français.

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Introduction

The skills and knowledge that individuals bring to their jobs, to further studies, and to society play an important role in determining economic success and overall quality of life, at both the individual and societal level. Today's knowledge-based economy is driven by advances in information and communication technologies, reduced trade barriers, and the globalization of markets, all of which have changed the type of knowledge and skills required for success. As a result, individuals need a strong set of foundational skills upon which further learning can be built.

Education systems play a central role in building this strong base. Students leaving secondary education without a strong foundation may experience difficulty accessing postsecondary education systems and training or the labour market, and they may benefit less when learning opportunities are presented later in life. Without the tools needed to be effective learners throughout their lives, individuals with limited skills risk economic and social marginalization.

Governments in industrialized countries have devoted large portions of their budgets to provide high-quality education. Given these investments, they are interested in the relative effectiveness of their education systems. To address questions about the effectiveness of these systems, member countries of the Organisation for Economic Co-operation and Development (OECD), along with partner countries,[1] developed a common tool to improve their understanding of what makes young people — and entire education systems — successful. This tool is the Programme for International Student Assessment (PISA). It measures the extent to which youth, at age 15, have acquired some of the knowledge and skills that are essential for full participation in modern societies.

The Programme for International Student Assessment

PISA is a collaborative effort among member countries of the OECD. It is designed to provide policy-oriented international indicators of the skills and knowledge of 15-year-old students and to shed light on a range of factors that contribute to successful students, schools, education systems, and learning environments (OECD, 2023a). It measures skills that are generally recognized as key outcomes of the educational process and that are believed to be prerequisites for efficient learning throughout life and for full participation in society. The assessment does not focus on whether students can reproduce knowledge but rather on young people's ability to use and apply their knowledge and skills to meet real-life challenges.

Information gathered through PISA enables a thorough comparative analysis of the performance of students near the end of their compulsory education. Along with data on student performance, contextual data collected through PISA permit exploration of the ways that achievement varies across different social and economic groups and the factors that influence achievement within and among countries.

For more than two decades, PISA has brought significant attention to international assessments and related studies by generating data to inform the public and to enhance policy-makers' ability to formulate decisions based on evidence, set measurable benchmarks, and monitor changes over time. Canadian provinces have used information gathered from PISA, along with other sources of information such as the Pan-Canadian Assessment Program (PCAP) (see, e.g., O'Grady, Fung, et al., 2018), other international assessments, and their own provincial assessment programs, to inform various education-related initiatives.

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[1] In this report, the word *countries* will be used to denote countries and economies.

In Canada, PISA is carried out through a partnership between Employment and Social Development Canada (ESDC) and the Council of Ministers of Education, Canada (CMEC).

PISA, which began in 2000, focuses on the capabilities of 15-year-old students as they near the end of compulsory education. Administered every three years,[2] it reports on mathematical, reading, and scientific literacy and provides a more detailed look at one of those domains (the major domain) in each cycle. The major domain in 2022 was mathematics, as it was in 2003 and 2012. As a major focus, that domain is tested in greater depth, taking up roughly one-half of the total testing time. Reading was the major domain in 2000, 2009, and 2018. Science was the major domain in 2006 and 2015. Students' proficiency in a different innovative domain is also assessed in each cycle. In 2022, the innovative domain was creative thinking — that is, students' ability to generate diverse and creative ideas, as well as to evaluate and improve ideas.[3] The innovative domain in 2018 was global competence, while in 2015 it was collaborative problem solving.

Why does Canada participate in PISA?

Canada's continued participation in PISA stems from many of the same questions that motivate other participating countries. In Canada, the provinces and territories, which are responsible for education, invest significant resources in the provision of elementary and secondary education, and Canadians are interested in the outcomes of compulsory education provided to their youth. A key question is, how can resources be directed to the achievement of higher levels of knowledge and skills upon which lifelong learning is founded and to the reduction of social inequality in life outcomes?

Elementary and secondary education systems play a key role in providing students with the knowledge and skills that form an essential foundation for the further development of human capital, whether through participation in the workforce, postsecondary education, or lifelong learning. Over the years, studies based on PISA data have shown the relationship between strong skills in the core subject areas at age 15 and outcomes in later life. For example, results from the Youth in Transition Survey (YITS) show a strong association between reading proficiency and education attainment (OECD, 2010 and 2012). Canadian students in the bottom quartile of PISA reading scores were much more likely to drop out of secondary school and less likely to have completed a year of postsecondary education than those in the top quartile. In contrast, Canadian students at the top level of reading performance in PISA (at the time, Level 5) were 20 times more likely to go to university than those at the lowest levels (at or below Level 1) (OECD, 2010). Overall, students who do well in school at age 15 are more likely to complete higher education and to be employed in a skilled occupation by age 25; on the other hand, students who do not perform well have a higher risk of dropping out of school (OECD, 2023a).

Questions about educational effectiveness can be partly answered with data on the average performance of Canada's youth in key subject areas. However, with respect to equity, other questions can be answered only by examining the distribution of competencies. The contextual data generated by PISA provide answers to questions such as, Who are the students at the lowest levels of achievement? and, Do certain groups or regions appear to be at greater risk of low achievement? These are important questions because, among other things, acquisition of knowledge and skills during compulsory education influences access to postsecondary education, success in the labour market, and the effectiveness of continuous, lifelong learning.

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[2] PISA has been administered every three years since 2000. The eighth cycle of PISA was scheduled to be administered in 2021. However, due to the global COVID-19 pandemic, the eighth cycle was rescheduled to 2022.

[3] Student results for the innovative domain will be reported as part of a separate publication.

What is PISA 2022?

PISA 2022 marks the third time that mathematics was the major domain. Students who participated in PISA 2022 entered primary school around 2013, one year after the PISA 2012 survey, a year in which mathematics was also the major domain. Thus, the 2022 results provide an opportunity to assess the impact on learning outcomes of policy changes and practices that may have been influenced by previous PISA findings.

Given its emphasis on mathematics, PISA 2022 reports on mathematics literacy in general as well as on four mathematical process subscales (reasoning, formulating, employing, and interpreting) and four content subscales (quantity, uncertainty and data, change and relationships, and space and shape). The subscales are described in Chapter 1.

The distinction between the coverage of the major domain and the two minor domains has been less prominent in the last two PISA cycles than in previous administrations. As in 2018, the test design in 2022 provided full coverage of the constructs for all three domains, with approximately one-half of the total testing time dedicated to the major domain. Specifically, each student was assigned a fraction of the entire PISA 2022 item pool, depending on the test form the student received. Each test form entailed two hours of testing in two different subjects. For the mathematics and reading assessment, a multi-stage adaptive test design was used, which provides a more efficient and precise measurement of ability across the proficiency scales. The multi-stage adaptive test design for reading was first implemented in PISA 2018; the same test design structure was used in PISA 2022, but with a smaller item pool, as reading was a minor domain. The multi-stage adaptative test design for mathematics was introduced in PISA 2022 using a similar but enhanced design. Information on the test design is included in Chapter 1.

Eighty-one countries participated in PISA 2022.[4] Typically, between 5,000 and 10,000 15-year-old students from at least 150 schools were tested in each country. In Canada, approximately 23,000 students from over 850 schools participated across the 10 provinces.[5]

The large Canadian sample was required to produce reliable estimates representative of each province and for both French- and English-language school systems in Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan, Alberta, and British Columbia.[6] In Canada, PISA was administered in English and in French, depending on the school system in which students were enrolled.

The 2022 PISA assessment was administered in schools during regular school hours from April 18 to June 7, 2022. The assessment was a two-hour computer-based test. Students also completed a 35-minute student background questionnaire providing information about themselves and their home, while school principals completed a 45-minute questionnaire about their schools. As part of PISA 2022, international options could also be implemented. Certain provinces in Canada chose to add a financial literacy assessment. Canada also implemented several national options in the form of short questionnaires to collect information on the attitudes of 15-year-old students toward trades, their participation in French immersion programs, Indigenous self-identity, and expectations related to educational attainment; however, only some provinces chose to participate in these national options.

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[4] The OECD countries are Australia, Austria, Belgium, Canada, Chile, Colombia, Costa Rica, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Türkiye, United Kingdom, and United States. Participating partner countries and economies are Albania, Argentina, Baku (Azerbaijan), Brazil, Brunei Darussalam, Bulgaria, Cambodia, Chinese Taipei, Croatia, Cyprus, Dominican Republic, El Salvador, Georgia, Guatemala, Hong Kong (China), Indonesia, Jamaica, Jordan, Kazakhstan, Kosovo, Macao (China), Malaysia, Malta, Moldova, Mongolia, Montenegro, Morocco, North Macedonia, Palestinian Authority, Panama, Paraguay, Peru, Philippines, Qatar, Romania, Saudi Arabia, Serbia, Singapore, Thailand, Ukrainian regions (18 of 27), United Arab Emirates, Uruguay, Uzbekistan, and Vietnam.

[5] No data were collected in the three territories or in First Nations schools. Further information on sampling procedures and response rates for Canada can be found in Appendix A.

[6] The samples of French-language schools were not sufficiently large to produce reliable estimates in Newfoundland and Labrador and Prince Edward Island.

Table 1 presents an overview of PISA 2022. It includes information on participants, test design and administration, and national and international options.

Table 1		
Overview of PISA 2022		
	International	**Canada**
Participating countries/provinces	• 81 countries	• 10 provinces
Population	• Youth aged 15	• Youth aged 15
Number of participating students	• Between 5,000 and 10,000 per country, with some exceptions, for a total of around 690,000	• Approximately 23,000 students
Domains	• Major: mathematics • Minor: reading and science • Innovative: creative thinking	• *No difference from international conditions*
Languages in which the test was administered	• 54 languages	• English and French
International assessment	• 2 hours of direct assessments of mathematics, reading, science, and creative thinking • 35-minute contextual questionnaire administered to students • 45-minute school questionnaire administered to school principals • UH (Une-Heure or One-Hour) Test designed for students with special education needs who cannot participate in the regular assessment	• *No difference from international conditions*
International options	• 10-minute optional questionnaire on familiarity with information technology and communications administered to students • 10-minute optional questionnaire on well-being administered to students • 30-minute optional questionnaire administered to parents/guardians • 1-hour optional assessment of financial literacy, which includes cognitive components and a 10-minute questionnaire • 40-minute optional teacher questionnaire	• 1-hour optional assessment of financial literacy (includes cognitive components and a questionnaire), administered in Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Ontario, Manitoba, Alberta, and British Columbia
National options	• Other options were undertaken in a limited number of countries	• A maximum of 10 minutes (total) of additional questions administered to students, about: ○ their attitudes toward trades (Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Manitoba, Saskatchewan, Alberta, and British Columbia) ○ their participation in French immersion programs (Newfoundland and Labrador, Prince Edward Island, New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta, and British Columbia) ○ Indigenous self-identity (Newfoundland and Labrador, Prince Edward Island, New Brunswick, Manitoba, Saskatchewan, Alberta, and British Columbia) ○ their expectations, as well as their parents'/guardians' expectations (as perceived by the students), with regards to educational attainment (Newfoundland and Labrador, Prince Edward Island, New Brunswick, Quebec, Manitoba, Saskatchewan, Alberta, and British Columbia)

PISA 2022 in Canada

The PISA 2022 cycle was administered in schools during the time of the global pandemic. Many schools and students around the world were impacted by COVID-19-related restrictions, school closures, disruptions to learning environments, and changes in attendance and student learning modes. In Canada, these circumstances had impacts on school and student participation rates. Given that it did not meet all PISA technical standards, Canada was required to conduct a non-response bias analysis (NRBA) at the school and student levels for certain provinces. More information on response and exclusion rates and the NRBA is provided in Appendix A.

Objectives and organization of this report

This report provides the initial results from the PISA 2022 assessment for Canada and the provinces. It presents the pan-Canadian and provincial results in mathematics, reading, and science, and complements the information presented in the PISA 2022 international report.[7] It also compares pan-Canadian results to those in other participating countries and across Canadian provinces, as well as results over time.

Chapter 1 provides information on the performance of Canadian 15-year-old students on the PISA 2022 assessment in mathematics, the primary focus of PISA 2022. It explains the eight subscales that constitute the PISA assessment of mathematics literacy and describes the eight mathematics proficiency levels. Student achievement is presented by both proficiency levels and average scores. Chapter 2 presents data from the student questionnaire. It reports statistics for variables of interest and provides an analysis of the relationship between certain variables (including sociodemographic characteristics, beliefs and values, and new questions associated with the COVID-19 pandemic) and student performance in mathematics, where pertinent. Chapter 3 presents results on performance in the minor domains of reading and science. The Conclusion discusses the major findings and opportunities for further study. Finally, the appendices provide additional details on sampling, response rates, and exclusions as well as a number of data tables focused on achievement results and contextual information.

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[7] The PISA 2022 international report is being released in five volumes. Results presented in this report correspond to those in *PISA 2022 Results, Volume I: The State of Learning and Equity in Education* (OECD, 2023a).

Chapter 1

Canadian Students' Performance in Mathematics in an International Context

Defining mathematics

In the PISA context, *mathematics* refers to *mathematical literacy*, which is defined as "an individual's capacity to reason mathematically and to formulate, employ, and interpret mathematics to solve problems in a variety of real-world contexts. It includes concepts, procedures, facts, and tools to describe, explain, and predict phenomena. It helps individuals know the role that mathematics plays in the world and make the well-founded judgments and decisions needed by constructive, engaged and reflective 21st century citizens" (OECD, 2018, p. 7). Mathematical literacy prepares students to address real-world critical issues facing 21st-century society through problem solving, mathematical reasoning, and computational thinking.

The mathematics framework was originally developed for PISA 2003 and has evolved over the years to meet the changing realities of mathematics education in a 21st-century world, while maintaining its essential features to allow reporting on trends over time. Since the initial development of the framework, the nature of mathematical competence has shifted away from basic arithmetic skills or operations to demonstrating computational thinking in today's computer-centred and digitized society. In order to reflect these shifts, the changes to the framework for the 2022 cycle include a focus on certain 21st-century skills and acknowledge the intersection between mathematical and computational thinking. In addition, while the problem-solving cycle, which describes the processes of solving contextualized problems, has remained a fundamental component of the framework, in 2022 there is an added emphasis on mathematical reasoning, which contributes to the three processes of the problem-solving cycle and to mathematical literacy in general. PISA 2022, then, measures students' mathematical reasoning as well as their ability to apply the three processes of the problem-solving cycle. These four items can be defined as follows (adapted from OECD, 2023a):

- *Mathematical reasoning* refers to "thinking mathematically" and is the capacity to use mathematical concepts, tools, and logic to conceptualize and create solutions to real-life problems and situations.

- *Formulating situations mathematically* (*formulating*) refers to the ability to recognize or identify the mathematical concepts and ideas underlying real-world problems and to then provide mathematical structure to the problems.

- *Employing mathematical concepts*, *facts, procedures* (*employing*) refers to the ability to apply appropriate mathematics tools to solve mathematically formulated problems to obtain mathematical conclusions.

- *Interpreting, applying, and evaluating mathematical outcomes* (*interpreting*) refers to the ability to reflect on mathematical solutions, results, or conclusions and interpret them in the context of real-life problems.

As was the case in 2012, when mathematics was last the major domain, mathematical content knowledge is organized around four broad content areas central to the discipline. Although their definitions and delineations may vary, these areas are consistent with the way provincial curricula, as well as provincial, pan-Canadian, and international assessments, are organized. These broad content categories are as follows (adapted from OECD, 2018, pp. 24–26):

- *Change and relationships* involves understanding fundamental types of change and recognizing when they occur in order to use suitable mathematical models to describe and predict change. Mathematically, this means modelling the change and the relationships with appropriate functions and equations, as well as creating, interpreting, and translating among symbolic and graphical representations of relationships.

- *Quantity* incorporates the quantification of attributes of objects, relationships, situations, and entities in the world; understanding various representations of those quantifications; and judging interpretations and arguments based on quantity. To engage with the quantification of the world involves understanding measurements, counts, magnitudes, units, indicators, relative size, and numerical trends and patterns.

- *Space and shape* encompasses a wide range of phenomena that are encountered everywhere in our visual and physical world: patterns, properties of objects, positions and orientations, representations of objects, decoding and encoding of visual information, and navigation and dynamic interaction with real shapes as well as with representations.

- *Uncertainty and data* includes recognizing the place of variation in processes, having a sense of the quantification of that variation, acknowledging uncertainty and error in measurement, and knowing about chance. It also includes forming, interpreting, and evaluating conclusions drawn in situations where uncertainty is central. Quantification is a primary method for describing and measuring a vast set of attributes of aspects of the world.

In the PISA 2022 assessment, four topics within the above content categories were flagged for special emphasis:

- growth phenomena (change and relationships)
- geometric approximation (space and shape)
- computer simulations (quantity)
- conditional decision making (uncertainty and data)

The key 21st-century skills connected to mathematical literacy within the framework are as follows:

- critical thinking
- creativity
- research and inquiry
- self-direction, initiative, and persistence
- information use
- systems thinking
- communication
- reflection

PISA 2022 adopted a multi-stage adaptive testing approach for the computer-based assessment of mathematics (CBAM). There were three stages in the adaptive testing. This approach was initially used for reading in 2018, with several improvements made for the 2022 cycle. In 2022, multi-stage adaptive testing continued to be used for reading, while a non-adaptive testing approach was used for science. The test started with a core stage of a medium-difficulty block, followed by either a high- or low-difficulty block in Stage 2 and finishing with a high-, medium-, or low-difficulty block in Stage 3. The Stage 2 and Stage 3 blocks were assigned based on the student's performance (i.e., low, medium, or high achievement) in the preceding stage of the assessment. The use of adaptive testing ensures a higher level of measurement precision by assigning items closer to each student's ability level while administering fewer items to each student (OECD, 2019a, p. 37).

The main elements of the PISA 2022 mathematics framework are presented in Figure 1.1. The cognitive assessment design includes test items that focus on different content knowledge viewed through the lens of mathematical reasoning and the three processes of the problem-solving cycle. The assessment items reflect various personal, occupational, social, and scientific contexts and 21st-century skills, placing mathematics questions in real-world contexts.

Figure 1.1

Elements of the PISA 2022 mathematics framework
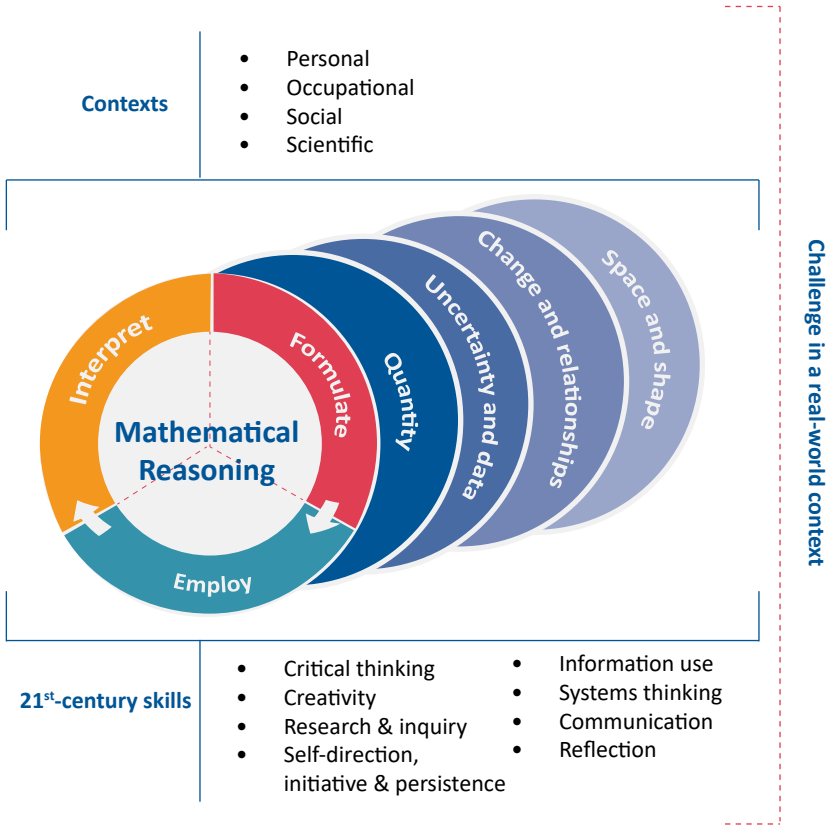
Adapted from OECD (2018, p. 10).

As noted above, the mathematics framework includes several different elements. For PISA 2022 reporting purposes, a total of eight subscales are used: a mathematical reasoning subscale, three subscales for mathematical problem solving, and four content knowledge subscales. The mathematical problem-solving subscales are formulating situations mathematically; employing mathematical concepts, facts, procedures, and reasoning; and interpreting, applying, and evaluating mathematical outcomes. The four content knowledge subscales are change and relationships, quantity, space and shape, and uncertainty and data.

Table 1.1 provides an overview of the framework coverage in the PISA 2022 mathematics cognitive assessment by mathematical process, while Table 1.2 provides an overview of the framework coverage by content category.

Table 1.1

Distribution of PISA 2022 tasks by mathematical process

Process subscales		Percentage of score points in PISA 2022
Mathematical reasoning		Approximately 25
Mathematical problem solving	Formulating situations mathematically	Approximately 25
	Employing mathematical concepts, facts, procedures, and reasoning	Approximately 25
	Interpreting, applying, and evaluating mathematical outcomes	Approximately 25

Adapted from Table 1 in OECD, 2018.

Table 1.2

Distribution of PISA 2022 tasks by content knowledge

Content knowledge subscales	Percentage of score points in PISA 2022
Change and relationships	Approximately 25
Quantity	Approximately 25
Space and shape	Approximately 25
Uncertainty and data	Approximately 25

Adapted from Table 2 in OECD, 2018.

PISA proficiency levels in mathematics

PISA has developed useful benchmarks relating a range of average scores in mathematics to levels of knowledge and skills measured by the assessment. Although these levels are not linked directly to any specific program of study in mathematics, they provide an overall picture of students' accumulated understanding at age 15. PISA mathematical literacy is expressed on an eight-level proficiency scale, in which tasks at the low end of the scale (Levels 1a–1c) are deemed easier and less complex than other tasks at the high end (Level 6). In this report, Level 1a in PISA 2022 is equivalent to Level 1 in PISA 2012, while Level 1b and 1c are referred to as "below Level 1a." This progression in task difficulty/complexity applies to both the overall mathematics scale and the mathematics subscales. A summary description of the tasks that students are able to do at the eight proficiency levels for overall mathematics is provided in Table 1.3, along with the corresponding lower score limit for the level. It is assumed that students classified at a given proficiency level can perform most of the tasks at that level as well as those at the lower level or levels.

Table 1.3

PISA 2022 mathematics proficiency levels – summary description

Level	Lower score limit	Percentage of students able to perform tasks at this level or above	Characteristics of tasks
6	669	2.0% of students across the OECD and 3.3% in Canada	Students at Level 6 of the PISA mathematics assessment are able to successfully complete the most difficult PISA items. At **Level 6**, students can: • work through abstract problems and demonstrate creativity and flexible thinking to develop solutions. For example, they can recognize when a procedure that is not specified in a task can be applied in a non-standard context or when demonstrating a deeper understanding of a mathematical concept is necessary as part of a justification. • link different information sources and representations, including effectively using simulations or spreadsheets as part of their solution • think critically and have a mastery of symbolic and formal mathematical operations and relationships that they use to clearly communicate their reasoning • reflect on the appropriateness of their actions with respect to their solution and the original situation
5	607	8.7% of students across the OECD and 12.4% in Canada	At **Level 5**, students can: • develop and work with models for complex situations, identifying or imposing constraints and specifying assumptions • apply systematic, well-planned problem-solving strategies for dealing with more challenging tasks, such as deciding how to develop an experiment, designing an optimal procedure, or working with more complex visualizations that are not given in the task • demonstrate an increased ability to solve problems whose solutions often require incorporating mathematical knowledge that is not explicitly stated in the task • reflect on their work and consider mathematical results with respect to the real-world context
4	545	23.6% of students across the OECD and 30.9% in Canada	At **Level 4**, students can: • work effectively with explicit models for complex concrete situations, sometimes involving two variables, as well as demonstrate an ability to work with undefined models that they derive using a more sophisticated computational-thinking approach • begin to engage with aspects of critical thinking, such as evaluating the reasonableness of a result by making qualitative judgments when computations are not possible from the given information • select and integrate different representations of information, including symbolic or graphical, linking them directly to aspects of real-world situations • construct and communicate explanations and arguments based on their interpretations, reasoning, and methodology
3	482	45.6% of students across the OECD and 55.7% in Canada	At **Level 3**, students can: • devise solution strategies, including strategies that require sequential decision making or flexibility in understanding of familiar concepts • begin using computational-thinking skills to develop their solution strategy • solve tasks that require performing several different but routine calculations that are not all clearly defined in the problem statement • use spatial visualization as part of a solution strategy or determine how to use a simulation to gather data appropriate for the task • interpret and use representations based on different information sources and reason directly from them, including conditional decision making using a two-way table • typically show some ability to handle percentages, fractions, and decimal numbers, and to work with proportional relationships

Level	Lower score limit	Percentage of students able to perform tasks at this level or above	Characteristics of tasks
		Table 1.3 (cont'd)	
		PISA 2022 mathematics proficiency levels – summary description	
2	420	68.9% of students across the OECD and 78.4% in Canada	Level 2 is considered the baseline level of mathematics proficiency that is required to participate fully in modern society. At **Level 2**, students can: • recognize situations where they need to design simple strategies to solve problems, including running straightforward simulations involving one variable as part of their solution strategy • extract relevant information from one or more sources that use slightly more complex modes of representation, such as two-way tables, charts, or two-dimensional representations of three-dimensional objects • demonstrate a basic understanding of functional relationships and solve problems involving simple ratios • make literal interpretations of results
1a	358	87.6% of students across the OECD and 93.1% in Canada	At **Level 1a**, students can: • answer questions involving simple contexts where all information needed is present and the questions are clearly defined. Information may be presented in a variety of simple formats, and students may need to work with two sources simultaneously to extract relevant information. • carry out simple, routine procedures according to direct instructions in explicit situations, which may sometimes require multiple iterations of a routine procedure to solve a problem • perform actions that are obvious or that require very minimal synthesis of information, but in all instances the actions follow clearly from the given stimuli • employ basic algorithms, formulae, procedures, or conventions to solve problems that most often involve whole numbers
1b	295	97.4% of students across the OECD and 98.8% in Canada	At **Level 1b**, students can: • respond to questions involving easy-to-understand contexts where all information needed is clearly given in a simple representation (i.e., tabular or graphic) and, as necessary, recognize when some information is extraneous and can be ignored with respect to the specific question being asked • perform simple calculations with whole numbers, which follow from clearly prescribed instructions, defined in short, syntactically simple text
1c	233	99.7% of students across the OECD and 99.9% in Canada	At **Level 1c**, students can: • respond to questions involving easy-to-understand contexts where all relevant information is clearly given in a simple, familiar format (for example, a small table or picture) and defined in a very short, syntactically simple text • follow a clear instruction describing a single step or operation

Adapted from OECD (2023a, p. 92).

Note: In this report, Level 1a in PISA 2022 is equivalent to Level 1 in PISA 2012, while Level 1b and 1c are referred to as "below Level 1a." Results for Canada should be treated with caution because more than one PISA technical standard was not met (see Appendix A for further details).

Results in mathematics

The results of student performance on the PISA 2022 mathematics assessment are presented in this report in two ways: as the percentage of students attaining each proficiency level and as average scores. Results are presented for Canada overall and by province, both for mathematics overall and for the subscales of mathematics. The performance of students enrolled in anglophone and francophone school systems is presented for those provinces in which the two groups were sampled separately. This chapter also compares Canadian students' performance in mathematics by gender. Given that PISA 2022 marks the third time that mathematics was assessed as a major domain (mathematics was also the major focus in 2003 and 2012), changes in mathematics performance over time are also discussed.

Results in mathematics by proficiency level

In PISA 2022, 78 percent of Canadian students and 69 percent of students in OECD countries performed at or above Level 2 in mathematics, which is the baseline level of mathematics literacy required to take advantage of further learning opportunities and to participate fully in modern society (Appendix B.1.1b). Across the provinces, the percentage of Canadian students at or above the baseline level of performance ranges from 66 percent in Newfoundland and Labrador to 83 percent in Quebec (Figure 1.2). Inversely, 22 percent of Canadian students did not reach the baseline Level 2 in mathematics, compared to the OECD average of 31 percent. More than 60 countries had a higher proportion of students performing below Level 2 compared to Canada. Within Canada, there is much variability among the provinces. Quebec (17 percent), Alberta (21 percent), and British Columbia (21 percent) had the lowest proportion of low achievers in mathematics; whereas Newfoundland and Labrador (34 percent), Nova Scotia (31 percent), and New Brunswick (31 percent) had the higher proportion of low achievers.

At the higher end of the PISA mathematics scale, 12 percent of Canadian students performed at Level 5 or above, compared to 9 percent across OECD countries. Although the overall Canadian average is higher than in most other countries participating in PISA 2022, in six countries — Estonia, Switzerland, Australia, United Kingdom, Belgium, and the Netherlands — the proportion of students performing at Level 5 or above was similar to that in Canada, while six other countries (Singapore, Chinese Taipei, Macao (China), Hong Kong (China), Japan, and Korea) had a statistically higher proportion of students performing at these levels compared to Canada. At the provincial level, 15 percent or more of students in Alberta and Quebec achieved a proficiency level of 5 or higher in mathematics (Appendix B.1.1b).

Across the OECD, 12 percent of participants did not achieve Level 1a (below the level of proficiency needed to participate fully in modern society) while this proportion was 7 percent for Canada overall. Across the provinces, the proportion of students performing below Level 1a ranged from 5 percent in Quebec to 12 percent in Newfoundland and Labrador (Appendix B.1.1a).

Figure 1.2
Percentage of students at each proficiency level in mathematics
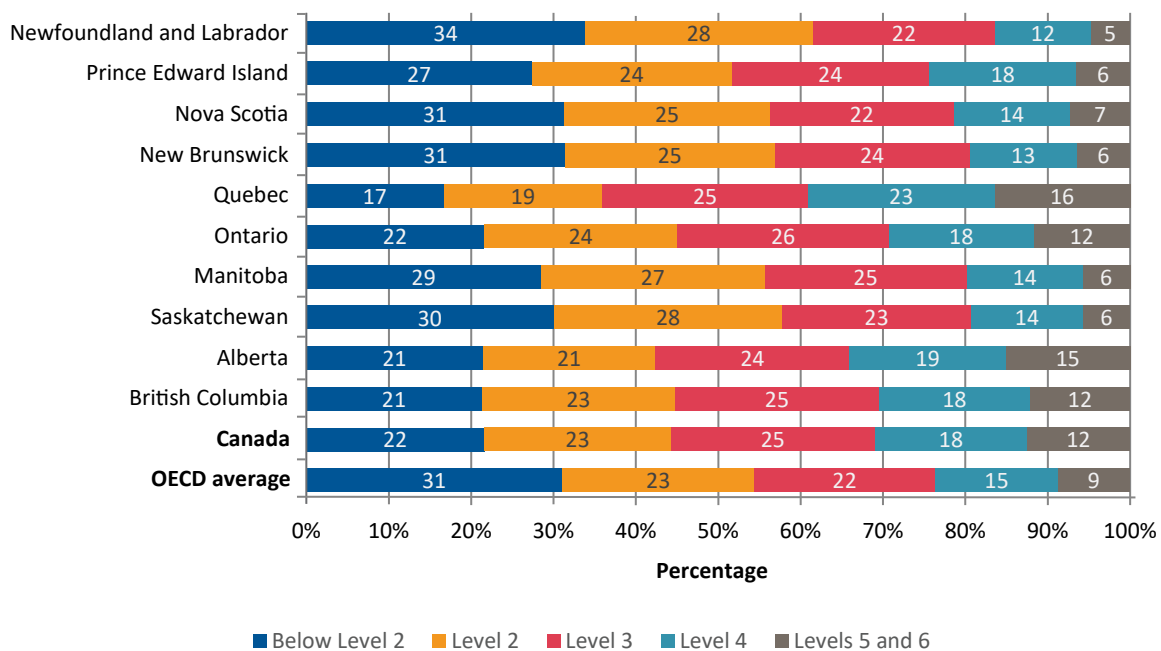
Region	Below Level 2	Level 2	Level 3	Level 4	Levels 5 and 6
Newfoundland and Labrador	34	28	22	12	5
Prince Edward Island	27	24	24	18	6
Nova Scotia	31	25	22	14	7
New Brunswick	31	25	24	13	6
Quebec	17	19	25	23	16
Ontario	22	24	26	18	12
Manitoba	29	27	25	14	6
Saskatchewan	30	28	23	14	6
Alberta	21	21	24	19	15
British Columbia	21	23	25	18	12
Canada	22	23	25	18	12
OECD average	31	23	22	15	9

Note: Percentages may not add up at 100 due to rounding. Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

Results in mathematics by average score

The PISA scores for mathematics are expressed on a scale with an average or mean of 500 points for OECD countries and a standard deviation of 100. This average was established in 2003 and decreased to 494 in 2012 and 472 in 2022. This means that approximately two-thirds of all students in OECD countries scored between 372 and 572 (i.e., within one standard deviation of the average) on the PISA 2022 mathematics assessment.

International studies such as PISA summarize student performance by comparing the relative standing of countries based on their average test scores. This approach can be misleading because there is a margin of error associated with each score (see Box 1). When interpreting average performances between countries and provinces, only those differences that are statistically significant should be taken into account.

Box 1: A note on statistical comparisons

The purpose of PISA is to report results on the skills of 15-year-old students. Therefore, a random sample of 15-year-old students was selected to participate in the assessment. The averages (for mean scores and proficiency-levels proportions) were computed from the scores of these random samples of students from each country, and not from the overall population of 15-year-old students in each country. Consequently, it cannot be said with certainty that a sample average has the same value as the population average that would have been obtained had all 15-year-old students been assessed.

Additionally, a degree of error is associated with the scores describing student performance, as these scores are estimated based on student responses to test items. A statistic called the standard error is used to express the degree of uncertainty associated with sampling error and measurement error. The standard error can be used to construct a confidence interval, which provides a means of making inferences about the population averages and proportions in a manner that reflects the uncertainty associated with sample estimates. A 95 percent confidence interval is used in this report and represents a range of plus or minus about two standard errors around the sample average. Using this confidence interval, it can be inferred that the population mean or proportion would lie within the confidence interval in 95 out of 100 replications of the measurement, using different samples randomly drawn from the same population.

When comparing scores among countries, provinces, or population subgroups, the degree of error in each average should be considered in order to determine if averages are significantly different from each other. Standard errors and confidence intervals may be used as the basis for performing these comparative statistical tests. Such tests can identify, with a known probability, whether actual differences are likely to be observed in the populations being compared.

For example, when an observed difference is significant at the .05 level, it implies that the probability is less than .05 that the observed difference could have occurred because of sampling or measurement error. When comparing countries and/or provinces, extensive use is made of this type of statistical test to reduce the likelihood that differences due to sampling or measurement errors will be interpreted as real.

A test of significance (t-test) was conducted in order to determine whether differences were statistically significant. In the case of multiple t-tests, no corrections were made to reduce the false positive, or Type-I error rate. **Unless otherwise stated, only statistically significant differences at the .05 level are noted in this report, for proportions of students at proficiency levels and for mean scores.**

Finally, when comparing results over time, the standard error includes a linking error to account for the fact that different cohorts of students have been tested over time with a test that also varied slightly over time.

Overall, Canadian students achieved a mean score of 497 in mathematics, which is 25 points above the OECD average. As shown in Table 1.4, Canada was outperformed by eight countries: Singapore, Macao (China), Chinese Taipei, Hong Kong (China), Japan, Korea, Estonia, and Switzerland. Students in Canada overall performed as well as students in the Netherlands.

Table 1.4

Achievement scores in mathematics

Country or province	Average score	95% confidence interval	Countries or provinces whose mean score is not significantly different from the comparison country or province
Singapore	575	572–577	
Macao (China)	552	550–554	Chinese Taipei
Chinese Taipei	547	540–554	Macao (China), Hong Kong (China)
Hong Kong (China)	540	534–546	Chinese Taipei, Japan
Japan	536	530–541	Hong Kong (China), Korea
Korea	527	520–535	Japan
Quebec	514	506–521	Estonia, Switzerland, **Alberta**
Estonia	510	506–514	**Quebec**, Switzerland, **Alberta**
Switzerland	508	504–512	**Quebec**, Estonia, Alberta
Alberta	504	494–515	**Quebec**, Estonia, Switzerland, **Canada**, **British Columbia**, **Ontario**, Netherlands
Canada	497	494–500	**Alberta**, **British Columbia**, **Ontario**, Netherlands
British Columbia	496	488–505	**Alberta**, **Canada**, **Ontario**, Netherlands, Ireland, Belgium, Denmark, United Kingdom, Poland, Austria, Australia, Czech Republic
Ontario	495	489–501	**Alberta**, **Canada**, **British Columbia**, Netherlands, Ireland, Belgium, Denmark, United Kingdom, Poland
Netherlands	493	485–500	**Alberta**, **Canada**, **British Columbia**, **Ontario**, Ireland, Belgium, Denmark, United Kingdom, Poland, Austria, Australia, Czech Republic
Ireland	492	488–496	**British Columbia**, **Ontario**, Netherlands, Belgium, Denmark, United Kingdom, Poland, Austria, Australia, Czech Republic
Belgium	489	485–494	**British Columbia**, **Ontario**, Netherlands, Ireland, Denmark, United Kingdom, Poland, Austria, Australia, Czech Republic, Slovenia, Finland, **Prince Edward Island**
Denmark	489	485–493	**British Columbia**, **Ontario**, Netherlands, Ireland, Belgium, United Kingdom, Poland, Austria, Australia, Czech Republic, Finland, **Prince Edward Island**
United Kingdom	489	485–493	**British Columbia**, **Ontario**, Netherlands, Ireland, Belgium, Denmark, Poland, Austria, Australia, Czech Republic, Slovenia, Finland, Latvia, **Prince Edward Island**
Poland	489	485–493	**British Columbia**, **Ontario**, Netherlands, Ireland, Belgium, Denmark, United Kingdom, Austria, Australia, Czech Republic, Slovenia, Finland, Latvia, **Prince Edward Island**
Austria	487	483–492	**British Columbia**, Netherlands, Ireland, Belgium, Denmark, United Kingdom, Poland, Australia, Czech Republic, Slovenia, Finland, Latvia, Sweden, **Prince Edward Island**
Australia	487	484–491	**British Columbia**, Netherlands, Ireland, Belgium, Denmark, United Kingdom, Poland, Austria, Czech Republic, Slovenia, Finland, Latvia, Sweden, **Prince Edward Island**
Czech Republic	487	483–491	**British Columbia**, Netherlands, Ireland, Belgium, Denmark, United Kingdom, Poland, Austria, Australia, Slovenia, Finland, Latvia, Sweden, **Prince Edward Island**
Slovenia	485	482–487	Belgium, United Kingdom, Poland, Austria, Australia, Czech Republic, Finland, Latvia, Sweden, **Prince Edward Island**
Finland	484	480–488	Belgium, Denmark, United Kingdom, Poland, Austria, Australia, Czech Republic, Slovenia, Latvia, Sweden, New Zealand, **Prince Edward Island**
Latvia	483	479–487	United Kingdom, Poland, Austria, Australia, Czech Republic, Slovenia, Finland, Sweden, New Zealand, **Prince Edward Island**
Sweden	482	478–486	Austria, Australia, Czech Republic, Slovenia, Finland, Latvia, New Zealand, **Prince Edward Island**, Germany
New Zealand	479	475–483	Finland, Latvia, Sweden, **Prince Edward Island**, Lithuania, Germany, France
Prince Edward Island	478	465–491	Belgium, Denmark, United Kingdom, Poland, Austria, Australia, Czech Republic, Slovenia, Finland, Latvia, Sweden, New Zealand, Lithuania, Germany, France, Spain, Hungary, *OECD average*, Portugal, Italy, **Manitoba**, **Nova Scotia**, Vietnam, Norway, **New Brunswick**, **Saskatchewan**, Malta, United States, Slovak Republic
Lithuania	475	472–479	New Zealand, **Prince Edward Island**, Germany, France, Spain, Hungary, *OECD average*, Portugal, Italy, **Manitoba**, **Nova Scotia**, Vietnam
Germany	475	469–481	Sweden, New Zealand, **Prince Edward Island**, Lithuania, France, Spain, Hungary, *OECD average*, Portugal, Italy, **Manitoba**, **Nova Scotia**, Vietnam, Norway, **New Brunswick**, **Saskatchewan**

Above the OECD average

Table 1.4 (cont'd)

Achievement scores in mathematics

Country or province	Average score	95% confidence interval	Countries or provinces whose mean score is not significantly different from the comparison country or province	
France	474	469–479	New Zealand, **Prince Edward Island**, Lithuania, Germany, Spain, Hungary, *OECD average*, Portugal, Italy, **Manitoba**, **Nova Scotia**, Vietnam, Norway, **New Brunswick**, **Saskatchewan**, United States	
Spain	473	470–476	**Prince Edward Island**, Lithuania, Germany, France, Hungary, *OECD average*, Portugal, Italy, **Manitoba**, **Nova Scotia**, Vietnam, Norway, **New Brunswick**, **Saskatchewan**, United States	
Hungary	473	468–478	**Prince Edward Island**, Lithuania, Germany, France, Spain, *OECD average*, Portugal, Italy, **Manitoba**, **Nova Scotia**, Vietnam, Norway, **New Brunswick**, **Saskatchewan**, United States	
OECD average	472	472–473	**Prince Edward Island**, Lithuania, Germany, France, Spain, Hungary, Portugal, Italy, **Manitoba**, **Nova Scotia**, Vietnam, Norway, **New Brunswick**, **Saskatchewan**, United States	
Portugal	472	467–477	**Prince Edward Island**, Lithuania, Germany, France, Spain, Hungary, *OECD average*, Italy, **Manitoba**, **Nova Scotia**, Vietnam, Norway, **New Brunswick**, **Saskatchewan**, United States	
Italy	471	465–477	**Prince Edward Island**, Lithuania, Germany, France, Spain, Hungary, *OECD average*, Portugal, **Manitoba**, **Nova Scotia**, Vietnam, Norway, **New Brunswick**, **Saskatchewan**, Malta, United States, Slovak Republic	
Manitoba	470	465–476	**Prince Edward Island**, Lithuania, Germany, France, Spain, Hungary, *OECD average*, Portugal, Italy, **Nova Scotia**, Vietnam, Norway, **New Brunswick**, **Saskatchewan**, Malta, United States, Slovak Republic, **Newfoundland and Labrador**	
Nova Scotia	470	463–477	**Prince Edward Island**, Lithuania, Germany, France, Spain, Hungary, *OECD average*, Portugal, Italy, **Manitoba**, Vietnam, Norway, **New Brunswick**, **Saskatchewan**, Malta, United States, Slovak Republic, Croatia, **Newfoundland and Labrador**	
Vietnam	469	462–477	**Prince Edward Island**, Lithuania, Germany, France, Spain, Hungary, *OECD average*, Portugal, Italy, **Manitoba**, **Nova Scotia**, Norway, **New Brunswick**, **Saskatchewan**, Malta, United States, Slovak Republic, Croatia, **Newfoundland and Labrador**	
Norway	468	464–472	**Prince Edward Island**, Germany, France, Spain, Hungary, *OECD average*, Portugal, Italy, **Manitoba**, **Nova Scotia**, Vietnam, **New Brunswick**, **Saskatchewan**, Malta, United States, Slovak Republic, Croatia, **Newfoundland and Labrador**	At the OECD average
New Brunswick	468	462–474	**Prince Edward Island**, Germany, France, Spain, Hungary, *OECD average*, Portugal, Italy, **Manitoba**, **Nova Scotia**, Vietnam, Norway, **Saskatchewan**, Malta, United States, Slovak Republic, Croatia, **Newfoundland and Labrador**	
Saskatchewan	468	462–473	**Prince Edward Island**, Germany, France, Spain, Hungary, *OECD average*, Portugal, Italy, **Manitoba**, **Nova Scotia**, Vietnam, Norway, **New Brunswick**, Malta, United States, Slovak Republic, Croatia, **Newfoundland and Labrador**	
Malta	466	463–469	**Prince Edward Island**, Italy, **Manitoba**, **Nova Scotia**, Vietnam, Norway, **New Brunswick**, **Saskatchewan**, United States, Slovak Republic, Croatia, **Newfoundland and Labrador**	
United States	465	457–473	**Prince Edward Island**, France, Spain, Hungary, *OECD average*, Portugal, Italy, **Manitoba**, **Nova Scotia**, Vietnam, Norway, **New Brunswick**, **Saskatchewan**, Malta, Slovak Republic, Croatia, Iceland, **Newfoundland and Labrador**, Israel	
Slovak Republic	464	458–470	**Prince Edward Island**, Italy, **Manitoba**, **Nova Scotia**, Vietnam, Norway, **New Brunswick**, **Saskatchewan**, Malta, United States, Croatia, Iceland, **Newfoundland and Labrador**, Israel	
Croatia	463	458–468	**Nova Scotia**, Vietnam, Norway, **New Brunswick**, **Saskatchewan**, Malta, United States, Slovak Republic, Iceland, **Newfoundland and Labrador**, Israel	
Iceland	459	456–462	United States, Slovak Republic, Croatia, **Newfoundland and Labrador**, Israel	
Newfoundland and Labrador	459	448–469	**Manitoba**, **Nova Scotia**, Vietnam, Norway, **New Brunswick**, **Saskatchewan**, Malta, United States, Slovak Republic, Croatia, Iceland, Israel, Türkiye	
Israel	458	451–464	United States, Slovak Republic, Croatia, Iceland, **Newfoundland and Labrador**, Türkiye	
Türkiye	453	450–456	**Newfoundland and Labrador**, Israel	
Brunei Darussalam	442	440–444	Ukrainian regions (18 of 27), Serbia	

Table 1.4 (cont'd)

Achievement scores in mathematics

Country or province	Average score	95% confidence interval	Countries or provinces whose mean score is not significantly different from the comparison country or province	
Ukrainian regions (18 of 27)	441	433–449	Brunei Darussalam, Serbia	Below the OECD average
Serbia	440	434–446	Brunei Darussalam, Ukrainian regions (18 of 27)	
United Arab Emirates	431	429–433	Greece, Romania	
Greece	430	426–435	United Arab Emirates, Romania, Kazakhstan, Mongolia	
Romania	428	420–436	United Arab Emirates, Greece, Kazakhstan, Mongolia	
Kazakhstan	425	422–429	Greece, Romania, Mongolia	
Mongolia	425	420–430	Greece, Romania, Kazakhstan, Bulgaria	
Cyprus	418	416–421	Bulgaria, Moldova	
Bulgaria	417	411–424	Mongolia, Cyprus, Moldova, Qatar, Chile	
Moldova	414	410–419	Cyprus, Bulgaria, Qatar, Chile, Uruguay, Malaysia	
Qatar	414	412–416	Bulgaria, Moldova, Chile	
Chile	412	408–416	Bulgaria, Moldova, Qatar, Uruguay, Malaysia	
Uruguay	409	405–413	Moldova, Chile, Malaysia, Montenegro	
Malaysia	409	404–413	Moldova, Chile, Uruguay, Montenegro	
Montenegro	406	403–408	Uruguay, Malaysia	
Baku (Azerbaijan)	397	392–402	Mexico, Thailand, Peru	
Mexico	395	391–399	Baku (Azerbaijan), Thailand, Peru, Georgia	
Thailand	394	389–399	Baku (Azerbaijan), Mexico, Peru, Georgia, Saudi Arabia, North Macedonia	
Peru	391	387–396	Baku (Azerbaijan), Mexico, Thailand, Georgia, Saudi Arabia, North Macedonia	
Georgia	390	385–395	Mexico, Thailand, Peru, Saudi Arabia, North Macedonia, Costa Rica, Colombia	
Saudi Arabia	389	385–392	Thailand, Peru, Georgia, North Macedonia, Costa Rica, Colombia	
North Macedonia	389	387–390	Thailand, Peru, Georgia, Saudi Arabia, Costa Rica, Colombia	
Costa Rica	385	381–388	Georgia, Saudi Arabia, North Macedonia, Colombia, Jamaica	
Colombia	383	377–389	Georgia, Saudi Arabia, North Macedonia, Costa Rica, Brazil, Argentina, Jamaica	
Brazil	379	376–382	Colombia, Argentina, Jamaica	
Argentina	378	373–382	Colombia, Brazil, Jamaica	
Jamaica	377	371–384	Costa Rica, Colombia, Brazil, Argentina	
Albania	368	364–372	Palestinian Authority, Indonesia, Morocco, Uzbekistan	
Palestinian Authority	366	362–369	Albania, Indonesia, Morocco, Uzbekistan, Jordan	
Indonesia	366	361–370	Albania, Palestinian Authority, Morocco, Uzbekistan, Jordan	
Morocco	365	358–371	Albania, Palestinian Authority, Indonesia, Uzbekistan, Jordan, Panama	
Uzbekistan	364	360–368	Albania, Palestinian Authority, Indonesia, Morocco, Jordan	
Jordan	361	357–365	Palestinian Authority, Indonesia, Morocco, Uzbekistan, Panama	
Panama	357	351–362	Morocco, Jordan, Kosovo, Philippines	
Kosovo	355	353–357	Panama, Philippines	
Philippines	355	350–360	Panama, Kosovo	
Guatemala	344	340–349	El Salvador, Dominican Republic	
El Salvador	343	340–347	Guatemala, Dominican Republic	
Dominican Republic	339	336–342	Guatemala, El Salvador, Paraguay, Cambodia	
Paraguay	338	333–342	Dominican Republic, Cambodia	
Cambodia	336	331–342	Dominican Republic, Paraguay	

Note: OECD countries appear in italics. The OECD average was 472, with a standard error of 0.4. See OECD (2023a) for notes regarding Israeli statistical data, Cyprus, and Kosovo. Results for Canada, most Canadian provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) and certain countries should be treated with caution because one or more PISA technical standards were not met (for more information, see the Reader's Guide section of OECD [2023a]).

🟧 Above the Canadian average		🟦 Above the OECD average
⬜ At the Canadian average		🟦 At the OECD average
🟨 Below the Canadian average		🟦 Below the OECD average

Figure 1.3 and Appendix B.1.2 present mathematics achievement scores in the provinces along with the OECD and Canadian averages. Canada overall and four provinces were above the OECD average. When compared to the results for Canada overall, Quebec students achieved scores that were above the Canadian average, while students in Ontario, Alberta, and British Columbia achieved scores that were at the Canadian average. Students in six provinces (Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Manitoba, and Saskatchewan) scored below the Canadian average (Table 1.4).

Figure 1.3

Achievement scores in mathematics
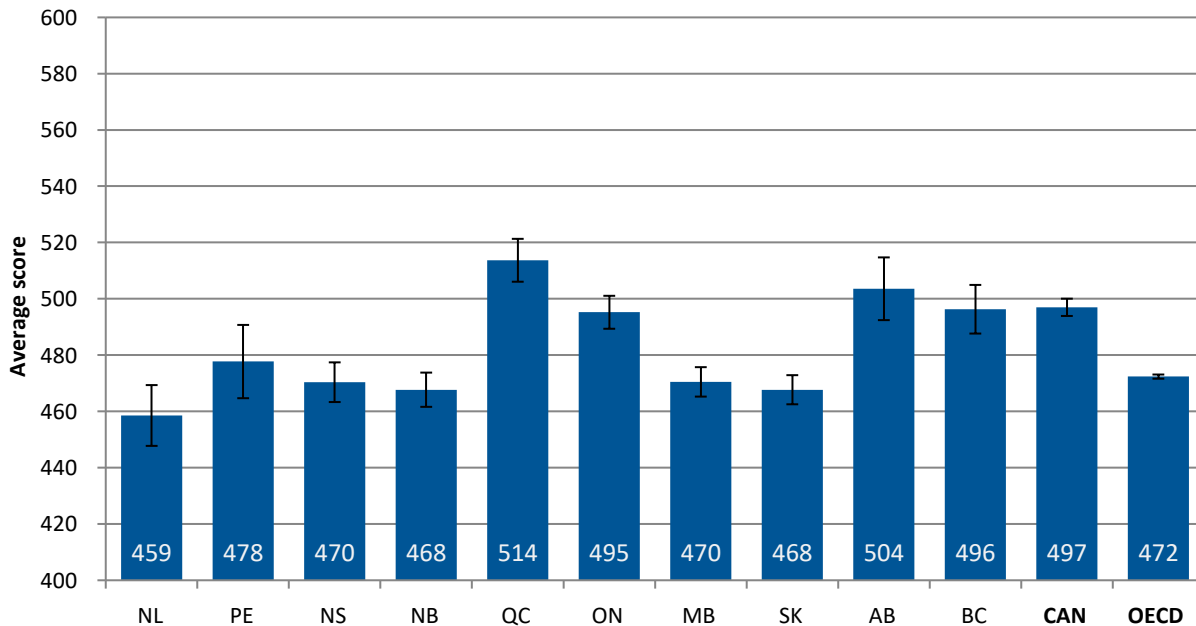
Note: Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

Canadian results are also reported for the four mathematical processes and four content knowledge subscales. When analyzing results for the mathematical process subscales, it should be noted that students' level of mathematical literacy is dependent on skills inherent in all four subscales. A closer analysis of results in each mathematics subscale can help inform policy-level discussions, curricular emphasis, and/or teaching practice.

Canadian students scored above the OECD averages in all subscales. The Canadian averages for the four mathematical process subscales are 494 for formulating, 495 for employing, 503 for interpreting, and 499 for mathematical reasoning. Across OECD countries, students scored 469, 472, 474, and 473, respectively, in the four mathematical process subscales (Appendix B.1.3). On the content knowledge subscales, Canadian students achieved an average score of 502 in change and relationships, 494 in quantity, 491 in space and shape, and 500 in uncertainty and data, while the OECD average on these subscales was 470, 472, 471, and 474, respectively (Appendix B.1.4).

As shown in Tables 1.5 and 1.6, there was variation across provinces on the mathematical process and content knowledge subscales. Students in Quebec scored above the Canadian average on all of the subscales, while students in Alberta scored above the Canadian average on one subscale. Students in all other provinces scored at or below the Canadian average on all of the subscales (Appendix B.1.3 and B.1.4).

Table 1.5

Comparison of provincial achievement scores to the Canadian average for mathematical process subscales

Canadian average	Above* the Canadian average	At the Canadian average	Below* the Canadian average
Mathematical process subscales			
Formulating			
494	Quebec (513)	Ontario (490), Alberta (500), British Columbia (497)	Newfoundland and Labrador (448), Prince Edward Island (470), Nova Scotia (467), New Brunswick (462), Manitoba (464), Saskatchewan (458)
Employing			
495	Quebec (516)	Prince Edward Island (476), Ontario (491), Alberta (503), British Columbia (490)	Newfoundland and Labrador (452), Nova Scotia (466), New Brunswick (468), Manitoba (469), Saskatchewan (466)
Interpreting			
503	Quebec (517)	Prince Edward Island (485), Ontario (502), Alberta (512), British Columbia (503)	Newfoundland and Labrador (469), Nova Scotia (475), New Brunswick (473), Manitoba (476), Saskatchewan (470)
Mathematical reasoning			
499	Quebec (510)	Prince Edward Island (476), Ontario (499), Alberta (508), British Columbia (501)	Newfoundland and Labrador (460), Nova Scotia (479), New Brunswick (468), Manitoba (472), Saskatchewan (472)

* Denotes significant difference.
Note: Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

Table 1.6

Comparison of provincial achievement scores to the Canadian average for mathematical content knowledge subscales

Canadian average	Above* the Canadian average	At the Canadian average	Below* the Canadian average
Mathematical content knowledge subscales			
Change and relationships			
502	Quebec (512), Alberta (518)	Ontario (501), British Columbia (502)	Newfoundland and Labrador (464), Prince Edward Island (477), Nova Scotia (479), New Brunswick (468), Manitoba (474), Saskatchewan (469)
Quantity			
494	Quebec (514)	Prince Edward Island (477), Ontario (490), Alberta (499), British Columbia (495)	Newfoundland and Labrador (452), Nova Scotia (464), New Brunswick (467), Manitoba (469), Saskatchewan (464)
Space and shape			
491	Quebec (511)	Prince Edward Island (463), Ontario (491), Alberta (493), British Columbia (485)	Newfoundland and Labrador (449), Nova Scotia (468), New Brunswick (471), Manitoba (466), Saskatchewan (463)
Uncertainty and data			
500	Quebec (515)	Prince Edward Island (474), Ontario (499), Alberta (507), British Columbia (502)	Newfoundland and Labrador (467), Nova Scotia (474), New Brunswick (470), Manitoba (471), Saskatchewan (472)

* Denotes significant difference.
Note: Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

Equity in Canada

Another way to study differences in achievement is to look at the distribution of scores within a population. The difference between the mean score of students at the 90th percentile and those at the 10th percentile is often used as a proxy for equity in educational outcomes, and the relative distribution of scores or the gap that exists between students with the highest and lowest levels of performance within each country or province is examined. Figure 1.4 shows the difference in average scores between lowest achievers and highest achievers in mathematics in Canada and the provinces. For Canada overall, those in the highest decile scored 244 points higher than those in the lowest decile, which is similar to the average gap across OECD countries (235) (Appendix B.1.5).

At the provincial level, the smallest gaps (i.e., greater equity) are found in Manitoba (222), Saskatchewan (223), Newfoundland and Labrador (224), and Prince Edward Island (228), while the largest gap (least equity) can be observed in Alberta (257). It is worth noting that, although high-achieving countries tend to have larger gaps, high achievement does not necessarily come at the cost of equity. For instance, Estonia achieved a high score in mathematics (510) but has a smaller achievement gap (219), or greater equity, than Canada and other high-achieving countries. Also of note, Japan and Macao (China) achieved higher average scores compared to Canada (536 and 552 respectively) and similar achievement gaps (243 and 241) (Appendix B.1.5).

Figure 1.4

Difference between high and low achievers in mathematics
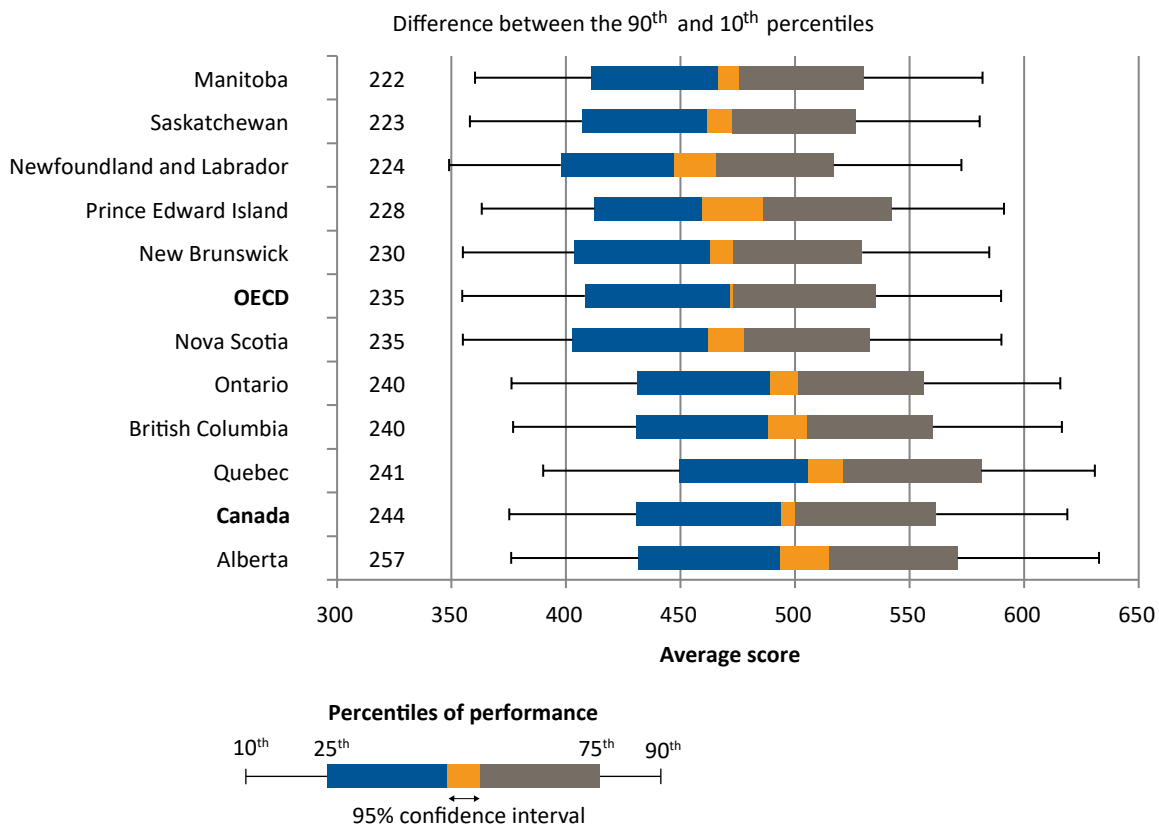
Difference between the 90th and 10th percentiles

Province	Gap
Manitoba	222
Saskatchewan	223
Newfoundland and Labrador	224
Prince Edward Island	228
New Brunswick	230
OECD	235
Nova Scotia	235
Ontario	240
British Columbia	240
Quebec	241
Canada	244
Alberta	257

Average score

Percentiles of performance

10th   25th   75th   90th

95% confidence interval

Note: Results are ordered from the smallest to the largest difference between the 90th and 10th percentiles. Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

Achievement in mathematics by language of the school system

In eight Canadian provinces (Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan, Alberta, and British Columbia), samples were representative of both majority and minority official language groups and allow separate reporting of results by language of the school system.[8]

Figure 1.5 shows proficiency levels in mathematics by language of the school system in which students were enrolled.[9] In Canada overall, 82 percent of students in francophone school systems and 77 percent of those in anglophone school systems achieved Level 2 or above. French-language school systems had a greater proportion of students attaining the highest levels of performance (Levels 5 and 6), as well as a lower proportion of students attaining Level 2 or lower, in comparison to their English-language counterparts (Appendices B.1.6a and B.1.6b).

Figure 1.5

Percentage of students at each proficiency level in mathematics in Canada, by language of the school system
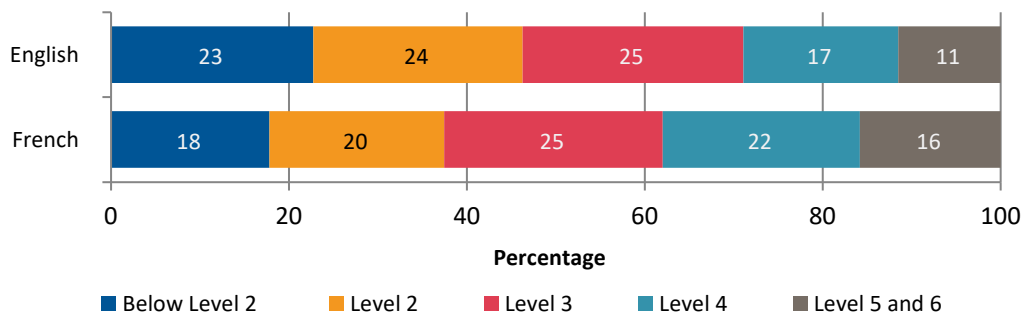
Note: Percentages may not add up at 100 due to rounding. Results for Canada should be treated with caution because more than one PISA technical standard was not met (see Appendix A for further details).

When Canadian and provincial results at Level 2 or higher for English-language school systems are compared, we see that students in Prince Edward Island, Alberta, and British Columbia achieved these levels at a rate similar to those in Canada as a whole; students in Quebec and Ontario achieved Level 2 or above at a rate higher than the Canadian average; and the remaining provinces achieved Level 2 or above at a rate lower than the Canadian average. With respect to French-language school systems, students in Quebec achieved Level 2 or higher at a rate just above that in Canada as a whole, while Nova Scotia, New Brunswick, Ontario, and Manitoba had a lower percentage of students at Level 2 or above than the Canadian average (Table 1.7, Appendix B.1.6b).

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[8] With respect to the two official languages in Canada, English is the majority language outside of Quebec — 75 percent of Canadians report having English as their first official language. In Quebec, French is the majority language — 82 percent of people in Quebec report having French as their first official language (Statistics Canada, 2022b).

[9] Within anglophone school systems, students in French immersion programs completed the mathematics assessment in the language of instruction (French or English).

Table 1.7

Comparison of Canadian and provincial results for percentage of students achieving at or above Level 2 in mathematics, by language of the school system

Anglophone school systems		
Higher* percentage than Canada	The same percentage as Canada	Lower* percentage than Canada
Quebec, Ontario	Prince Edward Island, Alberta, British Columbia	Newfoundland and Labrador, Nova Scotia, New Brunswick, Manitoba, Saskatchewan
Francophone school systems		
Higher* percentage than Canada	The same percentage as Canada	Lower* percentage than Canada
Quebec	Saskatchewan, Alberta, British Columbia	Nova Scotia, New Brunswick, Ontario, Manitoba

* Denotes significant difference.
Note: Because Newfoundland and Labrador and Prince Edward Island did not oversample students by language, results for only English-language schools are available for these provinces. Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

Of the eight provinces whose samples were large enough to permit comparison by language, all except Ontario showed parity in mathematics achievement between the two language systems with respect to students at Level 2 or above. A higher proportion of students in the anglophone school system in Ontario performed at Level 2 or above compared to their counterparts in the francophone school system (Table 1.8, Appendix B.1.6b).

Table 1.8

Comparison of provincial results for percentage of students achieving at or above Level 2 in mathematics, by language of the school system

Higher* percentage in anglophone schools	Higher* percentage in francophone schools	No significant difference between school systems
Ontario		Nova Scotia, New Brunswick, Quebec, Manitoba, Saskatchewan, Alberta, British Columbia

* Denotes significant difference.
Note: Because Newfoundland and Labrador and Prince Edward Island did not oversample students by language, results for only English-language schools are available for these provinces. Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

In Canada overall, students in French-language schools achieved higher average scores in mathematics than those in English-language schools (Figure 1.6, Appendix B.1.7). This is consistent with the results reported in the 2018 PISA study (O'Grady, Rostamian, Monk, Scerbina, et al., 2021) as well as for Canadian Grade 4 students in the Trends in International Mathematics and Science Study (TIMSS) 2019 study (O'Grady, Rostamian, Monk, Tao, et al., 2021) and Grade 8 students in PCAP 2019 (O'Grady, Houme, et al., 2021). While results indicate that francophone students had higher average scores in Canada overall, average scores of students in francophone systems varied across the provinces.

Figure 1.6

Average scores in mathematics in Canada, by language of the school system
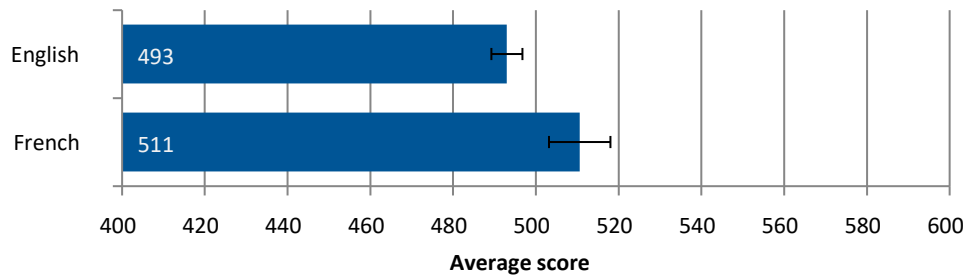
Note: Results for Canada should be treated with caution because more than one PISA technical standard was not met (see Appendix A for further details).

Provincially, mathematics scores across the provinces in the minority-language systems (the anglophone school system in Quebec and francophone school systems in other provinces) ranged from 473 in Ontario to 500 in Quebec, and in the majority-language systems ranged from 459 in Newfoundland and Labrador to 515 in Quebec (Appendix B.1.7).

Table 1.9 presents a comparison of provincial achievement scores in mathematics with the Canadian means for both English- and French-language school systems. In English-language systems, Alberta students scored significantly above the Canadian English average, while the scores of students in Quebec, Ontario, and British Columbia were at the Canadian English average. In French-language schools, Quebec students scored above the Canadian French average, while Saskatchewan and Alberta students scored at the Canadian French average. The mathematics achievement scores for students in all remaining provinces for which reliable data are available are below the respective Canadian averages (Appendix B.1.7).

Table 1.9

Comparison of Canadian and provincial achievement scores in mathematics, by language of the school system

Anglophone school systems			
Canadian English average	Above* the Canadian English average	At the Canadian English average	Below* the Canadian English average
493	Alberta (504)	Quebec (500), Ontario (496), British Columbia (496)	Newfoundland and Labrador (459), Prince Edward Island (478), Nova Scotia (470), New Brunswick (463), Manitoba (470), Saskatchewan (468)
Francophone school systems			
Canadian French average	Above* the Canadian French average	At the Canadian French average	Below* the Canadian French average
511	Quebec (515)	Saskatchewan (487), Alberta (498)	Nova Scotia (476), New Brunswick (478), Ontario (473), Manitoba (474), British Columbia (494)

* Denotes significant difference.
Note: Because Newfoundland and Labrador and Prince Edward Island did not oversample students by language, results for only English-language schools are available for these provinces. Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

Equity between the two language systems in overall mathematics scores was achieved in Nova Scotia, Manitoba, Saskatchewan, Alberta, and British Columbia (Table 1.10). The data reveal significant differences in achievement between anglophone and francophone school systems within the remaining three provinces: students in French-language systems performed better than their counterparts in English-language systems in New Brunswick (15 points) and Quebec (15 points). In contrast, students in English-language schools in Ontario achieved

scores 23 points higher than their counterparts in French-language schools, marking the largest difference in achievement between language systems in Canada (Appendix B.1.7).

Table 1.10
Summary of differences in provincial achievement scores in mathematics, by language of the school system

Anglophone schools performed significantly better than francophone schools	Francophone schools performed significantly better than anglophone schools	No significant differences between school systems
Ontario	New Brunswick, Quebec	Nova Scotia, Manitoba, Saskatchewan, Alberta, British Columbia

Note: Because Newfoundland and Labrador and Prince Edward Island did not oversample students by language, results for only English-language schools are available for these provinces. Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

Differences between anglophone and francophone school systems were also evident in the mathematics subscales. At the pan-Canadian level, students in francophone school systems performed significantly better than their counterparts in anglophone systems in all mathematical process subscales, most notably with a 23-point difference in the employing subscale. Students in francophone systems also performed better than their counterparts in anglophone systems in three content knowledge subscales: quantity, space and shape, and uncertainty and data (Table 1.11, Appendices B.1.8 and B.1.9).

Table 1.11
Comparison of Canadian achievement scores for mathematics subscales, by language of the school system

	Anglophone school systems		Francophone school systems		Difference (English - French)
	Average score	Standard error	Average score	Standard error	
Mathematical process subscales					
Formulating	489	(2.8)	510	(5.0)	-21*
Employing	489	(2.5)	512	(4.8)	-23*
Interpreting	500	(2.3)	514	(4.6)	-14*
Mathematical reasoning	497	(2.6)	508	(4.2)	-11*
Mathematical content knowledge subscales					
Change and relationships	500	(2.3)	509	(5.2)	-9
Quantity	489	(2.5)	510	(4.3)	-21*
Space and shape	486	(2.7)	510	(5.3)	-25*
Uncertainty and data	497	(2.4)	511	(4.8)	-14*

* Denotes significant difference.
Note: Results for Canada should be treated with caution because more than one PISA technical standard was not met (see Appendix A for further details).

Table 1.12 presents a comparison of provincial achievement scores and the Canadian averages for the eight mathematics subscales for both language systems. In English-language school systems, students in Alberta scored above the Canadian English average in two mathematical process subscales (employing and interpreting), while Quebec, Ontario, and British Columbia students were at the Canadian average for all mathematical process subscales. In French-language school systems, Quebec students scored significantly above the Canadian average in all eight mathematics subscales. Alberta students attending French-language schools achieved at the Canadian French average for each of the mathematics subscales, and their peers in Saskatchewan achieved at this level in seven of the eight subscales (Appendices B.1.8 and B.1.9).

Table 1.12

Comparison of Canadian and provincial achievement scores for mathematics subscales, by language of the school system

Anglophone school systems			
Canadian English average	**Above* the Canadian English average**	**At the Canadian English average**	**Below* the Canadian English average**
Mathematical process subscales			
Formulating			
489		Quebec (496), Ontario (491), Alberta (500), British Columbia (497)	Newfoundland and Labrador (448), Prince Edward Island (470), Nova Scotia (467), New Brunswick (457), Manitoba (463), Saskatchewan (458)
Employing			
489	Alberta (503)	Prince Edward Island (476), Quebec (498), Ontario (492), British Columbia (490)	Newfoundland and Labrador (452), Nova Scotia (466), New Brunswick (463), Manitoba (469), Saskatchewan (466)
Interpreting			
500	Alberta (512)	Prince Edward Island (485), Quebec (501), Ontario (503), British Columbia (503)	Newfoundland and Labrador (469), Nova Scotia (475), New Brunswick (471), Manitoba (476), Saskatchewan (470)
Mathematical reasoning			
497		Prince Edward Island (476), Quebec (501), Ontario (500), Alberta (508), British Columbia (501)	Newfoundland and Labrador (460), Nova Scotia (479), New Brunswick (465), Manitoba (472), Saskatchewan (472)
Anglophone school systems			
Canadian English average	**Above* the Canadian English average**	**At the Canadian English average**	**Below* the Canadian English average**
Mathematical content knowledge subscales			
Change and relationships			
500	Alberta (518)	Quebec (499), Ontario (503), British Columbia (502)	Newfoundland and Labrador (464), Prince Edward Island (477), Nova Scotia (479), New Brunswick (466), Manitoba (474), Saskatchewan (469)
Quantity			
489		Prince Edward Island (477), Quebec (500), Ontario (491), Alberta (499), British Columbia (495)	Newfoundland and Labrador (452), Nova Scotia (464), New Brunswick (463), Manitoba (469), Saskatchewan (464)
Space and shape			
486		Prince Edward Island (463), Quebec (494), Ontario (491), Alberta (493), British Columbia (485)	Newfoundland and Labrador (449), Nova Scotia (468), New Brunswick (464), Manitoba (466), Saskatchewan (462)
Uncertainty and data			
497		Prince Edward Island (474), Quebec (505), Ontario (500), Alberta (507), British Columbia (502)	Newfoundland and Labrador (467), Nova Scotia (474), New Brunswick (466), Manitoba (471), Saskatchewan (472)

Table 1.12 (cont'd)

Comparison of Canadian and provincial achievement scores for mathematics subscales, by language of the school system

Canadian French average	Above* the Canadian French average	At the Canadian French average	Below* the Canadian French average
Francophone school systems			
Mathematical process subscales			
Formulating			
510	Quebec (515)	Saskatchewan (482), Alberta (506), British Columbia (500)	Nova Scotia (476), New Brunswick (473), Ontario (468), Manitoba (476)
Employing			
512	Quebec (517)	Alberta (494)	Nova Scotia (470), New Brunswick (479), Ontario (467), Manitoba (467), Saskatchewan (479), British Columbia (492)
Interpreting			
514	Quebec (518)	Saskatchewan (492), Alberta (489)	Nova Scotia (474), New Brunswick (480), Ontario (473), Manitoba (473), British Columbia (494)
Mathematical reasoning			
508	Quebec (511)	Saskatchewan (485), Alberta (500), British Columbia (494)	Nova Scotia (482), New Brunswick (476), Ontario (481), Manitoba (474)

Canadian French average	Above* the Canadian French average	At the Canadian French average	Below* the Canadian French average
Francophone school systems			
Mathematical content knowledge subscales			
Change and relationships			
509	Quebec (513)	Saskatchewan (484), Alberta (500), British Columbia (486)	Nova Scotia (480), New Brunswick (476), Ontario (473), Manitoba (478)
Quantity			
510	Quebec (515)	Saskatchewan (484), Alberta (494), British Columbia (495)	Nova Scotia (475), New Brunswick (476), Ontario (467), Manitoba (469)
Space and shape			
510	Quebec (513)	New Brunswick (488), Ontario (490), Saskatchewan (487), Alberta (497), British Columbia (510)	Nova Scotia (474), Manitoba (478)
Uncertainty and data			
511	Quebec (516)	Saskatchewan (491), Alberta (497), British Columbia (498)	Nova Scotia (478), New Brunswick (480), Ontario (469), Manitoba (474)

* Denotes significant difference.
Note: Because Newfoundland and Labrador and Prince Edward Island did not oversample students by language, results for only English-language schools are available for these provinces. Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

Table 1.13 presents a comparison of provincial results for the eight mathematics subscales for anglophone and francophone school systems (Appendices B.1.8 and B.1.9).

Table 1.13

Summary of differences in provincial achievement scores for mathematics subscales, by language of the school system

Anglophone schools performed significantly better than francophone schools	Francophone schools performed significantly better than anglophone schools	No significant differences between school systems
Mathematical process subscales		
Formulating		
Ontario	Quebec	Nova Scotia, New Brunswick, Manitoba, Saskatchewan, Alberta, British Columbia
Employing		
Ontario	Quebec	Nova Scotia, New Brunswick, Manitoba, Saskatchewan, Alberta, British Columbia
Interpreting		
Ontario		Nova Scotia, New Brunswick, Quebec, Manitoba, Saskatchewan, Alberta, British Columbia
Mathematical reasoning		
Ontario		Nova Scotia, New Brunswick, Quebec, Manitoba, Saskatchewan, Alberta, British Columbia
Mathematical content knowledge subscales		
Change and relationships		
Ontario		Nova Scotia, New Brunswick, Quebec, Manitoba, Saskatchewan, Alberta, British Columbia
Quantity		
Ontario		Nova Scotia, New Brunswick, Quebec, Manitoba, Saskatchewan, Alberta, British Columbia
Space and shape		
		Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia
Uncertainty and data		
Ontario		Nova Scotia, New Brunswick, Quebec, Manitoba, Saskatchewan, Alberta, British Columbia

Note: Because Newfoundland and Labrador and Prince Edward Island did not oversample students by language, results for only English-language schools are available for these provinces. Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

The results by language of the school system suggest that policy-makers may wish to analyze provincial results more closely, given that differences between the majority and minority language school systems are as high as 23 points for overall mathematics and 31 points for the mathematical process and content knowledge subscales.

Achievement in mathematics by gender

Policy-makers have an interest in reducing gender disparities in education. Canada (and indeed about half of the countries participating in PISA) reports gender gaps for 15-year-old students in mathematics proficiency, with boys outperforming girls. This finding is consistent in Canada at the Grade 4 level, as reported in TIMSS 2019 (O'Grady, Rostamian, Monk, Tao, et al., 2021), although, in that assessment, girls outperformed boys in more countries than the inverse.

Inclusive education is valued in Canadian provinces and territories and has led to the development of policies and resources to support inclusion. One aspect of inclusive education relates to gender identity. In the Canadian version of the PISA 2022 student questionnaire, consistent with PISA 2018, the question about the student's gender included two choices in addition to the female/male choices, as shown in the box below.

How do you identify yourself?
(Please select one response.)
Female
Male
I identify myself in another way.
I prefer not to say.

In Canada overall, 94.8 percent of students identified themselves as female or male, with slightly more male than female students doing so, 49.3 and 45.5 percent, respectively. A small proportion of students identified themselves in another way (3.0 percent) or preferred not to say (2.1 percent). Similar proportions are observed in the provinces, with those who chose to identify themselves in another way ranging from 2.7 to 4.5 percent. The proportion of those who preferred not to say ranged from 1.9 to 2.6 percent (Table 1.14).

Due to the relatively small proportions of students in Canada who did not identify themselves as either female or male, and in order to ensure international comparability, this report uses the two standardized gender categories from student administrative data to describe results for Canadian students by gender.

Table 1.14

Percentage of students by gender self-identification							
	Female		Male		I identify myself in another way		I prefer not to say	
	%	SE	%	SE	%	SE	%	SE
Newfoundland and Labrador	43.4	(1.1)	50.8	(1.2)	3.3	(0.6)	2.4‡	(0.1)
Prince Edward Island	45.7	(2.0)	48.3	(2.0)	U‡	(1.2)	U‡	(0.6)
Nova Scotia	43.6	(1.2)	50.6	(1.2)	3.6	(0.6)	2.2	(1.0)
New Brunswick	43.9	(1.1)	49.5	(1.0)	4.5	(0.7)	2.1	(0.5)
Quebec	46.2	(0.7)	48.8	(0.8)	3.0	(0.3)	2.0	(0.5)
Ontario	45.2	(0.9)	50.0	(0.9)	2.8	(0.3)	2.0	(0.3)
Manitoba	45.4	(1.1)	49.1	(1.0)	2.9	(0.4)	2.6	(0.2)
Saskatchewan	43.6	(0.7)	50.4	(0.8)	3.6	(0.5)	2.4	(0.4)
Alberta	46.2	(1.1)	48.2	(1.3)	3.7	(0.7)	1.9‡	(0.3)
British Columbia	45.8	(1.3)	49.0	(1.6)	2.7	(0.5)	2.6	(0.5)
Canada	**45.5**	**(0.4)**	**49.3**	**(0.5)**	**3.0**	**(0.2)**	**2.1**	**(0.1)**

SE Standard error
‡ There are fewer than 30 observations.
U Too unreliable to be published.

Consistent with the results in PISA 2012, the previous administration in which mathematics was the major domain of the assessment, boys performed significantly better than girls in mathematics in Canada in PISA 2022. This type of disparity is found across almost half of the countries participating in PISA 2022 (OECD, 2023a). In Canada, 15 percent of boys reached Level 5 or 6, compared with 10 percent of girls (Figure 1.7, Appendix B.1.10b). However, a comparable proportion of girls and boys performed at Level 2 or higher in Canada (78 and 79 percent, respectively) and across all Canadian provinces.

Figure 1.7
Percentage of students at each proficiency level in mathematics in Canada, by gender
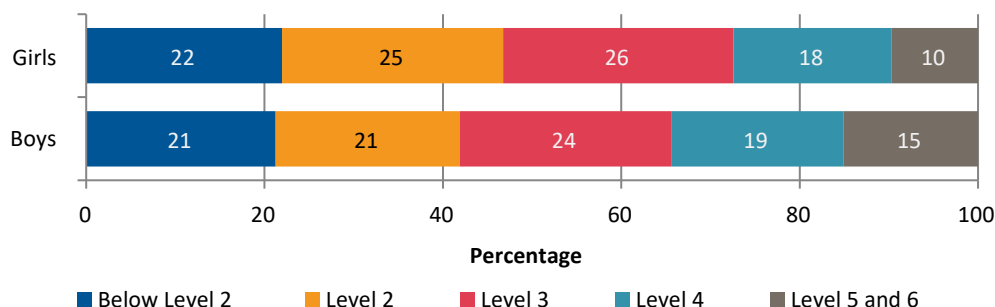
Girls: Below Level 2: 22, Level 2: 25, Level 3: 26, Level 4: 18, Level 5 and 6: 10
Boys: Below Level 2: 21, Level 2: 21, Level 3: 24, Level 4: 19, Level 5 and 6: 15

■ Below Level 2   ■ Level 2   ■ Level 3   ■ Level 4   ■ Level 5 and 6

Note: Percentages may not add up at 100 due to rounding. Results for Canada should be treated with caution because more than one PISA technical standard was not met (see Appendix A for further details).

Compared to the respective Canadian averages, a similar percentage of both girls and boys in Prince Edward Island, Ontario, Alberta, and British Columbia achieved at or above the expected level of mathematics proficiency (Level 2) for 15-year-old students. In Quebec, the proportions of both boys and girls achieving at or above Level 2 were higher than the respective Canadian averages, while in Newfoundland and Labrador, Nova Scotia, New Brunswick, Manitoba, and Saskatchewan, the proportions were lower than in Canada as a whole (Table 1.15, Appendix B.1.10b).

Table 1.15
Comparison of Canadian and provincial results for percentage of students achieving at or above Level 2 in mathematics, by gender

Girls		
Higher* percentage than Canada	**The same percentage as Canada**	**Lower* percentage than Canada**
Quebec	Prince Edward Island, Ontario, Alberta, British Columbia	Newfoundland and Labrador, Nova Scotia, New Brunswick, Manitoba, Saskatchewan
Boys		
Higher* percentage than Canada	**The same percentage as Canada**	**Lower* percentage than Canada**
Quebec	Prince Edward Island, Ontario, Alberta, British Columbia	Newfoundland and Labrador, Nova Scotia, New Brunswick, Manitoba, Saskatchewan

* Denotes significant difference.
Note: Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

A comparable proportion of girls and boys scored below Level 2 in Canada and all provinces. But a greater proportion of boys than girls were high performers in mathematics (Levels 5 and 6) in Canada overall and in five provinces (Table 1.16, Appendix B.1.10b)

Table 1.16

Summary of differences in Canadian and provincial results for students achieving at the lowest and highest proficiency levels in mathematics, by gender

Levels 5 and 6		
Percentage of girls is significantly higher than percentage of boys	**Percentage of boys is significantly higher than percentage of girls**	**No significant differences in the percentage of boys and girls**
	Canada, Quebec, Ontario, Saskatchewan, Alberta, British Columbia	Nova Scotia, New Brunswick, Manitoba
Below Level 2		
Percentage of girls is significantly higher than percentage of boys	**Percentage of boys is significantly higher than percentage of girls**	**No significant differences in the percentage of boys and girls**
		Canada, all provinces

Note: Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details). Results for Newfoundland and Labrador and Prince Edward Island are unavailable for Levels 5 and 6 due to unreliable data.

On average across Canada, boys outperformed girls by 12 points on the PISA 2022 mathematics assessment (Figure 1.8). At the provincial level, a statistically significant gender gap favouring boys ranged from 9 points in Quebec to 23 points in Prince Edward Island (Appendix B.1.11).

Figure 1.8

Average scores in mathematics in Canada, by gender
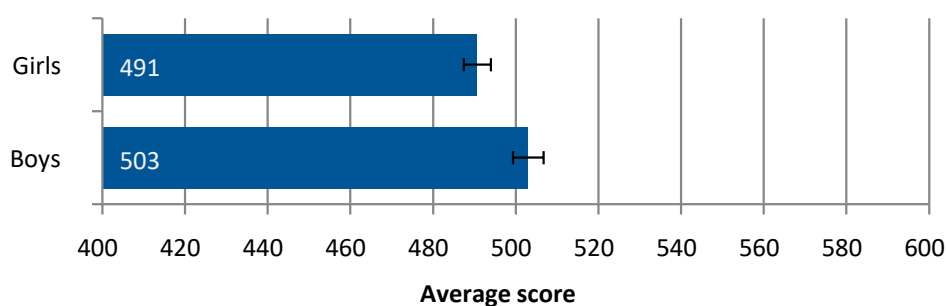
Note: Results for Canada should be treated with caution because more than one PISA technical standard was not met (see Appendix A for further details).

Table 1.17 presents a comparison of provincial achievement scores to the Canadian averages for girls and boys. Both female and male students in Quebec scored above the respective Canadian averages in mathematics, while those in Newfoundland and Labrador, Nova Scotia, New Brunswick, Manitoba, and Saskatchewan scored below the Canadian averages. In all other provinces, both genders scored at the Canadian averages except in Prince Edward Island, where girls scored below the Canadian average (Appendix B.1.11).

Table 1.17

Comparison of Canadian and provincial achievement scores in mathematics, by gender

Girls			
Canadian average for girls	**Above* the Canadian average for girls**	**At the Canadian average for girls**	**Below* the Canadian average for girls**
491	Quebec (509)	Ontario (488), Alberta (495), British Columbia (488)	Newfoundland and Labrador (457), Prince Edward Island (467), Nova Scotia (467), New Brunswick (463), Manitoba (467), Saskatchewan (461)

Boys			
Canadian average for boys	**Above* the Canadian average for boys**	**At the Canadian average for boys**	**Below* the Canadian average for boys**
503	Quebec (518)	Prince Edward Island (489), Ontario (502), Alberta (512), British Columbia (504)	Newfoundland and Labrador (460), Nova Scotia (474), New Brunswick (472), Manitoba (474), Saskatchewan (474)

* Denotes significant difference.
Note: Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

For Canada overall, boys outperformed girls in each of the process and content knowledge subscales in mathematics (Table 1.18, Appendices B.1.12 and B.1.13).

Table 1.18

Comparison of Canadian achievement scores for mathematics subscales, by gender

	Girls		Boys		Difference (girls - boys)
	Average score	**Standard error**	**Average score**	**Standard error**	
Mathematical process subscales					
Formulating	484	(2.8)	503	(2.6)	-19*
Employing	487	(2.4)	502	(2.7)	-15*
Interpreting	498	(2.2)	508	(2.6)	-10*
Mathematical reasoning	494	(2.6)	505	(2.5)	-11*
Mathematical content knowledge subscales					
Change and relationships	496	(2.1)	508	(2.5)	-12*
Quantity	486	(2.2)	502	(2.6)	-16*
Space and shape	484	(2.7)	498	(2.3)	-15*
Uncertainty and data	495	(2.2)	506	(2.6)	-11*

* Denotes significant difference.
Note: Results for Canada should be treated with caution because more than one PISA technical standard was not met (see Appendix A for further details).

Table 1.19 compares the provincial results for boys and girls to the Canadian averages for the subscales in mathematics. Both female and male students in Quebec achieved scores above the Canadian averages in each of the process and content knowledge subscales, except in the change and relationships subscale, in which boys in Quebec achieved at the Canadian average. In Alberta, girls and boys achieved scores above the Canadian average in change and relationships. Other provincial results varied (Appendices B.1.12 and B.1.13).

Table 1.19

Comparison of Canadian and provincial achievement scores for mathematics subscales, by gender

	Girls		
Canadian average for girls	Above* the Canadian average for girls	At the Canadian average for girls	Below* the Canadian average for girls
Mathematical process subscales			
Formulating			
484	Quebec (508)	Ontario (478), Alberta (488), British Columbia (486)	Newfoundland and Labrador (443), Prince Edward Island (455), Nova Scotia (461), New Brunswick (455), Manitoba (459), Saskatchewan (449)
Employing			
487	Quebec (509)	Prince Edward Island (465), Ontario (482), Alberta (495), British Columbia (481)	Newfoundland and Labrador (452), Nova Scotia (462), New Brunswick (463), Manitoba (465), Saskatchewan (459)
Interpreting			
498	Quebec (511)	Prince Edward Island (479), Ontario (496), Alberta (506), British Columbia (496)	Newfoundland and Labrador (471), Nova Scotia (474), New Brunswick (470), Manitoba (475), Saskatchewan (466)
Mathematical reasoning			
494	Quebec (506)	Prince Edward Island (468), Ontario (493), Alberta (501), British Columbia (494)	Newfoundland and Labrador (458), Nova Scotia (476), New Brunswick (464), Manitoba (468), Saskatchewan (466)
Mathematical content knowledge subscales			
Change and relationships			
496	Quebec (507), Alberta (510)	Ontario (494), British Columbia (493)	Newfoundland and Labrador (465), Prince Edward Island (467), Nova Scotia (476), New Brunswick (465), Manitoba (471), Saskatchewan (463)
Quantity			
486	Quebec (510)	Prince Edward Island (465), Ontario (480), Alberta (488), British Columbia (484)	Newfoundland and Labrador (450), Nova Scotia (459), New Brunswick (463), Manitoba (464), Saskatchewan (457)
Space and shape			
484	Quebec (505)	Prince Edward Island (454), Ontario (484), Alberta (482), British Columbia (477)	Newfoundland and Labrador (444), Nova Scotia (463), New Brunswick (466), Manitoba (461), Saskatchewan (455)
Uncertainty and data			
495	Quebec (510)	Ontario (493), Alberta (500), British Columbia (496)	Newfoundland and Labrador (469), Prince Edward Island (464), Nova Scotia (472), New Brunswick (468), Manitoba (470), Saskatchewan (467)

Table 1.19 (cont'd)

Comparison of Canadian and provincial achievement scores for mathematics subscales, by gender

Boys			
Canadian average for boys	Above* the Canadian average for boys	At the Canadian average for boys	Below* the Canadian average for boys
Mathematical process subscales			
Formulating			
503	Quebec (519)	Prince Edward Island (486), Ontario (501), Alberta (513), British Columbia (508)	Newfoundland and Labrador (453), Nova Scotia (473), New Brunswick (468), Manitoba (468), Saskatchewan (466)
Employing			
502	Quebec (522)	Prince Edward Island (488), Ontario (499), Alberta (512), British Columbia (499)	Newfoundland and Labrador (452), Nova Scotia (470), New Brunswick (471), Manitoba (473), Saskatchewan (473)
Interpreting			
508	Quebec (522)	Prince Edward Island (493), Ontario (507), Alberta (518), British Columbia (509)	Newfoundland and Labrador (467), Nova Scotia (476), New Brunswick (476), Manitoba (477), Saskatchewan (474)
Mathematical reasoning			
505	Quebec (515)	Prince Edward Island (486), Ontario (505), Alberta (515), British Columbia (508)	Newfoundland and Labrador (461), Nova Scotia (482), New Brunswick (473), Manitoba (476), Saskatchewan (478)
Mathematical content knowledge subscales			
Change and relationships			
508	Alberta (526)	Prince Edward Island (487), Quebec (516), Ontario (508), British Columbia (510)	Newfoundland and Labrador (464), Nova Scotia (482), New Brunswick (472), Manitoba (477), Saskatchewan (474)
Quantity			
502	Quebec (517)	Prince Edward Island (489), Ontario (500), Alberta (510), British Columbia (505)	Newfoundland and Labrador (455), Nova Scotia (469), New Brunswick (471), Manitoba (473), Saskatchewan (471)
Space and shape			
498	Quebec (518)	Prince Edward Island (472), Ontario (497), Alberta (505), British Columbia (493)	Newfoundland and Labrador (453), Nova Scotia (473), New Brunswick (476), Manitoba (471), Saskatchewan (469)
Uncertainty and data			
506	Quebec (520)	Prince Edward Island (484), Ontario (505), Alberta (514), British Columbia (509)	Newfoundland and Labrador (465), Nova Scotia (476), New Brunswick (472), Manitoba (473), Saskatchewan (477)

* Denotes significant difference.
Note: Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

Boys in Ontario achieved higher scores than girls in each of the mathematical process and content knowledge subscales. Similar results were found in Saskatchewan and Alberta, except that no difference in mathematics scores was observed for two of the subscales. The results for the remaining provinces were more variable (Table 1.20, Appendix B.1.12 and B.1.13).

Table 1.20		
Summary of differences in provincial achievement scores for mathematics subscales, by gender		
Girls performed significantly better than boys	**Boys performed significantly better than girls**	**No significant difference between girls and boys**
Mathematical process subscales		
Formulating		
	Prince Edward Island, Quebec, Ontario, Saskatchewan, Alberta, British Columbia	Newfoundland and Labrador, Nova Scotia, New Brunswick, Manitoba
Employing		
	Quebec, Ontario, Saskatchewan, Alberta, British Columbia	Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Manitoba
Interpreting		
	Ontario	Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Quebec, Manitoba, Saskatchewan, Alberta, British Columbia
Mathematical reasoning		
	Ontario, Saskatchewan, Alberta	Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Quebec, Manitoba, British Columbia
Mathematical content knowledge subscales		
Change and relationships		
	Ontario, Alberta, British Columbia	Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Quebec, Manitoba, Saskatchewan
Quantity		
	Prince Edward Island, Ontario, Saskatchewan, Alberta, British Columbia	Newfoundland and Labrador, Nova Scotia, New Brunswick, Quebec, Manitoba
Space and shape		
	Quebec, Ontario, Saskatchewan, Alberta, British Columbia	Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Manitoba
Uncertainty and data		
	Ontario, Saskatchewan	Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Quebec, Manitoba, Alberta, British Columbia

Note: Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

Changes in mathematics performance over time

The richness of the PISA data grows with every cycle. Although mathematics results over time cannot be compared before PISA 2003, comparable mathematics assessments have been conducted in seven cycles of PISA, covering a 19-year span (2003, 2006, 2009, 2012, 2015, 2018, and 2022). More importantly, this is the third PISA assessment with mathematics as the major domain, the first being 2003 and the second 2012. Performance changes over time are always compared to a baseline year, one in which the subject was the major domain. Thus, PISA 2022 enables countries and provincial education systems to compare their own performance over time between 2003, 2012, and 2022. Doing so provides important information on the performance of individual education systems — and their performance relative to systems in other countries — for almost two decades, all of which can be used to inform educational policy and instructional practices.

While this section looks at changes over time, performance differences should be interpreted with caution. More specifically, in order to allow for comparability over time, some common assessment items were used in each survey, and an equating procedure was used to align performance scales. However, all estimates of statistical quantities are associated with statistical uncertainty, and this is true for the transformation parameters used to equate PISA scales over time. A link error that reflects this uncertainty is included in the estimate of the standard error for estimates of PISA performance trends and changes over time (OECD, 2023a). Only changes that are indicated as statistically significant should be considered.

In Canada, as well as on average across the OECD, mathematics performance declined between 2003 and 2022. In the 35 countries and economies that participated in both PISA 2003 and PISA 2022 with valid results, mathematic performance improved on a statistically significant basis in three countries, while it decreased in 22 countries, with the other countries maintaining their scores. At the provincial level, mathematics scores decreased in all provinces between 2003 and 2022 (Figure 1.9 and Appendix B.1.14a).

Figure 1.9

Average mathematics scores in Canada over time, 2003–2022
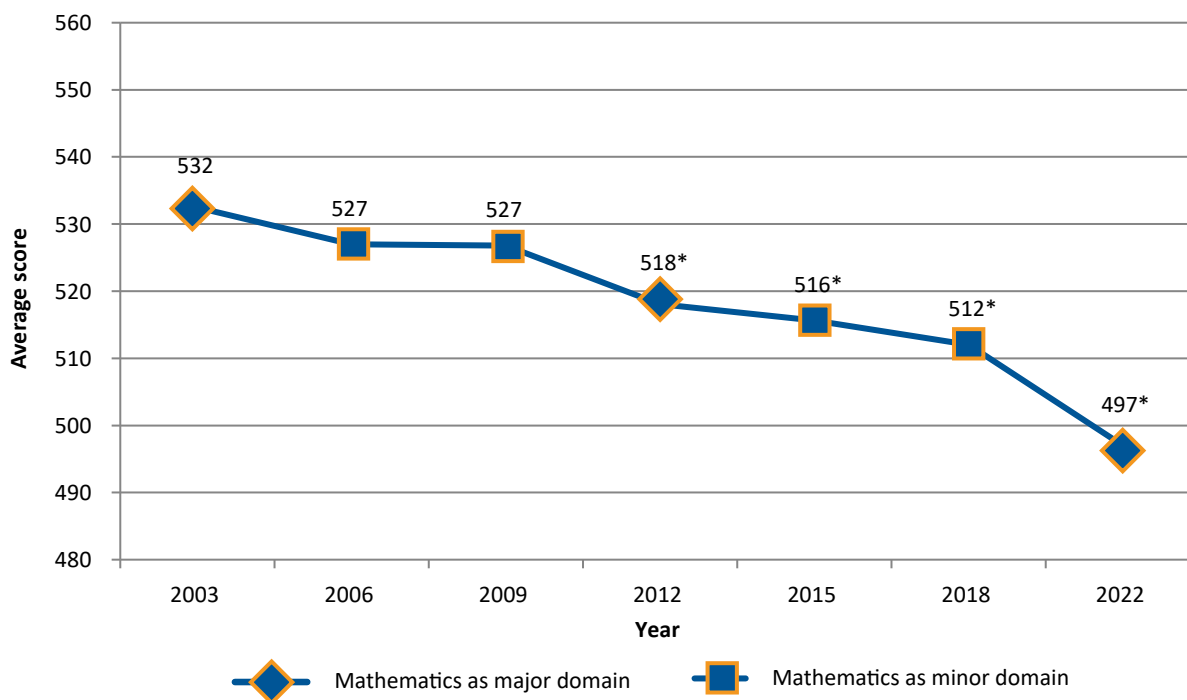
* Significant difference compared with baseline (2003).
Note: Results for Canada for PISA 2022 should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

It is worth noting that, out of the 59 countries that participated in both PISA 2012 and PISA 2022, mathematics performance improved in only three countries, but declined in 39 countries on a statistically significant basis between the baseline year 2012 and 2022. No changes were observed in the remaining countries. Mathematics scores declined in Canada and in all provinces except Prince Edward Island and Alberta between 2012 and 2022 (Table 1.21, Appendix B.1.14b). The same decline was apparent across the OECD (Appendix B.1.14b).

Table 1.21

Canadian and provincial average scores in mathematics over time, 2012–2022

	2012		2015		2018		2022	
	Average score	Standard error	Average score	Standard error	Average score	Standard error	Average score	Standard error
Newfoundland and Labrador	490	(3.7)	486	(4.8)	488	(7.3)	459*	(6.6)
Prince Edward Island	479	(2.5)	499*	(7.3)	487	(11.6)	478	(7.5)
Nova Scotia	497	(4.1)	497	(5.8)	494	(7.2)	470*	(5.1)
New Brunswick	502	(2.6)	493	(6.2)	491	(6.6)	468*	(4.7)
Quebec	536	(3.4)	544	(5.9)	532	(4.9)	514*	(5.3)
Ontario	514	(4.1)	509	(5.5)	513	(5.6)	495*	(4.7)
Manitoba	492	(2.9)	489	(5.5)	482	(5.0)	470*	(4.5)
Saskatchewan	506	(3.0)	484*	(4.6)	485*	(6.0)	468*	(4.4)
Alberta	517	(4.6)	511	(5.9)	511	(6.1)	504	(6.7)
British Columbia	522	(4.4)	522	(6.1)	504*	(6.2)	496*	(5.7)
Canada	**518**	**(1.8)**	**516**	**(4.2)**	**512**	**(4.1)**	**497***	**(3.9)**

* Significant difference compared with baseline (2012).
Note: The linkage error is incorporated into the standard error for 2015, 2018, and 2022. Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

At the pan-Canadian level, the proportion of students who are low performers (below Level 2) in mathematics increased between 2012 and 2022; this was also the case in all provinces except Prince Edward Island. At the same time, the proportion of students reaching the highest levels in mathematics (Levels 5 and 6) decreased in Canada overall and in Newfoundland and Labrador, New Brunswick, Quebec, Manitoba, Saskatchewan, and British Columbia (Appendix B.1.15).

A statistically significant gender gap in mathematics achievement favouring boys has remained stable over the past ten years (the increase from 10 points in 2012 to 12 points in 2022 was not statistically significant). In those provinces where a gender gap was observed in 2022, it ranged from 9 points in Quebec to 23 points in Prince Edward Island (Appendix B.1.16).

Summary

Canada continues to perform well in mathematics in a global context, with only eight out of 80 countries scoring higher on average on the PISA mathematics assessment. At the provincial level, students in Quebec performed among the top jurisdictions in mathematics. Additionally, those in Alberta, Ontario, and British Columbia performed above the OECD average, while students in five of the remaining provinces achieved at the OECD average. Furthermore, close to 80 percent of Canadian students reached the baseline level of mathematics proficiency required to participate fully in modern society (Level 2), while more than 1 in 10 students reached Level 5 or 6.

In spite of these results, declining mathematics scores in Canada and all provinces since PISA 2003 suggest that there is cause for concern. In addition, one in five Canadian students scored at the lowest levels identified by PISA (below Level 2). Furthermore, the gender gap in mathematics in favour of boys persists in Canada overall.

Chapter 2

A Profile of Students and Their Engagement in Mathematics, and Findings on Student Learning during the Pandemic

As students progress through public education, they learn increasingly challenging and sophisticated curriculum. In recent decades, curriculum and pedagogy have evolved in response to increasing information, growing demands for skilled workers who bring knowledge to the job, and greater social and citizenship complexities in a globalized world. In analyzing these changes, the literature highlights the need for "21st-century knowledge and skills" and recognizes that, for education systems to help students develop such skills, assessing learning processes is as important as assessing learning outcomes (Goldman, 2012; Learned et al., 2011; OECD, 2010). The PISA 2022 student questionnaire provides insights into the attitudes, motivations, and skills that students are bringing to the process of "learning how to learn."

PISA contextual questionnaires

As part of the PISA assessment, students and their school principals in Canada complete questionnaires that are designed to provide all provinces and territories with contextual information to aid in the interpretation of the performance results. Researchers, policy-makers, and practitioners can use the information provided by these questionnaires to help them determine what factors influence learning outcomes.

The content of the contextual questionnaires changes depending on which of the three domains is the primary focus in a PISA assessment. As the major domain of PISA 2022 was mathematics, the contextual questionnaires provide information on variables that have been found in past cycles of PISA and other studies to correlate with mathematics achievement. The PISA student questionnaire gathers information about students' home background, their approaches to learning, and their learning environments. As PISA 2022 was administered during the global pandemic, the questionnaires for this cycle also included a series of new COVID-19-related questions. Although the questionnaires cover many relevant areas, only a select number of results are presented here for illustrative purposes. More detailed analysis of the student and school questionnaires will be presented in future CMEC publications.

Student demographic characteristics

A vast array of literature has illustrated that learning outcomes are affected by a student's individual and family demographic characteristics. These include gender, socioeconomic status, immigrant status, and home language. This section reports descriptive results for three variables (economic, social, and cultural status; immigrant status; and language spoken at home) and their relationship with mathematics achievement. (The relationship between gender and mathematics achievement was reported in Chapter 1.) Results with respect to these variables are also compared with data from previous pan-Canadian and international assessments, when available.

Socioeconomic status

Socioeconomic status (SES), which comprises both cultural and economic factors, has often been represented by an index of variables that include parents' occupations and educational attainment, learning resources in the home, and how parents communicate the value of education to their children, among other variables (Crowe, 2013; Chevalier et al., 2013).[10]

Various studies have reported associations between SES and students' educational attainment. Typically, there tends to be an intergenerational correlation: that is, highly educated parents are more likely to have children who obtain more education, while parents with less education are more likely to have children who obtain relatively low levels of education (Causa et al., 2009; Chevalier et al., 2013; Onuzo et al., 2013). However, education can also play a role in social mobility (i.e., changes in children's socioeconomic status as they become adults, in relation to that of their parents) (Chen & Hou, 2019; Zhang et al., 2020), and so policy-makers have a strong interest in improving educational outcomes for all students (Chevalier et al., 2013). Fortunately, evidence suggests that well-structured policy interventions, such as income-support policies, have a particularly strong positive effect on the most disadvantaged children and families (Causa et al., 2009; Merry, 2013).

Student economic, social, and cultural status

In PISA, SES is measured using the index of economic, social, and cultural status (ESCS), which is derived from three indices: the highest occupational status of students' parents; the highest educational level attained by students' parents; and a number of home possessions that can be used as proxies for material wealth, including the number of books and other educational resources available in the home (OECD, 2019a). It is important to underscore that "the link between socio-economic status and student achievement is neither absolute nor automatic, and should not be overstated" (OECD, 2016, p. 63).

Canada scored 0.38 on the ESCS index; only two other participating countries (Norway and Denmark) had higher ESCS index scores than Canada. A higher index score denotes a higher average SES. At the provincial level, the ESCS index varied from a high of 0.43 in British Columbia to a low of 0.18 in Manitoba (Figure 2.1, Appendix B.2.1a).

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[10] In this report, "parents" refers to parents or guardians.

Figure 2.1

Economic, social, and cultural status (ESCS) index scores
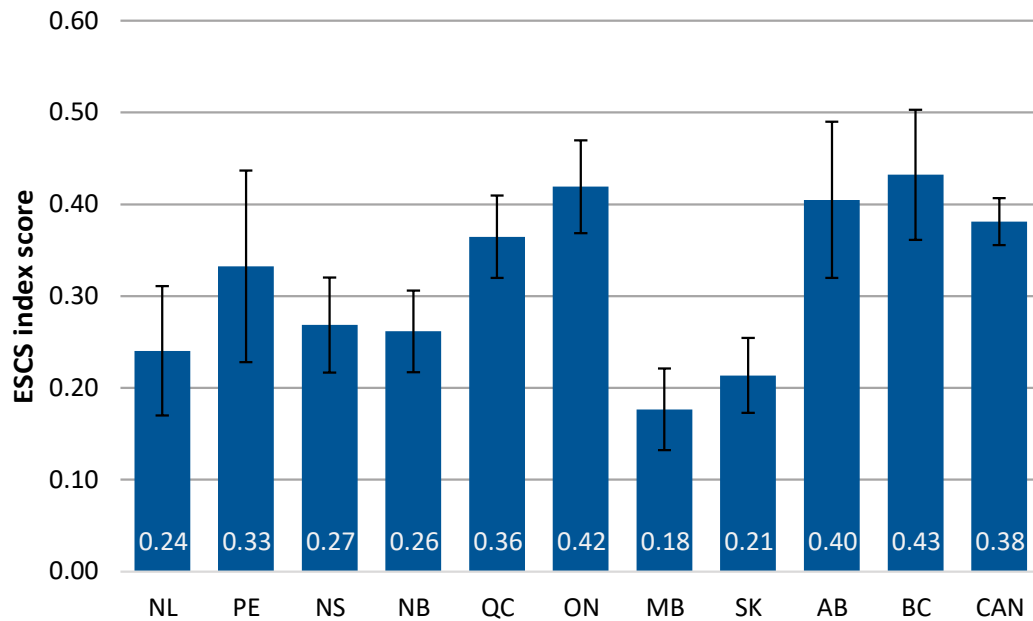
Note: The OECD average of the ESCS index is 0.00, with a standard error of 0.0. Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

For the purposes of reporting on student achievement in relation to the ESCS index, students in the top 25 percent (top quarter) of the index were defined as socioeconomically advantaged students, whereas those in the bottom 25 percent (bottom quarter) were defined as socioeconomically disadvantaged students (OECD, 2017). On average across OECD countries, socioeconomically advantaged students scored 93 points higher in mathematics than disadvantaged students (Appendix B.2.1b). This pattern holds true in Canada for mathematics overall, as well as for all mathematics subscales (Appendices B.2.2 and B.2.3). As shown in Table 2.1, 10.2 percent of the variation in mathematics scores in Canada overall can be attributed to differences in socioeconomic status. Provincially, the variation in overall mathematics scores explained by socioeconomic status was highest in Alberta (12.8 percent) and lowest in Newfoundland and Labrador (8.2 percent) (Appendix B.2.1b).

Table 2.1

	Socioeconomically advantaged students	Socioeconomically disadvantaged students	Difference (advantaged - disadvantaged)	Percentage of variance explained by SES factors
Relationship between average mathematics scores and socioeconomic status (SES)				
	Average score	Average score		
Newfoundland and Labrador	492	430	62*	8.2
Prince Edward Island	518	440	79*	11.6
Nova Scotia	516	439	77*	9.0
New Brunswick	511	435	76*	10.9
Quebec	555	473	82*	11.9
Ontario	534	463	71*	8.4
Manitoba	502	439	63*	8.4
Saskatchewan	506	441	65*	8.5
Alberta	550	457	92*	12.8
British Columbia	536	457	80*	10.1
Canada	**536**	**460**	**76***	**10.2**
OECD	**525**	**431**	**93***	**15.5**

* Denotes significant difference.
Note: Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

Compared to other OECD countries, Canada has historically demonstrated higher-than-average social mobility (Causa et al., 2009; OECD, 2019b; Parkin, 2015), which may be associated with educational attainment. However, further research is required on this issue because averages can obscure different types of persistent patterns of disparities. For example, in Canada, given that immigrant students are typically associated with a lower SES background (CMEC, 2015), the achievement gap between immigrant and non-immigrant students is particularly noteworthy, as immigrant students may continue to face other barriers related to their sociocultural and socioeconomic integration.

Immigrant status

In 2021, almost one-quarter of Canada's population were currently, or previously had been, landed immigrants or permanent residents (Statistics Canada, 2022a). International studies have found that children in immigrant families are typically more likely to be educationally disadvantaged (Andon et al., 2014; Bruckauf, 2016; OECD, 2010). Using data from earlier cycles of PISA, TIMSS, and the Progress in International Reading Literacy Study (PIRLS), Andon et al. (2014) observed an achievement gap between immigrant and non-immigrant students in the three domains of reading, mathematics, and science across OECD countries.

Although immigrants have historically been more likely than non-immigrants to fall into low-SES categories (CMEC, 2015), Canada is among select OECD countries that are more successful in closing the "immigrant achievement gap" (Parkin, 2015; Wech & Weinkam, 2016). Indeed, the trend may even be reversed in the Canadian context: in PISA 2012, the last cycle in which mathematics was also the major domain, first-generation immigrant students had higher average mathematics scores than those of non-immigrant students in some parts of Canada (CMEC, 2015).

Immigrant student achievement may be understood in the wider context of immigrant integration policies. For instance, the experience of greater civic and cultural rights among immigrant youth — conditions that are important to their integration — may narrow the achievement gap with their non-immigrant peers (Ham et al., 2020). In this respect, it is noteworthy that Canada scored among the top ten countries (among 56 assessed countries) for its comprehensive immigrant integration policies, based on the latest study conducted by the

Migrant Integration Policy Index (MIPEX, 2020). That said, an earlier study notes that, of the eight policy areas assessed by MIPEX in 2015, "education emerged as the greatest weakness in integration policies in most countries," Canada included (Volante et al., 2017, p. 333).

Comparisons of average achievement between students who are immigrants and those who were born in Canada must be treated with caution, as scores may obscure important disparities among immigrant groups (Schnepf, 2008). Immigrant children and youth are not homogeneous (Andon et al., 2014; OECD, 2010; Parkin, 2015; Schnepf, 2008; Wech & Weinkam, 2016). They vary with respect to where they completed their previous education, at what age they were immersed in schooling in one of Canada's official languages, and whether they already spoke English or French upon arriving in Canada (Bruckauf, 2016; OECD, 2016). Like their domestic-born counterparts, immigrant children and youth also vary in the levels of education held by their parents.

In PISA, students are classified using three categories related to immigrant status (OECD, 2019b, p. 179):

- **Non-immigrant** students have at least one parent who was born in the country in which the assessment was administered, regardless of whether the student himself or herself was born in that country.
- **Second-generation immigrant** students were born in the country in which the assessment was administered but have foreign-born parents.
- **First-generation immigrant** students are foreign-born students whose parents are also foreign-born.

In Canada, 34 percent of students identified themselves as having an immigrant background. Provincially, the highest proportions of immigrant students were in Ontario (42 percent) and Alberta (40 percent) (Figure 2.2, Appendix B.2.4a).

Figure 2.2

Percentage of students by their immigrant status
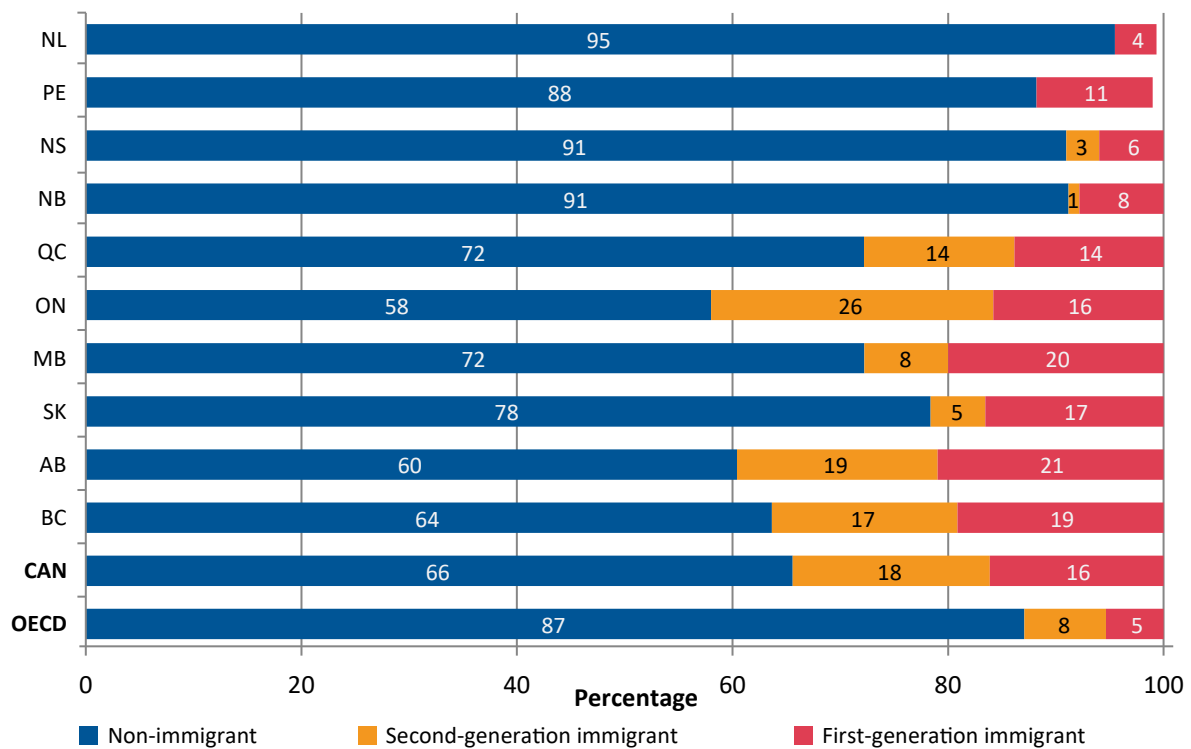
Note: Owing to the small sample size, percentages for second-generation immigrant students participating in Newfoundland and Labrador and Prince Edward Island are not indicated separately, and so percentages may not add up to 100. Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

In the majority of countries participating in PISA 2022, non-immigrant students outperformed their first- and second-generation immigrant peers. This finding has been consistent across previous cycles of PISA (OECD, 2019a). However, this trend was not observed in Canada.

In Canada, immigrant students outperformed their non-immigrant peers in the mathematics domain. Second-generation immigrant students in particular had a significantly higher average mathematics score compared to both first-generation immigrant students and non-immigrant students (Figure 2.3). However, this trend was not observed in all provinces (Appendix B.2.4b). For instance, in Quebec, where non-immigrant students had the highest average mathematics score of all non-immigrant students across Canada, non-immigrant students outperformed their first- and second-generation immigrant peers. In contrast, in Alberta, where non-immigrant students had the second-highest average mathematics score of all non-immigrant students in Canada, second-generation immigrant students outperformed non-immigrant students.

Figure 2.3

Average mathematics scores in Canada, by immigrant status
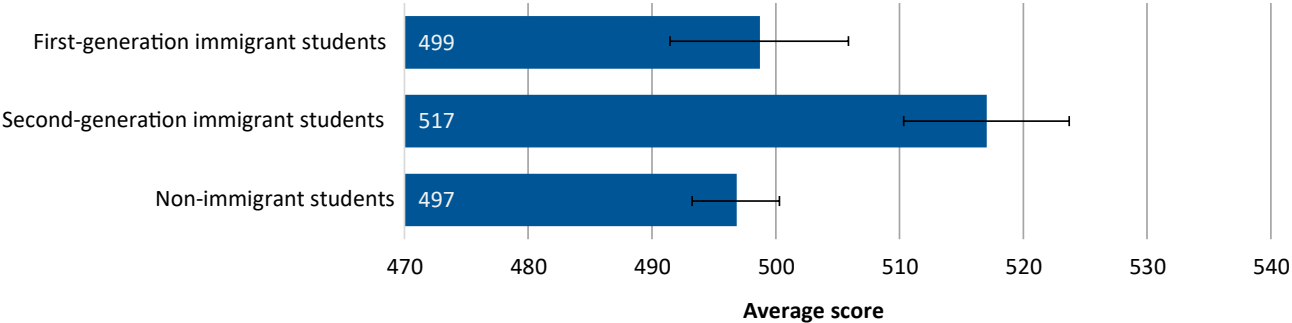
Note: Results for Canada should be treated with caution because more than one PISA technical standard was not met (see Appendix A for further details).

The results for the mathematics subscales were also examined by students' immigrant status. For Canada overall, second-generation immigrant students had higher average achievement across all the subscales, compared to their first-generation and non-immigrant peers (Table 2.2). Results by subscales varied within the provinces (Appendices B.2.5 and B.2.6).

Table 2.2

Comparison of average scores for mathematics subscales in Canada, by immigrant status

	Non-immigrant students		Second-generation immigrant students		First-generation immigrant students		Difference		
	Average score	Standard error	Average score	Standard error	Average score	Standard error	Second-generation students - non-immigrant students	First-generation students - non-immigrant students	First-generation students - second generation students
Mathematical processes									
Formulating	492	(2.5)	515	(5.0)	498	(5.6)	*		*
Employing	493	(2.5)	518	(4.0)	500	(5.1)	*		*
Interpreting	505	(2.2)	523	(4.2)	502	(4.5)	*		*
Mathematical reasoning	500	(2.3)	516	(4.5)	498	(5.4)	*		*
Mathematical content knowledge									
Change and relationships	502	(2.1)	522	(5.3)	507	(4.9)	*		*
Quantity	492	(2.1)	516	(4.2)	497	(4.1)	*		*
Space and shape	492	(2.6)	508	(5.4)	487	(5.6)	*		*
Uncertainty and data	501	(2.3)	520	(5.2)	502	(4.1)	*		*

* Denotes significant difference.
Note: Results for Canada should be treated with caution because more than one PISA technical standard was not met (see Appendix A for further details).

Language spoken at home

Canada is a multilingual and multicultural country with two official languages and various immigrant and Indigenous populations. According to the 2021 census, one in four Canadians reported having a mother tongue other than English or French (Statistics Canada, 2022c). "Mother tongue," as used in Statistics Canada data reports, may be considered synonymous with "first language spoken." Canada's language groups may be classified into three distinct categories: official languages, non-official or heritage languages, and Indigenous languages (Duff & Becker-Zayas, 2017).

Learning in Canada's official languages

The two official languages of instruction in Canada are English and French, but the majority of students in Canada receive their first-language instruction in English. Although Canada as a whole is officially bilingual, New Brunswick is the only province that is officially bilingual, and Quebec is the only province to have French as its single official language. New Brunswick is the only province outside Quebec in which a substantial proportion of the population (30 percent) is francophone (Statistics Canada, 2022c). Canada's federal government and provincial and territorial governments, both in principle and practice, support opportunities for all Canadians to learn one or both of Canada's official languages (Government of Canada, 2017; Statistics Canada, 2016a). To ensure that all students have the opportunity to learn both of Canada's official languages, all school systems offer English or French as second language courses, and French immersion programs are offered in public education systems throughout Canada.[11] Some provinces also offer bilingual programs that combine instruction in an official language and a heritage language or an Indigenous language (Nagy, 2021). As well, many schools offer second-language courses in languages other than English or French (Government of Canada, 2017).

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[11] For a more detailed description of language policies in Canada, see the country chapter for Canada in the *PIRLS 2021* Encyclopedia (Rostamian, 2022).

Provinces and territories are impacted differently by immigration, and this affects findings with respect to mother tongue. Canadian census data from 2021 show that 69 percent of immigrants have a first language other than French or English. Moreover, immigrants are heavily concentrated in Canada's urban centres in Quebec, Ontario, Alberta, and British Columbia (Statistics Canada, 2022a).

As part of the PISA student questionnaire, participants were asked, "What language do you speak at home most of the time?" The three response options were "English," "French," and "another language." The majority of students who participated in PISA 2022 spoke one of Canada's official languages at home. Specifically, 64 percent of participating students spoke English at home, while 17 percent spoke French at home, and 19 percent spoke another language at home. Quebec is the only province where French was spoken at home by the majority of students (72 percent). The proportion of students speaking a language other than English or French at home ranges from 24 percent in British Columbia to 3 percent in Newfoundland and Labrador (Figure 2.4, Appendix B.2.7a).
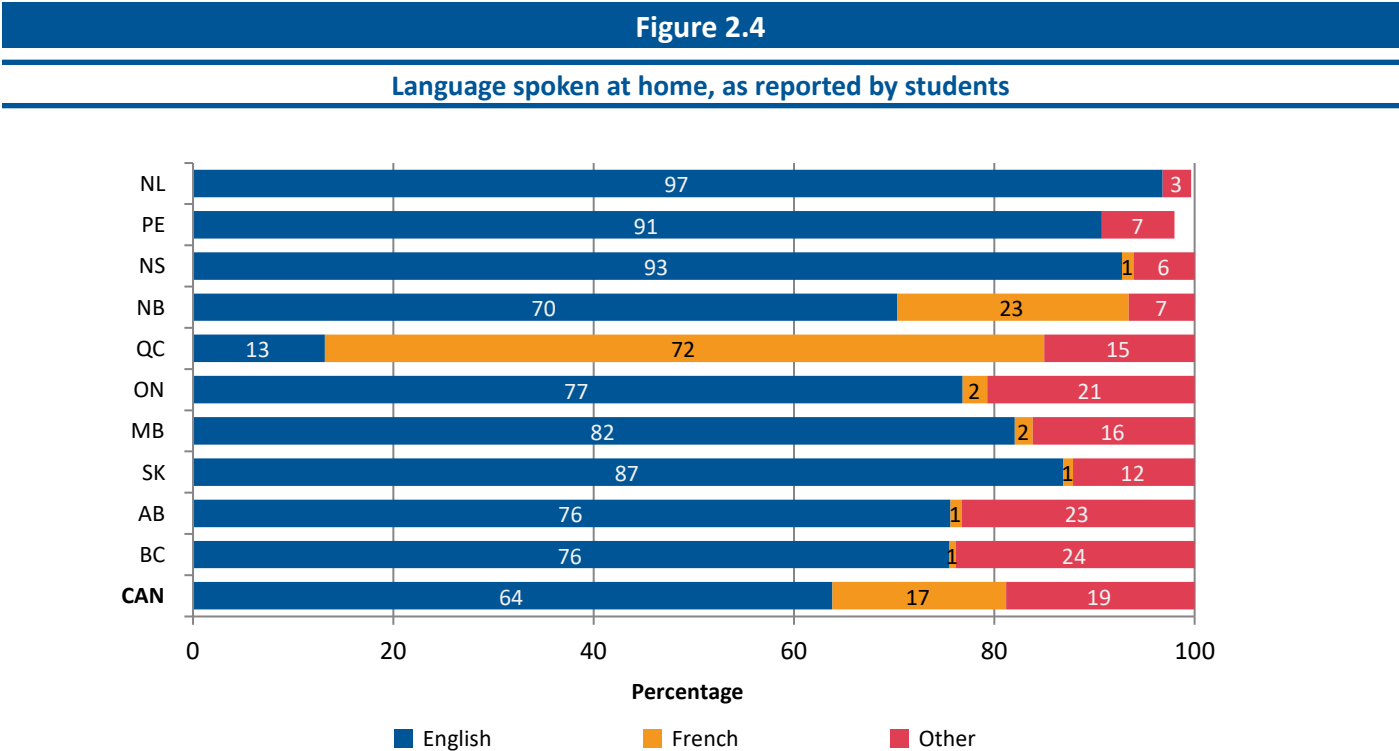
Figure 2.4

Language spoken at home, as reported by students

Note: Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

As shown in Figure 2.5, students in Canada who spoke English at home had lower achievement in mathematics compared to those who spoke French or another language other than English or French at home. However, substantial variation exists within the provinces. In Quebec, students who spoke French at home outperformed students who spoke English or a language other than English or French. In Ontario, students who spoke a language other than English or French at home outperformed their anglophone and francophone peers. In Nova Scotia and British Columbia, students who spoke a language other than English or French outperformed students who spoke English at home (Appendix B.2.7b).

Figure 2.5

Average mathematics scores in Canada, by language spoken at home
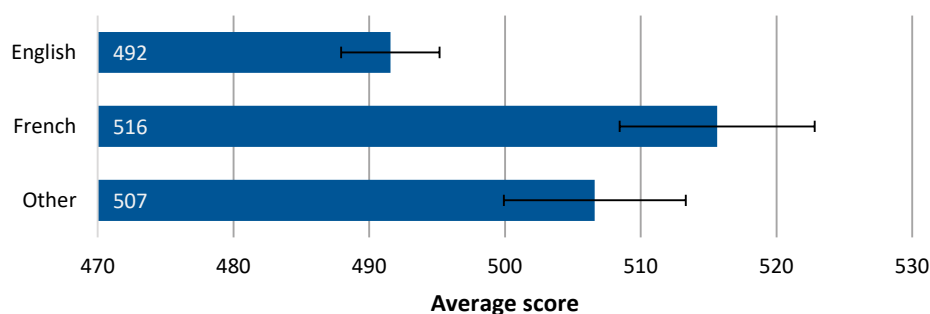
Language	Score
English	492
French	516
Other	507

Note: Results for Canada should be treated with caution because more than one PISA technical standard was not met (see Appendix A for further details).

The results for the mathematics subscales were also examined by language spoken at home. For Canada overall, francophone students had higher average achievement than anglophone students across all subscales. The differences between francophone students and their counterparts who spoke a language other than English or French at home were not statistically significant, except in the space and shape subscale (Table 2.3). Results with respect to language spoken at home varied within the provinces (Appendices B.2.8 and B.2.9).

Table 2.3

Comparison of average scores for mathematics subscales in Canada, by language spoken at home

	English		French		Other		Difference		
	Average score	Standard error	Average score	Standard error	Average score	Standard error	English - French	English - Other	French - Other
Mathematical processes									
Formulating	486	(2.8)	514	(5.3)	507	(5.2)	*	*	
Employing	487	(2.4)	518	(4.8)	508	(4.8)	*	*	
Interpreting	499	(2.4)	519	(4.7)	512	(4.5)	*	*	
Mathematical reasoning	495	(2.4)	513	(4.1)	507	(4.8)	*	*	
Mathematical content knowledge									
Change and relationships	499	(2.4)	513	(5.1)	515	(4.2)	*	*	
Quantity	487	(2.4)	515	(4.3)	506	(4.0)	*	*	
Space and shape	485	(2.8)	513	(5.8)	497	(4.3)	*	*	*
Uncertainty and data	496	(2.6)	518	(4.5)	509	(4.2)	*	*	

* Denotes significant difference.
Note: Results for Canada should be treated with caution because more than one PISA technical standard was not met (see Appendix A for further details).

Students' attitudes, behaviours, and beliefs

Beyond sociodemographic factors, students' attitudes, behaviours, and beliefs may contribute to their mathematics achievement. For instance, enjoyment of and self-efficacy in mathematics have been previously found to be positively correlated with mathematics achievement, while anxiety about mathematics has been found to be negatively correlated with mathematics achievement (Živković et al., 2023). This section explores, within the Canadian context, selected PISA 2022 items related largely to the emotional and motivational aspects of student learning, with a specific focus on students' attitudes toward mathematics, the format of students' additional instruction, and mathematics self-efficacy.

Attitude toward mathematics

Identifying and understanding the attitudes that students have toward mathematics may be helpful for educators and parents in supporting students in their mathematics learning. Using latent class analysis, Hwang and Son (2021) found four distinct student profiles characterizing attitudes toward mathematics: positive, neutral, negative, and very negative. Studies have recognized the association between attitude toward mathematics and mathematics achievement, with some interpretations of this relationship being that: 1) more positive attitudes lead to higher mathematics achievement; 2) higher mathematics achievement leads to enhanced positive attitudes toward mathematics; or 3) both factors operate in reciprocity (Kiwanuka et al., 2022).

In PISA 2022, students were asked to respond to three items concerning their attitudes toward mathematics, as shown in Figure 2.6. In Canada overall, close to 50 percent of participants agreed or strongly agreed that mathematics was one of their favourite subjects, while 54 percent agreed or strongly agreed that mathematics was easy for them. Additionally, 93 percent of students indicated that they wanted to do well in mathematics class (Appendix B.2.10a–c).

Figure 2.6

Percentage of Canadian students by their responses to questionnaire items related to their attitudes toward mathematics
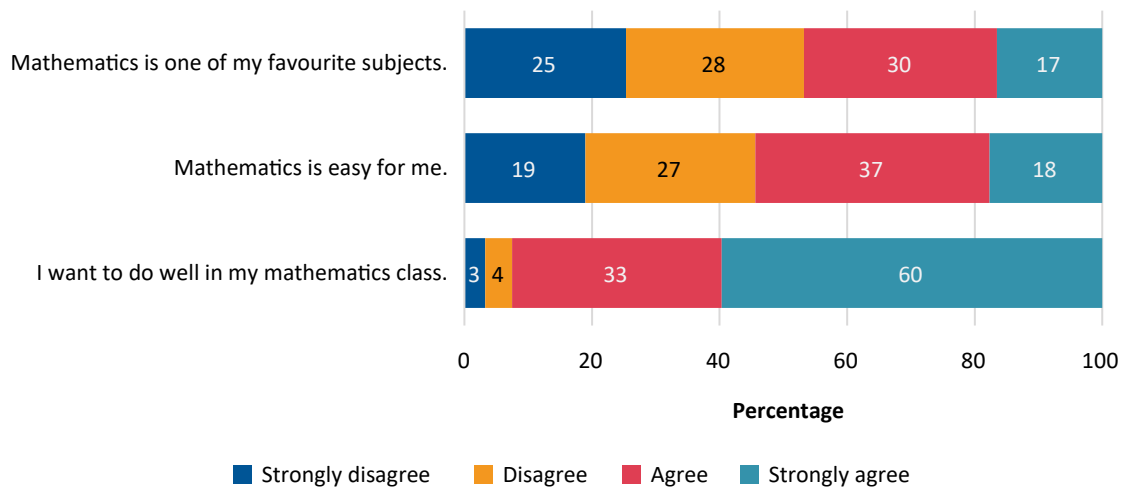
Note: Results for Canada should be treated with caution because more than one PISA technical standard was not met (see Appendix A for further details).

Positive attitudes toward mathematics were positively related to mathematics achievement. In Canada overall and in almost all provinces, students who agreed that mathematics was one of their favourite subjects outperformed those who disagreed with that statement (Appendix B.2.10a). As expected, a similar pan-Canadian and provincial trend was observed for students who found mathematics easy (Appendix B.2.10b) and those who wanted to do well in mathematics (Appendix B.2.10c).

Students were also asked a series of questions related to the effort they had dedicated to learning mathematics during the school year in which PISA was administered (Table 2.4, Appendix B.2.11a–i). Students in Canada who responded that they put effort into their mathematics assignments all or almost all of the time consistently had significantly higher average mathematics scores than students who put in such effort more than half of the time. In addition, students who never or almost never gave up during mathematics class had higher scores than students who gave up less than half of the time. Students who actively participated in group discussions during

mathematics class all or almost all of the time also had higher average mathematics scores than students who participated more than half of the time.

	Never or almost never		Less than half of the time		About half of the time		More than half of the time		All or almost all of the time	
	Average score	Standard error	Average score	Standard error	Average score	Standard error	Average score	Standard error	Average score	Standard error
I actively participated in group discussions during mathematics class.	503*	(3.5)	497*	(2.8)	491*	(3.0)	517	(3.2)	531*	(3.7)
I paid attention when my mathematics teacher was speaking.	463*	(8.5)	471*	(6.4)	481*	(4.2)	508	(2.7)	524*	(2.2)
I put effort into my assignments for mathematics class.	459*	(8.1)	483*	(5.4)	476*	(3.6)	506	(2.6)	528*	(2.2)
I made time to learn the material for mathematics class.	486*	(6.5)	497*	(4.5)	488*	(2.8)	509	(2.8)	531*	(3.0)
I asked questions when I did not understand the mathematics material being taught.	498	(5.0)	499	(3.8)	488*	(3.2)	503	(3.3)	527*	(2.3)
I tried to connect new material to what I have learned in previous mathematics lessons.	484*	(5.1)	499*	(4.2)	493*	(2.7)	512	(3.0)	528*	(3.2)
I started my work on mathematics assignments right away.	496*	(4.9)	509	(4.0)	498*	(3.2)	511	(2.6)	523*	(3.0)
I gave up when I did not understand the mathematics material that was being taught.	544**	(2.5)	507	(3.0)	466**	(3.9)	467**	(3.9)	471**	(5.4)
I lost interest during mathematics lessons.	528	(3.5)	526	(2.9)	487**	(2.7)	495**	(3.4)	490**	(3.6)

Table 2.4
Relationship between mathematics effort and achievement in Canada

* Denotes a significant difference compared to the "More than half of the time" category.
** Denotes a significant difference compared to the "Less than half of the time" category.
Note: Results for Canada should be treated with caution because more than one PISA technical standard was not met (see Appendix A for further details).

Mathematics self-efficacy

Self-efficacy refers to a student's belief that, by engaging in specific activities, they can produce desired effects, such as achieving a personal goal (Bandura, 1977). Mathematics self-efficacy is an important predictor of student success in mathematics. Research has suggested that higher levels of self-efficacy are associated with higher scores in mathematics, while lower levels of perceived competence are negatively related to student achievement (Shone et al., 2023).

Understanding the factors that influence the relationship between past achievement and current motivation for learning in mathematics is essential in order to steer lower-performing students away from failure. Research by Skaalvik et al. (2015) demonstrated that mathematics self-efficacy strongly predicted motivation and persistence, effort, and help-seeking behaviours. Furthermore, the study showed that, while perceived emotional support from the teacher was positively associated with students' intrinsic and behavioural motivation, student motivation is more strongly predicted by self-efficacy.

Self-efficacy may be of crucial interest to mathematics educators, since this belief has a considerable impact when students are facing higher-level academic/mathematical challenges: the more complex a task is perceived to be, the more students have to call on their self-efficacy. Several processes have been shown to foster students' self-efficacy to various degrees. Zakariya (2022) investigated nine interventions for improving students' mathematics self-efficacy, with each identified as belonging to one of three categories: self-efficacy sources (e.g., relevance of mathematics to real-life situation); instructional-based intervention (e.g., inquiry-based instruction, teacher professional development to provide students with mastery experience and quality feedback), and learning-based interventions (e.g., social persuasion, anxiety-reducing strategies, modelling).

In PISA 2022, students were asked about their level of agreement with statements found in two sets of items used to gauge their confidence with regard to various mathematics activities (Figures 2.7 and 2.8). The first set of items assessed their self-reported level of confidence for resolving formal/applied mathematics problems, while the second set assessed their reasoning and 21st-century mathematics problem-solving skills. Students responding positively to the items would have higher self-efficacy and be considered confident in their abilities.

For Canada overall, a majority of participants in PISA 2022 felt confident or very confident that they could solve mathematics problems directly relevant to their daily life (i.e., applied/formal mathematics) (Figure 2.7, Appendix B.2.12a–i). For example, 53 percent of students reported that they felt confident or very confident that they would be able to find the actual distance between two places on a map with a 1:10,000 scale.

Figure 2.7

Percentage of Canadian students by their level of confidence in performing mathematics tasks (formal/applied)

Working out from a train or bus timetable how long it would take to get from one place to another: Not at all confident 8, Not very confident 20, Confident 47, Very confident 26

Calculating how much more expensive a computer would be after adding tax: Not at all confident 7, Not very confident 18, Confident 41, Very confident 34

Calculating how many square metres of tiles you need to cover a floor: Not at all confident 7, Not very confident 20, Confident 41, Very confident 32

Understanding scientific tables presented in an article: Not at all confident 9, Not very confident 27, Confident 44, Very confident 20

Solving an equation like $6x^2+5 = 29$: Not at all confident 7, Not very confident 14, Confident 39, Very confident 41

Finding the actual distance between two places on a map with a 1:10,000 scale: Not at all confident 14, Not very confident 33, Confident 34, Very confident 19

Solving an equation like $2(x+3) = (x+3)(x-3)$: Not at all confident 7, Not very confident 15, Confident 39, Very confident 39

Calculating the power consumption of an electronic appliance per week: Not at all confident 14, Not very confident 33, Confident 35, Very confident 18

Solving an equation like $3x+5 = 17$: Not at all confident 5, Not very confident 9, Confident 36, Very confident 50

Legend: ■ Not at all confident ■ Not very confident ■ Confident ■ Very confident

Note: Results for Canada should be treated with caution because more than one PISA technical standard was not met (see Appendix A for further details).

Students were also asked to report their self-perceived level of confidence in their ability to solve reasoning and 21st-century mathematics problems by responding to ten items (Figure 2.8, Appendix B.2.13 a–j). On average, a smaller proportion of students reported feeling confident or very confident about applying their skills to solve reasoning and 21st-century mathematics problems than applying them to solve formal/applied mathematics problems. Among the various tasks, students showed the least confidence about coding/programming computers: only 33 percent reported feeling confident or very confident about their ability to accomplish this task (Figure 2.8).

Figure 2.8

Percentage of Canadian students by their level of confidence in performing mathematics tasks (reasoning/21st-century mathematics problems)

Task	Not at all confident	Not very confident	Confident	Very confident
Extracting mathematical information from diagrams, graphs, or simulations	7	20	51	23
Interpreting mathematical solutions in the context of a real-life challenge	8	27	49	16
Using the concept of statistical variation to make a decision	13	36	39	12
Identifying mathematical aspects of a real-world problem	7	27	49	16
Identifying constraints and assumptions behind mathematical modelling	12	37	38	12
Representing a situation mathematically using variables, symbols, or diagrams	7	20	51	22
Evaluating the significance of observed patterns in data	8	27	49	16
Coding/programming computers	35	32	24	9
Working with computer mathematics systems (e.g., spreadsheets, programming software, graphing calculators)	15	28	41	16
Calculating the properties of an irregularly shaped object	11	31	44	14

Note: Results for Canada should be treated with caution because more than one PISA technical standard was not met (see Appendix A for further details).

As shown in Table 2.5, a positive relationship exists between students' confidence in their ability to resolve formal/applied mathematics problems and their performance in mathematics. A similar trend can be seen in relation to students' confidence in reasoning and solving 21st-century mathematics problems. For both broad sets of items, average mathematics scores in Canada overall were significantly lower for students with less confidence in their mathematics abilities and higher for those with more confidence. This is consistent with the patterns reported for Grade 4 students in TIMSS 2019 (O'Grady, Rostamian, Monk, Tao, et al., 2021) and for Grade 8 students in PCAP 2019 (O'Grady, Tao, et al., 2022). Higher mathematics scores among confident students in comparison to less confident students were observed in most provinces for all items in the two sets of mathematical problems (Appendices B.2.12a–i and B.2.13a–j).

Table 2.5

Relationship between confidence in performing mathematics tasks (formal/applied) and mathematics achievement in Canada

	Not at all confident		Not very confident		Confident		Very confident	
	Average score	Standard error	Average score	Standard error	Average score	Standard error	Average score	Standard error
Working out from a train or bus timetable how long it would take to get from one place to another	435*	(3.3)	463*	(2.9)	507	(2.5)	560*	(2.9)
Calculating how much more expensive a computer would be after adding tax	441*	(4.3)	458*	(2.9)	499	(2.3)	559*	(2.5)
Calculating how many square metres of tiles you need to cover a floor	432*	(3.8)	448*	(2.7)	498	(2.6)	566*	(2.4)
Understanding scientific tables presented in an article	450*	(3.7)	479*	(2.4)	514	(2.5)	562*	(3.1)
Solving an equation like $6x^2+5 = 29$	422*	(4.0)	445*	(3.0)	491	(2.2)	556*	(2.3)
Finding the actual distance between two places on a map with a 1:10,000 scale	462*	(2.9)	488*	(2.4)	514	(2.3)	567*	(3.8)
Solving an equation like $2(x+3) = (x+3)(x-3)$	427*	(4.4)	452*	(3.1)	494	(2.2)	552*	(2.2)
Calculating the power consumption of an electronic appliance per week	465*	(2.8)	485*	(2.3)	514	(3.3)	564*	(3.9)
Solving an equation like $3x+5 = 17$	417*	(4.5)	436*	(3.6)	481	(2.3)	547*	(2.0)

* Denotes significant difference compared to the "Confident" category.
Note: Results for Canada should be treated with caution because more than one PISA technical standard was not met (see Appendix A for further details).

Students' anxiety about mathematics

As observed in PISA 2012 and 2018, students with high levels of anxiety about mathematics do not perform as well, on average, as students with lower levels of anxiety. Mathematics anxiety refers to "a feeling of tension, apprehension, or fear that interferes with math performance" (Ashcraft, 2002, p. 181). Researchers have identified two facets of mathematics anxiety: a cognitive dimension relating to a fear of underachieving in mathematics and an affective dimension that equates with feelings of nervousness or dread about mathematics tasks (Li et al., 2021). The study by Li et al. revealed that the correlation between mathematics anxiety and competence belief was stronger than the correlation between mathematics anxiety and value beliefs (i.e., intrinsic value and achievement value). In other words, students' mathematics anxiety was found to be more strongly related to their level of self-efficacy and reported sense of competence than to the value they placed on their mathematics learning and achievement. To conclude, the authors suggested that educators place emphasis on intervention strategies aimed at boosting students' competence belief with respect to mathematics, by, for example, providing smaller mathematics tasks at a moderate level of difficulty and offering encouragement to students for their efforts (Li et al., 2021).

In PISA 2022, students were asked about their level of agreement with a set of six items gauging their anxiety in regard to various mathematics activities. As shown in Figure 2.9, in Canada overall, over 50 percent of students agreed or strongly agreed that they often worried they would have difficulty in mathematics class or would get poor marks in mathematics, or that they felt anxious about failing in mathematics. A smaller proportion of Canadian students (approximately 40 per cent) reported feeling tense, nervous, or helpless when doing mathematics problems or homework (Appendix B.2.14a–f).

Figure 2.9

Percentage of Canadian students by their level of anxiety about mathematics

I often worry that it will be difficult for me in mathematics classes. — Strongly agree: 23, Agree: 36, Disagree: 27, Strongly disagree: 15

I get very tense when I have to do mathematics homework. — Strongly agree: 15, Agree: 28, Disagree: 38, Strongly disagree: 19

I get very nervous doing mathematics problems. — Strongly agree: 14, Agree: 25, Disagree: 41, Strongly disagree: 20

I feel helpless when doing a mathematics problem. — Strongly agree: 14, Agree: 23, Disagree: 42, Strongly disagree: 21

I worry that I will get poor marks in mathematics. — Strongly agree: 28, Agree: 36, Disagree: 22, Strongly disagree: 14

I feel anxious about failing in mathematics. — Strongly agree: 28, Agree: 29, Disagree: 24, Strongly disagree: 19

Legend: ■ Strongly agree ■ Agree ■ Disagree ■ Strongly disagree

Note: Results for Canada should be treated with caution because more than one PISA technical standard was not met (see Appendix A for further details).

In Canada overall, significant score differences were observed with respect to the degree to which students agreed that they felt anxious about mathematics (Appendix B.2.14a–f). On average, in Canada, a difference of 66 points was observed between students who strongly agreed that they often worried that their mathematics classes would be difficult for them compared with those who strongly disagreed with that statement (Table 2.6). This gap is larger than the OECD average (57 points). The most notable performance gaps at the provincial level with regard to this statement are in Nova Scotia and Alberta, with a difference of 95 points and 87 points, respectively, between the two groups. The smallest gap was in Quebec (56 points) (Appendix B.2.14a).

Table 2.6

Relationship between mathematics anxiety and achievement in Canada

	Strongly agree		Agree		Disagree		Strongly disagree	
	Average score	Standard error	Average score	Standard error	Average score	Standard error	Average score	Standard error
I often worry that it will be difficult for me in mathematics classes.	481*	(2.6)	488*	(2.2)	525	(2.3)	547*	(3.0)
I get very tense when I have to do mathematics homework.	473*	(3.5)	479*	(2.1)	518	(2.1)	547*	(2.9)
I get very nervous doing mathematics problems.	463*	(3.1)	472*	(2.4)	516	(2.2)	549*	(2.7)
I feel helpless when doing a mathematics problem.	464*	(3.2)	472*	(2.2)	516	(2.0)	551*	(2.4)
I worry that I will get poor marks in mathematics.	494*	(2.4)	495*	(2.2)	516	(2.7)	539*	(3.2)
I feel anxious about failing in mathematics.	485*	(2.4)	488*	(2.6)	519	(2.5)	547*	(2.9)

* Denotes a significant difference compared to the "Disagree" category.
Note: Results for Canada should be treated with caution because more than one PISA technical standard was not met (see Appendix A for further details).

Students' perceptions of mathematics instruction

In PISA 2022, students were asked a series of questions pertaining to their mathematics instruction. This section focuses on the time that Canadian students spent on mathematics homework, as well as types of additional instruction they received, in relation to mathematics achievement. In their meta-analysis of homework and students' achievement in mathematics and science, Fan et al. (2017) found a small positive association between homework and academic achievement, one that was stronger for elementary and secondary school students than for middle school students. Studies have also found that additional instruction may be associated with student achievement. For instance, Burch et al. (2016) found significant associations between digital tutoring and increased student achievement in Kindergarten to Grade 12.

Students' mathematics homework

In PISA 2022, students were asked to report on the amount of mathematics homework they completed on a daily basis. Students who completed 30 to 60 minutes of mathematics homework per day had the highest average mathematics score (517). Students who completed between one to two hours of mathematics homework daily had a slightly lower average score (510). Finally, those who completed more than three hours of mathematics homework daily had the lowest average score (474) (Figure 2.10, Appendix B.2.15a).

Figure 2.10

Average mathematics score by amount of time spent on mathematics homework
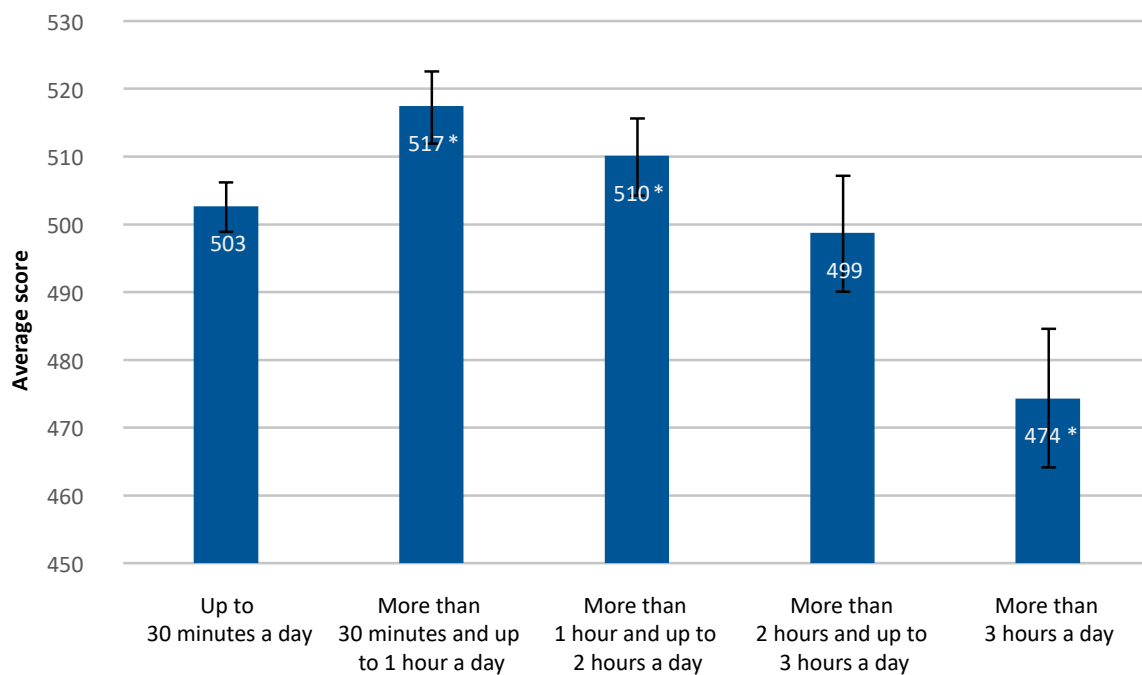
* Significant difference compared to the "Up to 30 minutes a day" category.
Note: Results for Canada should be treated with caution because more than one PISA technical standard was not met (see Appendix A for further details).

Students' additional mathematics instruction

About half of the students who participated in PISA 2022 received additional mathematics instruction (Figure 2.11). In Canada, the most common form of such instruction was small-group study or practice (consisting of two to seven students) (21 percent), while the least common form was large-group study or practice (consisting of eight or more students) (8 percent). In general, students in Canada who did not receive

additional mathematics instruction had significantly higher average mathematics scores than their peers who received such instruction, with the exception of students who received video-recorded instruction by a person (Appendix B.2.16a–f.) One possible explanation for this difference could be that students who do not receive additional mathematics instruction are already performing more strongly in mathematics than those who do receive it.

Figure 2.11

Percentage of Canadian students by type of additional mathematics instruction
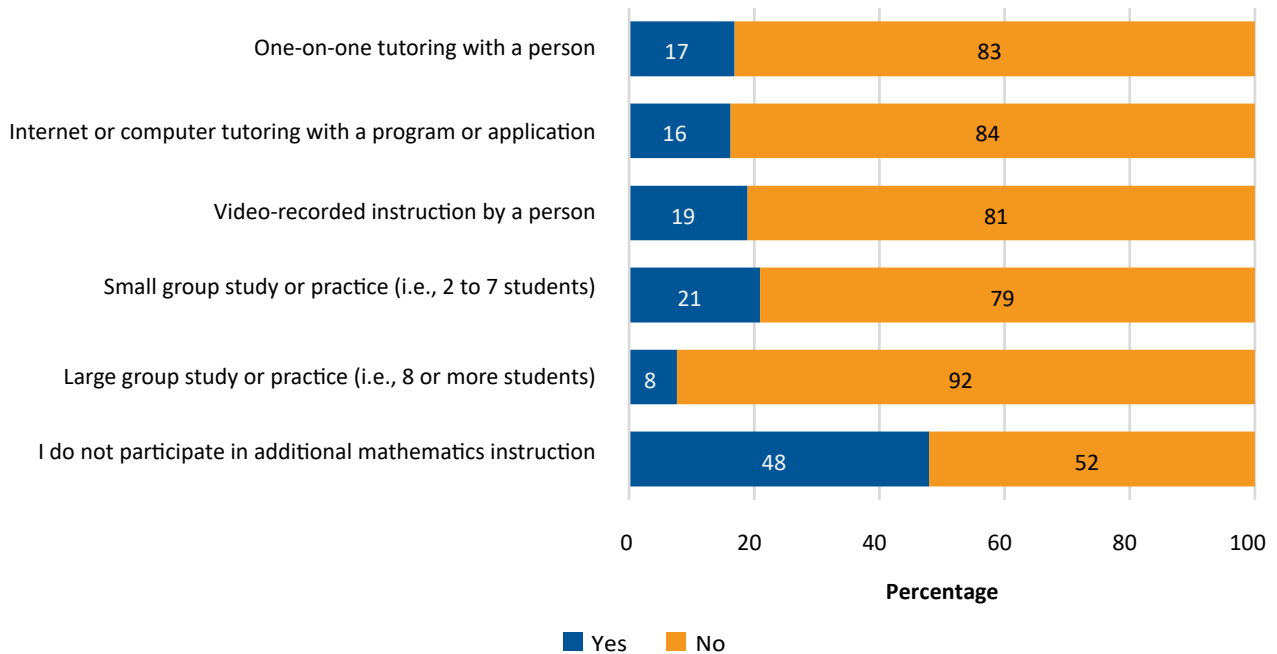
Note: Results for Canada should be treated with caution because more than one PISA technical standard was not met (see Appendix A for further details).

The COVID-19 pandemic in Canada: school closures and students' learning and well-being

PISA 2022 was administered during the COVID-19 global health pandemic. The pandemic led to many disruptions in the world of education, including mass school closures, starting in March 2020, and changes to learning environments and modes. Throughout the duration of the pandemic, in response to local needs and to reduce community spread, provinces and territories, school boards/districts, and individual schools were at times responsible for determining school openings and closures at the provincial/territorial level, school level, grade level, or even class level. According to students' and principals' responses to the PISA 2022 contextual questionnaires, the duration of COVID-19-related school closures varied substantially across countries (OECD, 2023b), but also within them, and Canada was no exception.

In Canada, plans for the content and format of continued instruction were developed by school boards/districts in conjunction with provincial and territorial ministries/departments of education, with learning options including in-person learning (when possible), remote learning, or a hybrid model that consisted of both in-person and remote learning.

The pivot to online learning, due to COVID-19, was accompanied by technological challenges in Canada (Rostamian, 2022) as well as in other countries (Siddiquei & Kathpal, 2021). In addition to these technological challenges, online learning was associated with lower academic achievement, detrimental psychosocial and

mental health conditions, and greater child-protection risks (Gallagher-Mackay et al., 2021). Despite these challenges, some have cautioned against falling into a "learning loss" trap and have instead suggested taking the opportunity to "build back better" (Zhao, 2022).

This section presents some key indicators related to the conditions of learning and teaching in the context of Canada's experience during COVID-19, based on data collected through the PISA 2022 questionnaires. While this section explores the use of various resources, supports, and types of devices during the pandemic and their impact on students' average scores in mathematics, these findings should be considered in context.

School supports during COVID-19 school closures

It is important to consider what types of support schools provided to students during COVID-related closures, and with what frequency. Crucially, a higher frequency of some school practices during closures is associated with higher mathematics achievement, and at least one practice appears to be associated with lower achievement, while other practices did not show a clear link (Appendices B.2.17a–h).

In Canada overall and in most provinces, two practices are associated with higher student achievement in mathematics when they were implemented every day or almost every day: "Uploaded material on a learning management system or school learning platform" and "Offered live virtual classes on a video communication program" (Appendices B.2.17c and B.2.17e).

Interestingly, one school practice is associated with lower student achievement: students who reported that the school had checked in with them to ask how they were feeling on a daily or almost daily basis during school closures had lower mathematics achievement than those who were approached only a few times (Appendix B.2.17h). This was the case both in Canada overall and in most provinces. However, one should not conclude from this finding that the practice is ineffective and should be avoided. Although this practice does not directly aim at improving academic achievement, it does seek to assess student emotional well-being, which is an important outcome in its own right.

Resources used for remote learning during COVID-19 school closures

Two questions from the PISA 2022 student questionnaire provide data on whether education systems managed to ensure that students had the materials and devices necessary to learn remotely. Students reported on both their use of digital devices for schoolwork and the frequency of use of learning materials during the time when their school buildings were closed due to COVID-19.

Digital devices for remote learning

Similarly to students across OECD countries, Canadian students often used their own digital device for schoolwork during closures (Appendix B.2.18). About 68 percent of students in Canada used their own laptop, desktop computer, or tablet. At the provincial level, the proportion ranged from 50 percent in Newfoundland and Labrador to 75 percent in Ontario. Another 15 percent of students in Canada used their own smartphone, with provincial proportions ranging from 10 percent in Newfoundland and Labrador to 24 percent in New Brunswick and Saskatchewan. In contrast, almost 1 out of 10 students in Canada did not use their own digital device: they either used a digital device that was also used by other family members (6 percent) or did not have any device at all to do their schoolwork (1 percent). Around 10 percent of students in Canada used a digital device that their school gave or lent them; at the provincial level, this varied substantially, ranging from 2 percent in New Brunswick to 31 percent in Nova Scotia and 37 percent in Newfoundland and Labrador.

The type and ownership of the digital device that students used during school closures are associated with students' achievement in mathematics. While those Canadian students who worked on their own computer/tablet had an average mathematics score of 519, the small minority of students without any digital device had an average mathematics score of 428 — a substantial and statistically significant difference. Those students who

used their smartphones had a lower average mathematics score (474) than those who used their computer/ tablet. Finally, an interesting observation regarding devices lent by schools is that students who used borrowed devices had significantly lower average achievement than students who used their own computers/tablets, in Canada overall and in five provinces. However, in the provinces where device lending is most pervasive — Newfoundland and Labrador (37 percent), Nova Scotia (31 percent), and Quebec (14 percent) — the scores of students using devices from their schools were not significantly different from those of their peers who used their own devices (Appendix B.2.18).

Materials for remote learning

Students in Canada used a variety of resources daily or almost daily during COVID-19-related school closures, as shown in Figure 2.12 (Appendix B.2.19a–h).
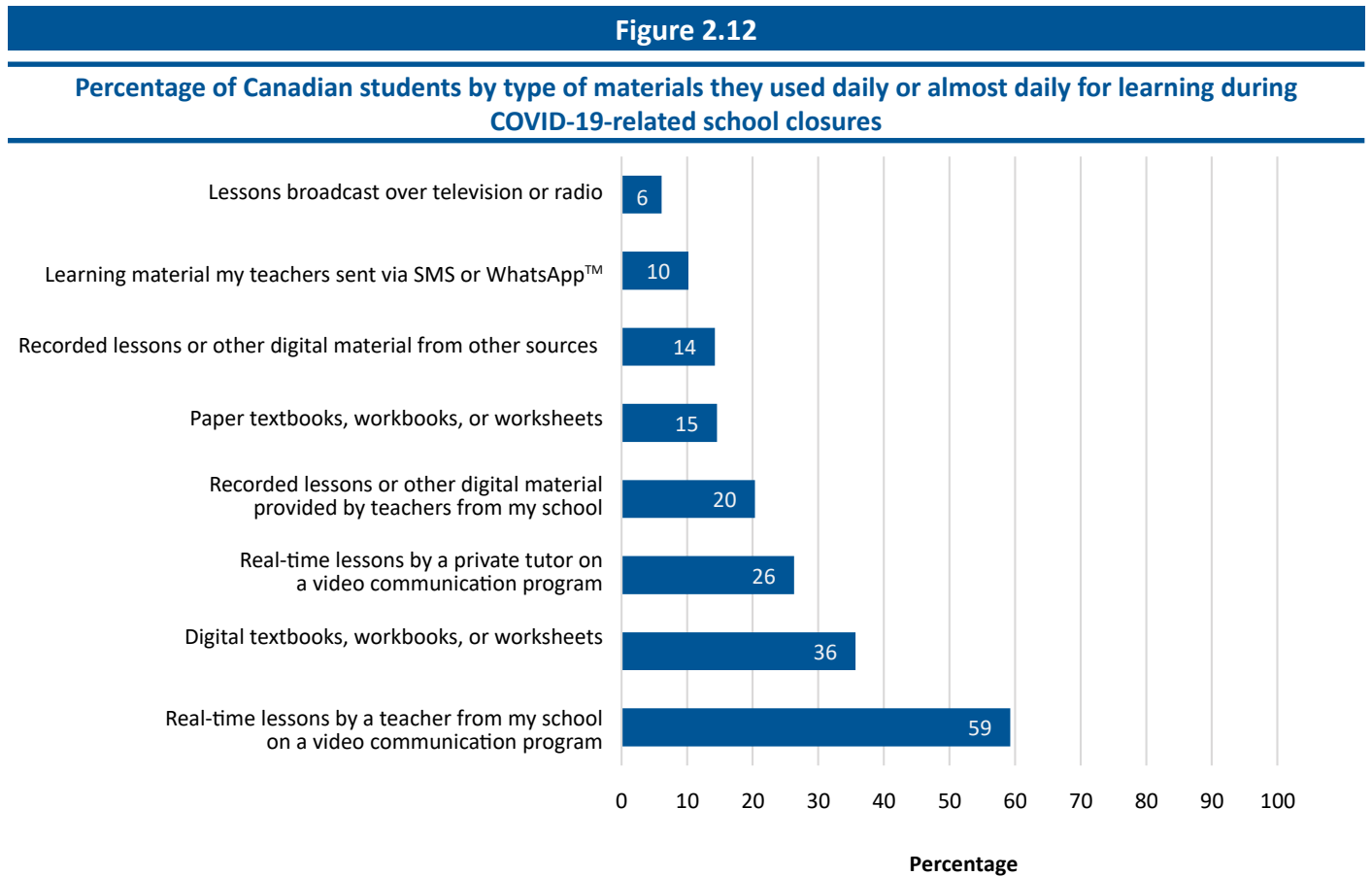
Figure 2.12
Percentage of Canadian students by type of materials they used daily or almost daily for learning during COVID-19-related school closures

Note: Results for Canada should be treated with caution because more than one PISA technical standard was not met (see Appendix A for further details).

The type of materials students used regularly for learning during school closures varied across provinces. For instance, real-time lessons by a teacher from school on a video communication program were used daily or almost daily by 69 percent of students in Ontario, but only by 29 percent of students in Saskatchewan and British Columbia (Appendix B.2.19c).

In PISA 2022, Canadian students who differed in their use of learning materials during school closures also differed in their average mathematics scores (Appendix B.2.19a–h). For example, students in Canada who never used digital textbooks, workbooks, or worksheets had a lower average mathematics score (479 points) than those who used them about once or twice a week (516 points). The differences between these two groups were also significant in six of the provinces — the exceptions were Newfoundland and Labrador, Prince Edward Island, Nova Scotia, and Alberta (Appendix B.2.19b).

Similarly, students in Canada who never had real-time lessons given by a teacher from their school had a lower average score in mathematics (477 points) than those who had them about once or twice a week (500 points). At the same time, average mathematic scores were significantly higher (525) among students who had these lessons daily or almost daily compared to those who had them once or twice a week (Appendix B.2.19c).

Conversely, students who reported that they used lessons broadcast over television or radio to any extent had a lower average score in mathematics than those who never used these lessons (Appendix B.2.19h). It is important to consider that this resource may have been employed more frequently by students who did not have access to digital learning resources; therefore, in an indirect and partial way, this question may reflect a lack of access to those other resources.

Students who reported that they used learning material their teachers sent via SMS or WhatsApp™ to any extent also scored lower in mathematics than those who never used such material (Appendix B.2.19e). Once again, this does not necessarily mean that this practice was ineffective. This resource may have been used more often by students who relied on their smartphone to do schoolwork because they did not have access to a computer/tablet, and this question may, once again, reflect a lack of access to those other resources. Further research is needed to examine these two practices, especially from an equity perspective.

Summary

Overall, this chapter has presented results on mathematics achievement as it relates to many sociodemographic characteristics, as well as student behaviour, belief, and attitudes. It has also examined mathematics achievement in the context of COVID-19, particularly in Canada.

Findings suggest that socioeconomic disparity affects achievement. With regard to immigrant status, unlike the majority of countries participating in PISA 2022, Canadian immigrant students outperformed their non-immigrant peers in the mathematics domain. Furthermore, second-generation immigrant students outperformed their first-generation immigrant peers. In terms of language spoken at home, Canadian students who spoke English had lower achievement in mathematics compared to those who spoke French or another language at home. However, substantial variation exists at the provincial level in terms of mathematics achievement by language spoken at home. Students who reported positive attitudes and strong motivation with respect to mathematics consistently had higher achievement in mathematics. A substantial proportion of Canadian participants reported feeling confident in solving applied mathematics problems they may face in their daily lives. However, over half of Canadian students reported feeling anxious about failing or getting poor marks in mathematics. These findings highlight not only the relevance of the sociodemographic characteristics of students in understanding mathematics achievement, but also the importance of their emotional and motivational attributes in relation to that achievement.

The COVID-19 pandemic has shaped the way students learn. During COVID-related school closures, students in Canada used a variety of means for remote learning. As accessibility and availability of certain devices, resources, and materials were associated with mathematics achievement, future research should further explore accessibility and availability of remote learning and teaching and their equity implications. Overall, the findings suggest that, while the COVID-19 crisis clearly affected how much and also how students learn, Canadian school systems have deployed an array of strategies, providing crucial supports to a diverse student body facing a variety of challenges in their learning and their lives.

Chapter 3

Canadian Students' Performance in Reading and Science in an International Context

This chapter presents the overall results of the PISA 2022 assessments in the minor domains of reading and science. For each domain, the performance of 15-year-old students is first described in terms of proficiency levels for Canada and the 10 provinces. Then, the average reading and science scores are examined and compared to those from other participating countries. Next, the performance of students enrolled in anglophone and francophone school systems in Canada is presented. This is followed by a comparison of students' performance by gender, socioeconomic status, immigrant status, and the language they speak at home. Lastly, changes in average reading and science scores over time are briefly discussed.

Defining reading and science

Since reading and science were minor domains in PISA 2022, there were fewer assessment items in these two areas than in the major domain of mathematics. As a result, PISA 2022 allows for an update only on overall performance in reading and science, and not on their subscales. With an emphasis on functional knowledge and skills that facilitate active participation in society, the PISA definitions of *reading literacy* and *scientific literacy* are as follows:

- *Reading literacy* is "understanding, using, evaluating, reflecting on and engaging with texts in order to achieve one's goals, to develop one's knowledge and potential, and to participate in society" (OECD, 2023a, p. 83).
- *Scientific literacy* is an individual's "ability to engage with science-related issues, and with the ideas of science, as a reflective citizen. A scientifically proficient person, therefore, is willing to engage in reasoned discourse about science and technology, which requires the competencies of explaining phenomena scientifically, ... evaluating and designing scientific enquiry, ... [and] interpreting data and evidence scientifically" (OECD, 2023a, p. 83).

PISA achievement results by proficiency levels in reading and science

PISA has developed useful benchmarks that relate a range of average scores to levels of knowledge and skills, as measured by the assessment. Although these levels are not linked directly to any specific program of study, they provide an overall picture of students' accumulated understanding at age 15.

PISA reading literacy is expressed on an eight-level proficiency scale. Tasks at the lower end of the scale (Levels 1a, 1b, and 1c) are deemed easier and less complex than tasks at the higher end (Level 6). Table 3.1 provides a summary description of the tasks that students are able to do at each proficiency level in reading and includes the corresponding lower score limit for each level. It is assumed that students classified at a given proficiency level can perform most of the tasks at that level as well as those at the lower levels.

Table 3.1

PISA 2022 reading proficiency levels – summary description

Level	Lower score limit	Percentage of students able to perform tasks at this level or above	Characteristics of tasks
6	698	1.2% of students across the OECD and 3.3% in Canada	Students at Level 6 of the PISA reading assessment are able to successfully complete the most difficult PISA items. At **Level 6**, students can: • comprehend lengthy and abstract texts in which the information of interest is deeply embedded and only indirectly related to the task • compare, contrast, and integrate information representing multiple and potentially conflicting perspectives, using multiple criteria and generating inferences across distant pieces of information to determine how the information may be used • reflect deeply on the text's source in relation to its content, using criteria external to the text • compare and contrast information across texts, identifying and resolving inter-textual discrepancies and conflicts through inferences about the sources of information, their explicit or vested interests, and other cues as to the validity of the information • set up elaborate plans, combining multiple criteria and generating inferences to relate the task and the text(s) The materials at this level include one or several complex and abstract text(s), involving multiple and possibly discrepant perspectives. Target information may take the form of details that are deeply embedded within or across texts and potentially obscured by competing information.
5	626	7.2% of students across the OECD and 13.6% in Canada	At **Level 5**, students can: • comprehend lengthy texts, inferring which information in the text is relevant even though the information of interest may be easily overlooked • perform causal or other forms of reasoning based on a deep understanding of extended pieces of text • answer indirect questions by inferring the relationship between the question and one piece or several pieces of information distributed within or across multiple texts and sources • produce or critically evaluate hypotheses, drawing on specific information • establish distinctions between content and purpose, and between fact and opinion as applied to complex or abstract statements • assess neutrality and bias based on explicit or implicit cues pertaining to both the content and/or source of the information • draw conclusions regarding the reliability of the claims or conclusions offered in a piece of text For all aspects of reading, tasks at Level 5 typically involve dealing with concepts that are abstract or counterintuitive, and going through several steps until the goal is reached. In addition, tasks at this level may require students to handle several long texts, switching back and forth across texts in order to compare and contrast information.

Table 3.1 (cont'd)

PISA 2022 reading proficiency levels – summary description

Level	Lower score limit	Percentage of students able to perform tasks at this level or above	Characteristics of tasks
4	553	24.1% of students across the OECD and 35.0% in Canada	At **Level 4**, students can: • comprehend extended passages in single or multiple-text settings • interpret the meaning of nuances of language in a section of text by taking into account the text as a whole • demonstrate understanding and application of ad hoc categories in interpretative tasks • compare perspectives and draw inferences based on multiple sources • search for, locate, and integrate several pieces of embedded information in the presence of plausible distractors • generate inferences based on the task statement in order to assess the relevance of target information • handle tasks that require them to memorize prior task context • evaluate the relationship between specific statements and a person's overall stance or conclusion about a topic • reflect on the strategies that authors use to convey their points, based on salient features of texts (e.g., titles and illustrations) • compare and contrast claims explicitly made in several texts, and assess the reliability of a source based on salient criteria Texts at Level 4 are often long or complex, and their content or form may not be standard. Many of the tasks are situated in multiple-text settings. The texts and the tasks contain indirect or implicit cues.
3	480	49.4% of students across the OECD and 60.7% in Canada	At **Level 3**, students can: • represent the literal meaning of single or multiple texts in the absence of explicit content or organizational clues • integrate content and generate both basic and more advanced inferences • integrate several parts of a piece of text in order to identify the main idea, understand a relationship, or construe the meaning of a word or phrase when the required information is featured on a single page • search for information based on indirect prompts, and locate target information that is not in a prominent position and/or is in the presence of distractors • recognize the relationship between several pieces of information, based on multiple criteria in some cases • reflect on a piece of text or a small set of texts, and compare and contrast several authors' viewpoints based on explicit information • perform comparisons, generate explanations, or evaluate a feature of the text • demonstrate a detailed understanding of a piece of text dealing with a familiar topic, in contrast to those requiring a basic understanding of less-familiar content Tasks at this level require students to take many features into account when comparing, contrasting, or categorizing information. The required information for tasks at this level is often not prominent, or there may be a considerable amount of competing information. Texts typical of this level may include other obstacles, such as ideas that are contrary to expectation or negatively worded.

Table 3.1 (cont'd)

PISA 2022 reading proficiency levels – summary description

Level	Lower score limit	Percentage of students able to perform tasks at this level or above	Characteristics of tasks
2	407	73.7% of students across the OECD and 81.9% in Canada	Level 2 is considered the baseline level of reading proficiency that is required to participate fully in modern society. At **Level 2**, students can: • identify the main idea in a piece of text of moderate length • understand relationships or construe meaning within a limited part of the text when the information is not prominent by producing basic inferences, and/or when the text(s) include some distracting information • select and access a page in a set based on explicit though sometimes complex prompts, and locate one or more pieces of information based on multiple, partly implicit criteria • reflect on the overall purpose, or on the purpose of specific details, in texts of moderate length when explicitly cued • reflect on simple visual or typographical features, compare claims, and evaluate the reasons supporting them based on short, explicit statements Tasks at Level 2 may involve comparisons or contrasts based on a single feature in the text. Typical reflective tasks at this level require readers to make a comparison or several connections between the text and outside knowledge by drawing on personal experience and attitudes.
1a	335	90.3% of students across the OECD and 93.9% in Canada	At **Level 1a**, students can: • understand the literal meaning of sentences or short passages • recognize the main theme or the author's purpose in a piece of text about a familiar topic, and make a simple connection between several adjacent pieces of information or between the given information and their own prior knowledge • select a relevant page from a small set based on simple prompts, and locate one or more independent piece(s) of information within short texts • reflect on the overall purpose and on the relative importance of information (e.g., the main idea vs. non-essential detail) in simple texts containing explicit cues Most tasks at this level contain explicit cues regarding what needs to be done, how to do it, and where in the text(s) students should focus their attention.
1b	262	97.9% of students across the OECD and 98.5% in Canada	At **Level 1b**, students can: • evaluate the literal meaning of simple sentences • interpret the literal meaning of texts by making simple connections between adjacent pieces of information in the question and/or the text • scan for and locate a single piece of prominently placed, explicitly stated information in a single sentence, a short text, or a simple list • access a relevant page from a small set based on simple prompts when explicit cues are present Tasks at Level 1b explicitly direct students to consider relevant factors in the task and in the text. Texts at this level are short and typically provide support to the student, such as through repetition of information, pictures, or familiar symbols. There is minimal competing information.
1c	189	99.8% of students across the OECD and 99.8% in Canada	At **Level 1c**, students can: • understand and affirm the meaning of short, syntactically simple sentences on a literal level, and read for a clear and simple purpose within a limited amount of time Tasks at this level involve simple vocabulary and syntactic structures.

Adapted from OECD (2023a, p. 99).

Note: Results for Canada should be treated with caution because more than one PISA technical standard was not met (see Appendix A for further details).

In reading, 82 percent of Canadian students and 74 percent of students in OECD countries performed at or above Level 2 (Appendix B.3.1b). The OECD considers Level 2 as the baseline level of reading proficiency that is required for full participation in modern society. In this report, students not reaching Level 2 are considered low-performing students. Across the provinces, the percentage of Canadian students at or above the baseline level of proficiency ranges from 72 percent in New Brunswick to 85 percent in Alberta. In contrast, 18 percent of Canadian students did not reach the baseline level in reading, compared to an average of 26 percent across OECD countries. More than 70 countries had a higher proportion of students below Level 2 in reading relative to Canada. Within Canada, there is a lot of variability among the provinces. Alberta (15 percent) had the lowest proportion of students below Level 2 in reading, and New Brunswick (28 percent) had the highest (Figure 3.1, Appendix B.3.1b).

Students performing at Level 5 or above are considered high-achieving or high-performing students in this report. In Canada, 14 percent of students performed at Level 5 or above in reading, compared to an average of 7 percent across OECD countries. Canada had a higher proportion of students at Level 5 or above than almost all other countries participating in PISA 2022: only one country (Singapore) had a statistically higher proportion of high achievers (23 percent) than Canada. At the provincial level, slightly fewer than one in five students in Alberta performed at Level 5 or 6. By contrast, in Newfoundland and Labrador, New Brunswick, Manitoba, and Saskatchewan, fewer than one in ten students achieved at the highest performance levels in reading (Figure 3.1, Appendix B.3.1b).

Figure 3.1

Percentage of students at each proficiency level in reading

Note: Percentages may not add up to 100 due to rounding. Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

Students achieving below Level 1a in reading may still be able to perform very direct and straightforward reading tasks, such as understanding the literal meaning of simple sentences. Across OECD countries, 10 percent of students did not achieve Level 1a, while the proportion in Canada was 6 percent. At the provincial level, the proportion of students who did not achieve Level 1a varied between 5 percent in Alberta and 11 percent in New Brunswick (Appendix B.3.1a).

In PISA, scientific literacy is expressed on a seven-level proficiency scale. Tasks at the lower end of the scale (Levels 1a and 1b) are considered to be easier and less complex than tasks at the highest end (Level 6). Table 3.2 provides a summary description of the tasks that students are able to do at each proficiency level in science and includes the corresponding lower score limit for each level. It is assumed that students at a given proficiency level can perform most of the tasks at that level as well as those at the lower levels

Table 3.2			
PISA 2022 science proficiency levels – summary description			
Level	Lower score limit	Percentage of students able to perform tasks at this level or above	Characteristics of tasks
6	708	1.2% of students across the OECD and 2.5% in Canada	Students at Level 6 of the PISA science assessment are able to successfully complete the most difficult PISA items. At **Level 6**, students can: • draw on a range of interrelated scientific ideas and concepts from the physical, life, and earth and space sciences • use content, procedural, and epistemic knowledge in order to offer explanatory hypotheses of novel scientific phenomena, events, and processes or to make predictions • discriminate between relevant and irrelevant information and draw on knowledge external to the normal school curriculum when interpreting data and evidence • distinguish between arguments that are based on scientific evidence and theory and those based on other considerations • evaluate competing designs of complex experiments, field studies, or simulations, and justify their choices
5	633	7.5% of students across the OECD and 12.0% in Canada	At **Level 5**, students can: • use abstract scientific ideas or concepts to explain unfamiliar and more complex phenomena, events, and processes involving multiple causal links • apply more sophisticated epistemic knowledge to evaluate alternative experimental designs and justify their choices, and use theoretical knowledge to interpret information or make predictions • evaluate ways of exploring a given question scientifically, and identify limitations in interpretations of data sets, including sources and the effects of uncertainty in scientific data
4	559	24.6% of students across the OECD and 33.9% in Canada	At **Level 4**, students can: • use more complex or more abstract content knowledge, which is either provided or recalled, to construct explanations of more complex or less familiar events and processes • conduct experiments involving two or more independent variables in a constrained context • justify an experimental design by drawing on elements of procedural and epistemic knowledge • interpret data drawn from a moderately complex data set or less familiar context, draw appropriate conclusions that go beyond the data, and provide justifications for their choices
3	484	50.3% of students across the OECD and 62.4% in Canada	At **Level 3**, students can: • draw upon moderately complex content knowledge to identify or construct explanations of familiar phenomena • construct explanations with relevant cueing or support in less familiar or more complex situations • draw on elements of procedural or epistemic knowledge to carry out a simple experiment in a constrained context • distinguish between scientific and non-scientific issues, and identify the evidence supporting a scientific claim

Table 3.2 (cont'd)

PISA 2022 science proficiency levels – summary description

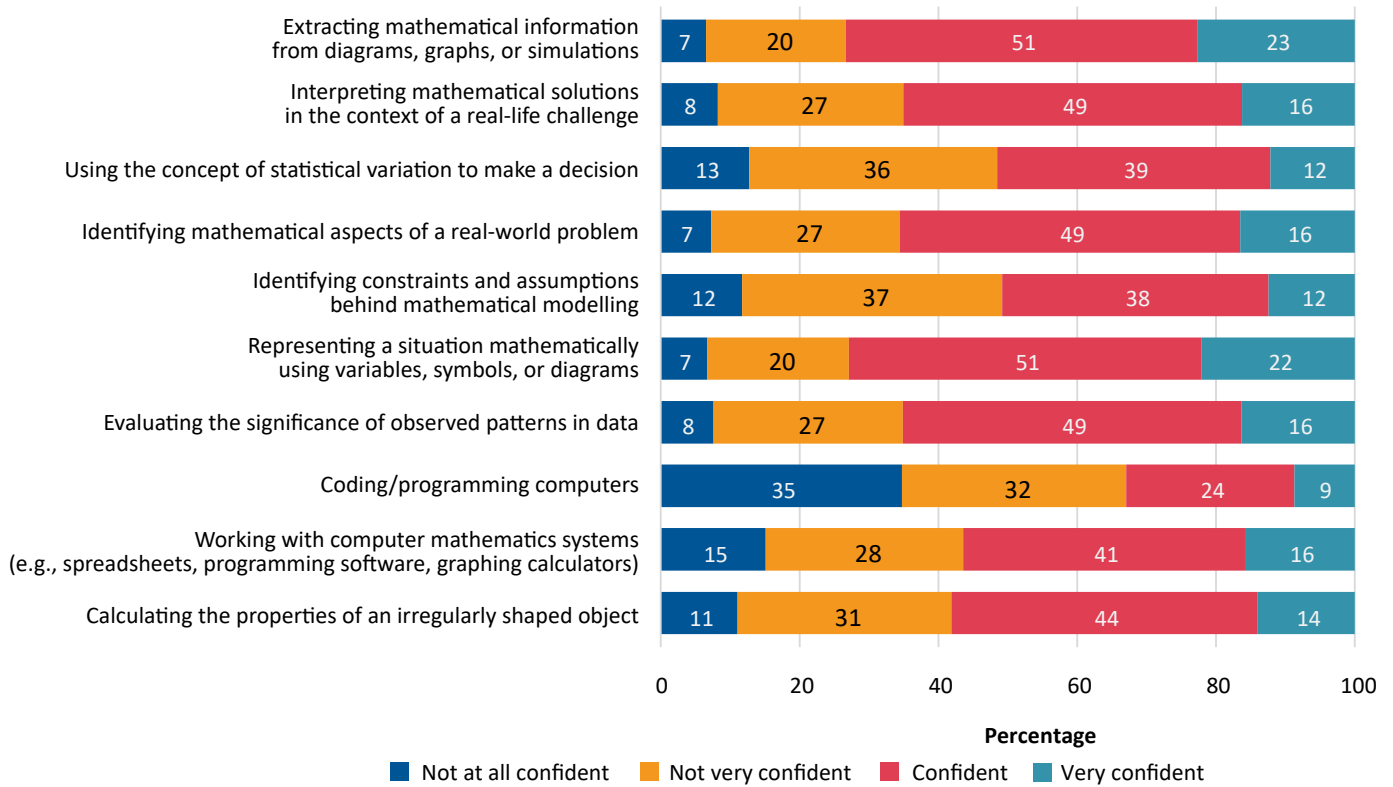| Level	Lower score limit	Percentage of students able to perform tasks at this level or above	Characteristics of tasks
2	410	75.5% of students across the OECD and 84.7% in Canada	Level 2 is considered the baseline level of science proficiency that is required to engage in science-related issues as a critical and informed citizen. At **Level 2**, students can: • draw on everyday content knowledge and basic procedural knowledge to identify an appropriate scientific explanation, interpret data, and identify the question being addressed in a simple experimental design • use basic or everyday scientific knowledge to identify a valid conclusion from a simple data set • demonstrate basic epistemic knowledge by being able to identify questions that can be investigated scientifically
1a	335	92.6% of student across the OECD and 96.2% in Canada	At **Level 1a**, students can: • use basic or everyday content and procedural knowledge to recognize or identify explanations of simple scientific phenomena • undertake structured scientific inquiries with no more than two variables, with support • identify simple causal or correlational relationships, and interpret graphical and visual data that require a low level of cognitive demand • select the best scientific explanation for given data in familiar personal, local, and global contexts
1b	261	98.9% of student across the OECD and 99.5% in Canada	At **Level 1b**, students can: • use basic or everyday scientific knowledge to recognize aspects of familiar or simple phenomena • identify simple patterns in data, recognize basic scientific terms, and follow explicit instructions to carry out a scientific procedure

Adapted from OECD (2023a, p. 103).

Note: Results for Canada should be treated with caution because more than one PISA technical standard was not met (see Appendix A for further details).

In science, 85 percent of Canadian students and 76 percent of students in OECD countries performed at or above Level 2 on the PISA 2022 assessment (Appendix B.3.2b). Level 2 is the baseline level of science proficiency that is required for students to be able to engage with science-related issues as critical and informed citizens. Across the provinces, the proportion of Canadian students performing at or above this baseline level of proficiency ranges from 77 percent in New Brunswick to 88 percent in Alberta. In Canada, 15 percent of students did not reach the baseline level in science, compared to 24 percent of students on average across OECD countries (Figure 3.2, Appendix B.3.2b).

More than 70 countries had a higher proportion of low performers (below Level 2) in science relative to Canada. At the provincial level, 23 percent of students in New Brunswick were low achievers in science, compared to 12 percent of students in Alberta (Appendix B.3.2b).

At the higher end of the science achievement scale, 12 percent of Canadian students performed at Level 5 or above, compared to an OECD average of 7 percent. Canada is among the countries with the greatest share of high-performing students in science, surpassed only by Singapore, Japan, Macao (China), Chinese Taipei, and Korea. At the provincial level, 10 percent or more of students in Quebec, Ontario, Alberta, and British Columbia performed at Level 5 or above (Figure 3.2, Appendix B.3.2b).

Figure 3.2

Percentage of students at each proficiency level in science
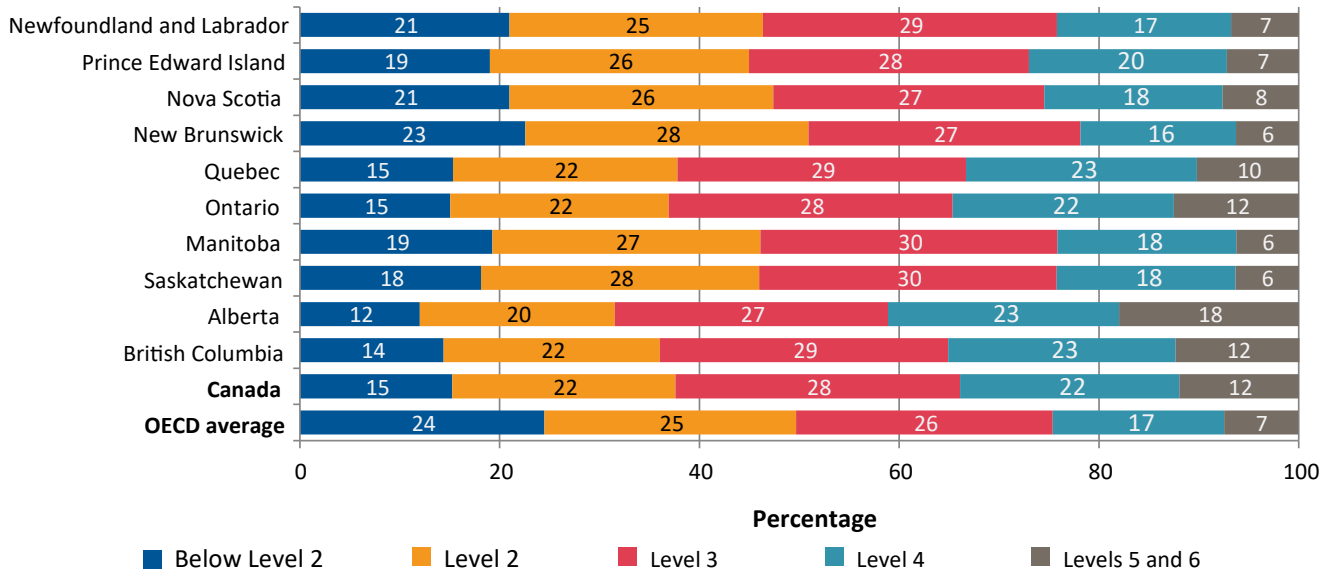
Note: Percentages may not add up to 100 due to rounding. Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

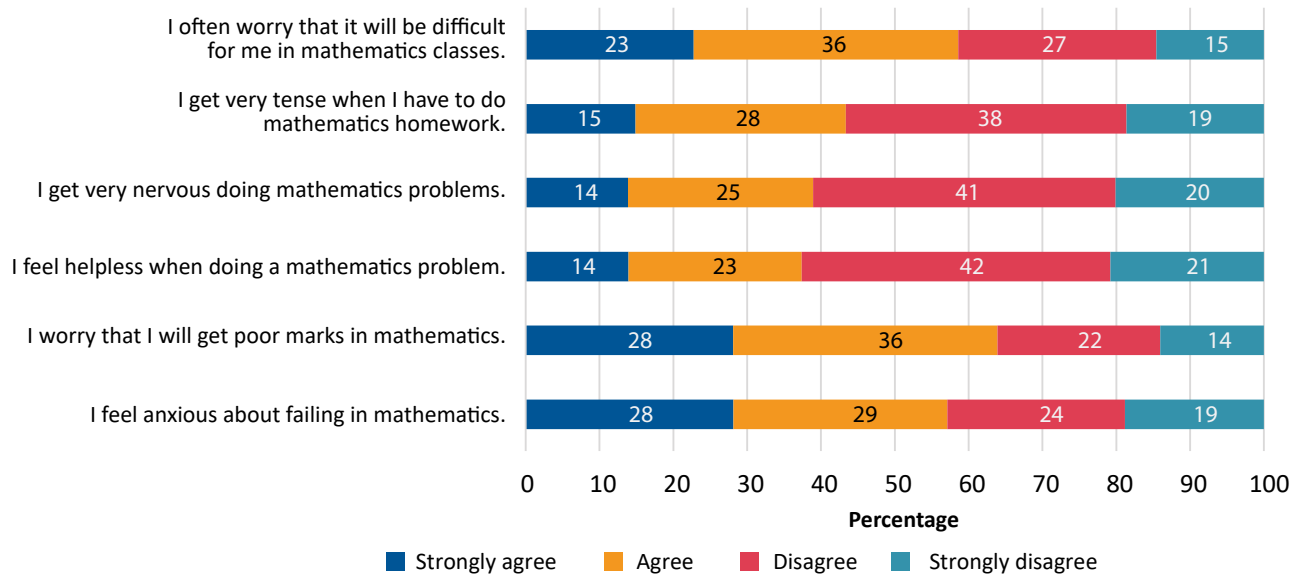Across the OECD, 7 percent of participants did not achieve Level 1a in science, while the proportion was 4 percent in Canada. At the provincial level, the corresponding figures varied from 6 percent of students in New Brunswick to 3 percent of students in Alberta and British Columbia (Appendix B.3.2a).

Results in reading and science by average score

One way to summarize student performance and compare the relative standing of countries is by examining average test scores by country. However, simply ranking countries based on their average scores can be misleading because there is a margin of uncertainty associated with each score. As discussed in Chapter 1, when interpreting average scores, only those differences between countries that are statistically significant should be considered (see the note on statistical comparisons in Box 1 in that chapter).

On average, Canadian 15-year-olds performed well in reading and science (Tables 3.3–3.5). Canadian students had an average score of 507 in reading and 515 in science, well above the OECD averages of 476 in reading and 485 in science (Appendices B.3.3 and B.3.4). Table 3.3 shows the countries that performed significantly better than or the same as Canada in reading and science. The average scores for all the remaining countries were significantly below those of Canada. Among the 81 countries that participated in PISA 2022, five performed above Canada in reading, while six performed above Canada in science.

Table 3.3

Comparison of participating countries' achievement scores with the Canadian average in reading and science

Above* the Canadian average	At the Canadian average
Reading	
Singapore, Ireland, Japan, Korea, Chinese Taipei	Estonia, Macao (China), United States
Science	
Singapore, Japan, Macao (China), Chinese Taipei, Korea, Estonia	Hong Kong (China), Finland

* Denotes significant difference.

Note: Results for Canada and certain countries should be treated with caution because one or more PISA technical standards were not met (for more information, see OECD, 2023a).

Table 3.4

Achievement scores in reading

Country or province	Average score	95% confidence interval	Countries or provinces whose mean score is not significantly different from the comparison country or province	
Singapore	543	539–546		Above the OECD average
Alberta	525	512–537	Ireland, Japan, Korea, Chinese Taipei, **Ontario**, **British Columbia**	
Ireland	516	511–521	**Alberta**, Japan, Korea, Chinese Taipei, **Ontario**, Estonia, **British Columbia**, **Prince Edward Island**	
Japan	516	510–522	**Alberta**, Ireland, Korea, Chinese Taipei, **Ontario,** Estonia, **British Columbia**, Macao (China), **Prince Edward Island**	
Korea	515	508–523	**Alberta**, Ireland, Japan, Chinese Taipei, **Ontario**, Estonia, **British Columbia**, Macao (China), **Prince Edward Island**	
Chinese Taipei	515	509–522	**Alberta**, Ireland, Japan, Korea, **Ontario**, Estonia, **British Columbia**, Macao (China), **Prince Edward Island**	
Ontario	512	504–519	**Alberta**, Ireland, Japan, Korea, Chinese Taipei, Estonia, **British Columbia**, Macao (China), **Canada**, United States, **Quebec, Prince Edward Island**	
Estonia	511	506–516	Ireland, Japan, Korea, Chinese Taipei, **Ontario**, **British Columbia**, Macao (China), **Canada**, United States, **Quebec, Prince Edward Island**	
British Columbia	511	499–522	**Alberta**, Ireland, Japan, Korea, Chinese Taipei, **Ontario**, Estonia, Macao (China), **Canada**, United States, **Quebec**, New Zealand, Hong Kong (China), **Prince Edward Island**	
Macao (China)	510	508–513	Japan, Korea, Chinese Taipei, **Ontario**, Estonia, **British Columbia**, **Canada**, United States, **Prince Edward Island**	
Canada	507	503–511	**Ontario**, Estonia, **British Columbia**, Macao (China), United States, **Quebec, Prince Edward Island**	
United States	504	495–512	**Ontario**, Estonia, **British Columbia**, Macao (China), **Canada**, **Quebec**, New Zealand, Hong Kong (China), Australia, **Prince Edward Island**, United Kingdom	
Quebec	501	492–510	**Ontario**, Estonia, **British Columbia**, **Canada**, United States, New Zealand, Hong Kong (China), Australia, **Prince Edward Island**, United Kingdom, **Nova Scotia**	
New Zealand	501	497–505	**British Columbia**, United States, **Quebec,** Hong Kong (China), Australia, **Prince Edward Island**, **Nova Scotia**	
Hong Kong (China)	500	494–505	**British Columbia**, United States, **Quebec**, New Zealand, Australia, **Prince Edward Island**, United Kingdom, **Nova Scotia**	
Australia	498	494–502	United States, **Quebec**, New Zealand, Hong Kong (China), **Prince Edward Island**, United Kingdom, **Nova Scotia**	
Prince Edward Island	496	476–517	Ireland, Japan, Korea, Chinese Taipei, **Ontario**, Estonia, **British Columbia**, Macao (China), **Canada**, United States, **Quebec**, New Zealand, Hong Kong (China), Australia, United Kingdom, Finland, **Nova Scotia**, Denmark, Poland, Czech Republic, Sweden, **Manitoba**, **Saskatchewan**, Switzerland, Italy, Austria, Germany, Belgium, **Newfoundland and Labrador**, Portugal, Norway	
United Kingdom	494	490–499	United States, **Quebec**, Hong Kong (China), Australia, **Prince Edward Island**, Finland, **Nova Scotia**, Denmark, Poland, Czech Republic, **Manitoba**	
Finland	**490**	**486–495**	**Prince Edward Island**, United Kingdom, **Nova Scotia**, Denmark, Poland, Czech Republic, Sweden, **Manitoba**, **Saskatchewan**, **Newfoundland and Labrador**	

Table 3.4 (cont'd)

Achievement scores in reading

Country or province	Average score	95% confidence interval	Countries or provinces whose mean score is not significantly different from the comparison country or province	
Nova Scotia	489	477–501	**Quebec**, New Zealand, Hong Kong (China), Australia, **Prince Edward Island**, United Kingdom, Finland, Denmark, Poland, Czech Republic, Sweden, **Manitoba**, **Saskatchewan**, Switzerland, Italy, Austria, Germany, Belgium, **Newfoundland and Labrador**, Portugal, Norway	Above the OECD average
Denmark	489	484–494	**Prince Edward Island**, United Kingdom, Finland, **Nova Scotia**, Poland, Czech Republic, Sweden, **Manitoba**, **Saskatchewan**, Switzerland, Italy, **Newfoundland and Labrador**	
Poland	489	483–494	**Prince Edward Island**, United Kingdom, Finland, **Nova Scotia**, Denmark, Czech Republic, Sweden, **Manitoba**, **Saskatchewan**, Switzerland, Italy, **Newfoundland and Labrador**	
Czech Republic	489	484–493	**Prince Edward Island**, United Kingdom, Finland, **Nova Scotia**, Denmark, Poland, Sweden, **Manitoba**, **Saskatchewan**, Switzerland, **Newfoundland and Labrador**	
Sweden	487	482–492	**Prince Edward Island**, Finland, **Nova Scotia**, Denmark, Poland, Czech Republic, **Manitoba**, **Saskatchewan**, Switzerland, Italy, Austria, Germany, **Newfoundland and Labrador**	
Manitoba	486	478–493	**Prince Edward Island**, United Kingdom, Finland, **Nova Scotia**, Denmark, Poland, Czech Republic, Sweden, **Saskatchewan**, Switzerland, Italy, Austria, Germany, Belgium, **Newfoundland and Labrador**, Portugal	
Saskatchewan	484	476–492	**Prince Edward Island**, Finland, **Nova Scotia**, Denmark, Poland, Czech Republic, Sweden, **Manitoba**, Switzerland, Italy, Austria, Germany, Belgium, **Newfoundland and Labrador**, Portugal, Norway, Croatia, Israel	
Switzerland	483	479–488	**Prince Edward Island**, **Nova Scotia**, Denmark, Poland, Czech Republic, Sweden, **Manitoba**, **Saskatchewan**, Italy, Austria, Germany, Belgium, **Newfoundland and Labrador**, Portugal	
Italy	482	476–487	**Prince Edward Island**, **Nova Scotia**, Denmark, Poland, Sweden, **Manitoba**, **Saskatchewan**, Switzerland, Austria, Germany, Belgium, **Newfoundland and Labrador**, Portugal, Norway, Croatia, Latvia, France, Israel	
Austria	480	475–486	**Prince Edward Island**, **Nova Scotia**, Sweden, **Manitoba**, **Saskatchewan**, Switzerland, Italy, Germany, Belgium, **Newfoundland and Labrador**, Portugal, Norway, *OECD average*, Croatia, Latvia, Spain, France, Israel, Hungary	At the OECD average
Germany	480	473–487	**Prince Edward Island**, **Nova Scotia**, Sweden, **Manitoba**, **Saskatchewan**, Switzerland, Italy, Austria, Belgium, **Newfoundland and Labrador**, Portugal, Norway, *OECD average*, Croatia, Latvia, Spain, France, Israel, Hungary, Lithuania	
Belgium	479	474–484	**Prince Edward Island**, **Nova Scotia**, **Manitoba**, **Saskatchewan**, Switzerland, Italy, Austria, Germany, **Newfoundland and Labrador**, Portugal, Norway, *OECD average*, Croatia, Latvia, Spain, France, Israel, Hungary	
Newfoundland and Labrador	478	464–492	**Prince Edward Island**, Finland, **Nova Scotia**, Denmark, Poland, Czech Republic, Sweden, **Manitoba**, **Saskatchewan**, Switzerland, Italy, Austria, Germany, Belgium, Portugal, Norway, *OECD average*, Croatia, Latvia, Spain, France, Israel, Hungary, Lithuania, **New Brunswick**, Slovenia	
Portugal	477	471–482	**Prince Edward Island**, **Nova Scotia**, **Manitoba**, **Saskatchewan**, Switzerland, Italy, Austria, Germany, Belgium, **Newfoundland and Labrador**, Norway, *OECD average*, Croatia, Latvia, Spain, France, Israel, Hungary, Lithuania, **New Brunswick**	
Norway	477	472–482	**Prince Edward Island**, **Nova Scotia**, **Saskatchewan**, Italy, Austria, Germany, Belgium, **Newfoundland and Labrador**, Portugal, *OECD average*, Croatia, Latvia, Spain, France, Israel, Hungary, Lithuania, **New Brunswick**	
OECD average	476	475–476	Austria, Germany, Belgium, **Newfoundland and Labrador**, Portugal, Norway, Croatia, Latvia, Spain, France, Israel, Hungary, Lithuania, **New Brunswick**	
Croatia	475	471–480	**Saskatchewan**, Italy, Austria, Germany, Belgium, **Newfoundland and Labrador**, Portugal, Norway, *OECD average*, Latvia, Spain, France, Israel, Hungary, Lithuania, **New Brunswick**	
Latvia	475	470–479	Italy, Austria, Germany, Belgium, **Newfoundland and Labrador**, Portugal, Norway, *OECD average*, Croatia, Spain, France, Israel, Hungary, Lithuania, **New Brunswick**	
Spain	474	471–478	Austria, Germany, Belgium, **Newfoundland and Labrador**, Portugal, Norway, *OECD average*, Croatia, Latvia, France, Israel, Hungary, Lithuania, **New Brunswick**	

Table 3.4 (cont'd)

Achievement scores in reading

Country or province	Average score	95% confidence interval	Countries or provinces whose mean score is not significantly different from the comparison country or province
France	474	468–480	Italy, Austria, Germany, Belgium, **Newfoundland and Labrador**, Portugal, Norway, *OECD average*, Croatia, Latvia, Spain, Israel, Hungary, Lithuania, **New Brunswick**, Slovenia
Israel	474	467–481	**Saskatchewan**, Italy, Austria, Germany, Belgium, **Newfoundland and Labrador**, Portugal, Norway, *OECD average*, Croatia, Latvia, Spain, France, Hungary, Lithuania, **New Brunswick**, Slovenia
Hungary	473	467–479	Austria, Germany, Belgium, **Newfoundland and Labrador**, Portugal, Norway, *OECD average*, Croatia, Latvia, Spain, France, Israel, Lithuania, **New Brunswick**, Slovenia
Lithuania	472	468–476	Germany, **Newfoundland and Labrador**, Portugal, Norway, *OECD average*, Croatia, Latvia, Spain, France, Israel, Hungary, **New Brunswick**, Slovenia
New Brunswick	469	461–477	**Newfoundland and Labrador**, Portugal, Norway, *OECD average*, Croatia, Latvia, Spain, France, Israel, Hungary, Lithuania, Slovenia, Vietnam, Netherlands
Slovenia	469	465–472	**Newfoundland and Labrador**, France, Israel, Hungary, Lithuania, **New Brunswick**, Vietnam
Vietnam	462	454–470	**New Brunswick**, Slovenia, Netherlands, Türkiye
Netherlands	459	451–468	**New Brunswick**, Vietnam, Türkiye
Türkiye	456	452–460	Vietnam, Netherlands
Chile	448	443–453	Slovak Republic, Malta
Slovak Republic	447	441–453	Chile, Malta, Serbia
Malta	445	442–449	Chile, Slovak Republic, Serbia
Serbia	440	435–446	Slovak Republic, Malta, Greece, Iceland
Greece	438	433–444	Serbia, Iceland
Iceland	436	432–440	Serbia, Greece, Uruguay, Romania, Ukrainian regions (18 of 27)
Uruguay	430	426–435	Iceland, Brunei Darussalam, Romania, Ukrainian regions (18 of 27)
Brunei Darussalam	429	427–432	Uruguay, Romania, Ukrainian regions (18 of 27)
Romania	428	421–436	Iceland, Uruguay, Brunei Darussalam, Ukrainian regions (18 of 27)
Ukrainian regions (18 of 27)	428	420–435	Iceland, Uruguay, Brunei Darussalam, Romania
Qatar	419	416–422	United Arab Emirates, Mexico, Costa Rica
United Arab Emirates	417	415–420	Qatar, Mexico, Costa Rica, Jamaica
Mexico	415	410–421	Qatar, United Arab Emirates, Costa Rica, Moldova, Brazil, Jamaica, Colombia, Peru
Costa Rica	415	410–420	Qatar, United Arab Emirates, Mexico, Moldova, Brazil, Jamaica, Colombia, Peru
Moldova	411	406–416	Mexico, Costa Rica, Brazil, Jamaica, Colombia, Peru, Bulgaria
Brazil	410	406–414	Mexico, Costa Rica, Moldova, Jamaica, Colombia, Peru, Bulgaria
Jamaica	410	401–418	United Arab Emirates, Mexico, Costa Rica, Moldova, Brazil, Colombia, Peru, Montenegro, Bulgaria, Argentina
Colombia	409	401–416	Mexico, Costa Rica, Moldova, Brazil, Jamaica, Peru, Montenegro, Bulgaria, Argentina
Peru	408	403–414	Mexico, Costa Rica, Moldova, Brazil, Jamaica, Colombia, Montenegro, Bulgaria
Montenegro	405	402–408	Jamaica, Colombia, Peru, Bulgaria, Argentina
Bulgaria	404	398–411	Moldova, Brazil, Jamaica, Colombia, Peru, Montenegro, Argentina
Argentina	401	396–406	Jamaica, Colombia, Montenegro, Bulgaria
Panama	392	385–399	Malaysia, Kazakhstan
Malaysia	388	383–393	Panama, Kazakhstan, Saudi Arabia
Kazakhstan	386	383–390	Panama, Malaysia, Saudi Arabia
Saudi Arabia	383	379–386	Malaysia, Kazakhstan, Cyprus, Thailand, Mongolia
Cyprus	381	379–383	Saudi Arabia, Thailand, Mongolia
Thailand	379	373–384	Saudi Arabia, Cyprus, Mongolia, Guatemala, Georgia, Paraguay
Mongolia	378	374–383	Saudi Arabia, Cyprus, Thailand, Guatemala, Georgia, Paraguay
Guatemala	374	369–379	Thailand, Mongolia, Georgia, Paraguay
Georgia	374	369–378	Thailand, Mongolia, Guatemala, Paraguay
Paraguay	373	368–378	Thailand, Mongolia, Guatemala, Georgia

Below the OECD average

Table 3.4 (cont'd)

Achievement scores in reading

Country or province	Average score	95% confidence interval	Countries or provinces whose mean score is not significantly different from the comparison country or province	
Baku (Azerbaijan)	365	360–370	El Salvador, Indonesia	
El Salvador	365	359–370	Baku (Azerbaijan), Indonesia, Albania	
Indonesia	359	353–364	Baku (Azerbaijan), El Salvador, North Macedonia, Albania, Dominican Republic	
North Macedonia	359	357–360	Indonesia, Albania	
Albania	358	355–362	El Salvador, Indonesia, North Macedonia	
Dominican Republic	351	347–356	Indonesia, Palestinian Authority, Philippines	
Palestinian Authority	349	345–353	Dominican Republic, Philippines	
Philippines	347	340–353	Dominican Republic, Palestinian Authority, Kosovo, Jordan, Morocco	
Kosovo	342	340–344	Philippines, Jordan, Morocco	
Jordan	342	337–347	Philippines, Kosovo, Morocco	
Morocco	339	332–347	Philippines, Kosovo, Jordan, Uzbekistan	
Uzbekistan	336	332–339	Morocco	
Cambodia	329	325–333		

Note: OECD countries appear in italics. The OECD average was 476, with a standard error of 0.5. See OECD (2023a) for notes regarding Israeli statistical data, Cyprus, and Kosovo. Results for Canada, most Canadian provinces (except Prince Edward Island, New Brunswick, and Saskatchewan), and certain countries should be treated with caution because one or more PISA technical standards were not met (for more information, see the Reader's Guide section of OECD [2023a]).

▉ (orange) Above the Canadian average	▉ (dark blue) Above the OECD average	
▢ At the Canadian average	▉ (medium blue) At the OECD average	
▢ (cream) Below the Canadian average	▢ (light blue) Below the OECD average	

Table 3.5

Achievement scores in science

Country or province	Average score	95% confidence interval	Countries or provinces whose mean score is not significantly different from the comparison country or province	
Singapore	561	559–564		Above the OECD average
Japan	547	541–552	Macao (China), **Alberta**	
Macao (China)	543	541–545	Japan, Chinese Taipei, **Alberta**	
Chinese Taipei	537	531–544	Macao (China), **Alberta**, Korea	
Alberta	534	520–547	Japan, Macao (China), Chinese Taipei, Estonia, Hong Kong (China), **British Columbia**	
Korea	528	521–535	Chinese Taipei, **Alberta**, Estonia, Hong Kong (China), **British Columbia**	
Estonia	526	522–530	**Alberta**, Korea, Hong Kong (China), **British Columbia**	
Hong Kong (China)	520	515–526	**Alberta**, Korea, Estonia, **British Columbia**, **Ontario**, **Canada**, **Quebec**, **Prince Edward Island**	
British Columbia	519	509–528	**Alberta**, Korea, Estonia, Hong Kong (China), **Ontario**, **Canada**, **Quebec**, Finland, **Prince Edward Island**	
Ontario	517	510–524	Hong Kong (China), **British Columbia**, **Canada**, **Quebec**, Finland, **Prince Edward Island**	
Canada	515	511–519	Hong Kong (China), **British Columbia**, **Ontario**, **Quebec**, Finland, **Prince Edward Island**	
Quebec	512	504–520	Hong Kong (China), **British Columbia**, **Ontario**, **Canada**, Finland, Australia, New Zealand, Ireland, **Prince Edward Island**	
Finland	511	506–516	**British Columbia**, **Ontario**, **Canada**, **Quebec**, Australia, **Prince Edward Island**	
Australia	507	503–511	**Quebec**, Finland, New Zealand, Ireland, Switzerland, United States, **Prince Edward Island**	
New Zealand	504	500–509	**Quebec**, Australia, Ireland, Switzerland, Slovenia, United Kingdom, United States, Poland, **Prince Edward Island**	
Ireland	504	499–508	**Quebec**, Australia, New Zealand, Switzerland, Slovenia, United Kingdom, United States, Poland, Czech Republic, **Prince Edward Island**	

Table 3.5 (cont'd)

Achievement scores in science

Country or province	Average score	95% confidence interval	Countries or provinces whose mean score is not significantly different from the comparison country or province	
Switzerland	503	498–507	Australia, New Zealand, Ireland, Slovenia, United Kingdom, United States, Poland, Czech Republic, **Prince Edward Island**	Above the OECD average
Slovenia	500	497–503	New Zealand, Ireland, Switzerland, United Kingdom, United States, Poland, Czech Republic, **Prince Edward Island**, **Saskatchewan**, **Manitoba**, **Nova Scotia**, **Newfoundland and Labrador**	
United Kingdom	500	495–504	New Zealand, Ireland, Switzerland, Slovenia, United States, Poland, Czech Republic, **Prince Edward Island**, Latvia, Denmark, **Saskatchewan**, Sweden, Germany, **Manitoba**, **Nova Scotia**, **Newfoundland and Labrador**	
United States	499	491–508	Australia, New Zealand, Ireland, Switzerland, Slovenia, United Kingdom, Poland, Czech Republic, **Prince Edward Island**, Latvia, Denmark, **Saskatchewan**, Sweden, Germany, **Manitoba**, **Nova Scotia**, **Newfoundland and Labrador**, Austria, Belgium, Netherlands	
Poland	499	494–504	New Zealand, Ireland, Switzerland, Slovenia, United Kingdom, United States, Czech Republic, **Prince Edward Island**, Latvia, Denmark, **Saskatchewan**, Sweden, Germany, **Manitoba**, **Nova Scotia**, **Newfoundland and Labrador**	
Czech Republic	498	493–502	Ireland, Switzerland, Slovenia, United Kingdom, United States, Poland, **Prince Edward Island**, Latvia, Denmark, **Saskatchewan**, Sweden, Germany, **Manitoba**, **Nova Scotia**, **Newfoundland and Labrador**, Austria	
Prince Edward Island	496	470–522	Hong Kong (China), **British Columbia**, **Ontario**, **Canada**, **Quebec**, Finland, Australia, New Zealand, Ireland, Switzerland, Slovenia, United Kingdom, United States, Poland, Czech Republic, Latvia, Denmark, **Saskatchewan**, Sweden, Germany, **Manitoba**, **Nova Scotia**, **Newfoundland and Labrador**, Austria, Belgium, Netherlands, France, Hungary, *OECD average*, Spain, Lithuania, Portugal, **New Brunswick**, Croatia, Norway, Italy, Türkiye, Vietnam	
Latvia	494	489–498	United Kingdom, United States, Poland, Czech Republic, **Prince Edward Island**, Denmark, **Saskatchewan**, Sweden, Germany, **Manitoba**, **Nova Scotia**, **Newfoundland and Labrador**, Austria, Belgium, Netherlands, France	Above the OECD average
Denmark	494	489–499	United Kingdom, United States, Poland, Czech Republic, **Prince Edward Island**, Latvia, **Saskatchewan**, Sweden, Germany, **Manitoba**, **Nova Scotia**, **Newfoundland and Labrador**, Austria, Belgium, Netherlands, France	
Saskatchewan	494	488–500	Slovenia, United Kingdom, United States, Poland, Czech Republic, **Prince Edward Island**, Latvia, Denmark, Sweden, Germany, **Manitoba**, **Nova Scotia**, **Newfoundland and Labrador**, Austria, Belgium, Netherlands, France, Hungary	
Sweden	494	489–498	United Kingdom, United States, Poland, Czech Republic, **Prince Edward Island**, Latvia, Denmark, **Saskatchewan**, Germany, **Manitoba**, **Nova Scotia**, **Newfoundland and Labrador**, Austria, Belgium, Netherlands, France	
Germany	492	486–499	United Kingdom, United States, Poland, Czech Republic, **Prince Edward Island**, Latvia, Denmark, **Saskatchewan**, Sweden, **Manitoba**, **Nova Scotia**, **Newfoundland and Labrador**, Austria, Belgium, Netherlands, France, Hungary, Lithuania, Portugal, **New Brunswick**	
Manitoba	492	484–500	Slovenia, United Kingdom, United States, Poland, Czech Republic, **Prince Edward Island**, Latvia, Denmark, **Saskatchewan**, Sweden, Germany, **Nova Scotia**, **Newfoundland and Labrador**, Austria, Belgium, Netherlands, France, Hungary, *OECD average*, Spain, Lithuania, Portugal, **New Brunswick**	At the OECD average
Nova Scotia	492	484–500	Slovenia, United Kingdom, United States, Poland, Czech Republic, **Prince Edward Island**, Latvia, Denmark, **Saskatchewan**, Sweden, Germany, **Manitoba**, **Newfoundland and Labrador**, Austria, Belgium, Netherlands, France, Hungary, *OECD average*, Spain, Lithuania, Portugal, **New Brunswick**	
Newfoundland and Labrador	491	481–502	Slovenia, United Kingdom, United States, Poland, Czech Republic, **Prince Edward Island**, Latvia, Denmark, **Saskatchewan**, Sweden, Germany, **Manitoba**, **Nova Scotia**, Austria, Belgium, Netherlands, France, Hungary, *OECD average*, Spain, Lithuania, Portugal, **New Brunswick**, Croatia	
Austria	491	486–496	United States, Czech Republic, **Prince Edward Island**, Latvia, Denmark, **Saskatchewan**, Sweden, Germany, **Manitoba**, **Nova Scotia**, **Newfoundland and Labrador**, Belgium, Netherlands, France, Hungary, Lithuania, Portugal, **New Brunswick**	

Table 3.5 (cont'd)

Achievement scores in science

Country or province	Average score	95% confidence interval	Countries or provinces whose mean score is not significantly different from the comparison country or province	
Belgium	491	486–495	United States, **Prince Edward Island**, Latvia, Denmark, **Saskatchewan**, Sweden, Germany, **Manitoba**, **Nova Scotia**, **Newfoundland and Labrador**, Austria, Netherlands, France, Hungary, Lithuania, Portugal, **New Brunswick**	At the OECD average
Netherlands	488	480–496	United States, **Prince Edward Island**, Latvia, Denmark, **Saskatchewan**, Sweden, Germany, **Manitoba**, **Nova Scotia**, **Newfoundland and Labrador**, Austria, Belgium, France, Hungary, *OECD average*, Spain, Lithuania, Portugal, **New Brunswick**, Croatia	
France	487	482–493	**Prince Edward Island**, Latvia, Denmark, **Saskatchewan**, Sweden, Germany, **Manitoba**, **Nova Scotia**, **Newfoundland and Labrador**, Austria, Belgium, Netherlands, Hungary, *OECD average*, Spain, Lithuania, Portugal, **New Brunswick,** Croatia	
Hungary	486	481–491	**Prince Edward Island**, **Saskatchewan**, Germany, **Manitoba**, **Nova Scotia**, **Newfoundland and Labrador**, Austria, Belgium, Netherlands, France, *OECD average*, Spain, Lithuania, Portugal, **New Brunswick**, Croatia	
OECD average	485	484–485	**Prince Edward Island**, **Manitoba**, **Nova Scotia**, **Newfoundland and Labrador**, Netherlands, France, Hungary, Spain, Lithuania, Portugal, **New Brunswick**, Croatia	
Spain	485	481–488	**Prince Edward Island**, **Manitoba**, **Nova Scotia**, **Newfoundland and Labrador**, Netherlands, France, Hungary, *OECD average*, Lithuania, Portugal, **New Brunswick**, Croatia	
Lithuania	484	480–489	**Prince Edward Island**, Germany, **Manitoba**, **Nova Scotia**, **Newfoundland and Labrador**, Austria, Belgium, Netherlands, France, Hungary, *OECD average*, Spain, Portugal, **New Brunswick**, Croatia, Norway, Italy	
Portugal	484	479–489	**Prince Edward Island**, Germany, **Manitoba**, **Nova Scotia**, **Newfoundland and Labrador**, Austria, Belgium, Netherlands, France, Hungary, *OECD average*, Spain, Lithuania, **New Brunswick**, Croatia, Norway, Italy	
New Brunswick	483	474–491	**Prince Edward Island**, Germany, **Manitoba**, **Nova Scotia**, **Newfoundland and Labrador**, Austria, Belgium, Netherlands, France, Hungary, *OECD average*, Spain, Lithuania, Portugal, Croatia, Norway, Italy, Türkiye, Vietnam	
Croatia	483	478–487	**Prince Edward Island**, **Newfoundland and Labrador**, Netherlands, France, Hungary, *OECD average*, Spain, Lithuania, Portugal, **New Brunswick**, Norway, Italy	
Norway	478	474–483	**Prince Edward Island**, Lithuania, Portugal, **New Brunswick**, Croatia, Italy, Türkiye, Vietnam	Below the OECD average
Italy	477	471–484	**Prince Edward Island**, Lithuania, Portugal, **New Brunswick**, Croatia, Norway, Türkiye, Vietnam	
Türkiye	476	472–480	**Prince Edward Island**, **New Brunswick**, Norway, Italy, Vietnam	
Vietnam	472	465–479	**Prince Edward Island, New Brunswick**, Norway, Italy, Türkiye, Malta, Israel	
Malta	466	462–469	Vietnam, Israel, Slovak Republic	
Israel	465	458–471	Vietnam, Malta, Slovak Republic	
Slovak Republic	462	456–468	Malta, Israel	
Ukrainian regions (18 of 27)	450	443–458	Serbia, Iceland, Brunei Darussalam, Chile	
Serbia	447	442–453	Ukrainian regions (18 of 27), Iceland, Brunei Darussalam, Chile, Greece	
Iceland	447	443–450	Ukrainian regions (18 of 27), Serbia, Brunei Darussalam, Chile, Greece	
Brunei Darussalam	446	443–448	Ukrainian regions (18 of 27), Serbia, Iceland, Chile, Greece	
Chile	444	439–448	Ukrainian regions (18 of 27), Serbia, Iceland, Brunei Darussalam, Greece	
Greece	441	435–446	Serbia, Iceland, Brunei Darussalam, Chile, Uruguay	
Uruguay	435	431–440	Greece, Qatar, United Arab Emirates, Romania	
Qatar	432	430–435	Uruguay, United Arab Emirates, Romania	
United Arab Emirates	432	429–435	Uruguay, Qatar, Romania	
Romania	428	420–435	Uruguay, Qatar, United Arab Emirates, Kazakhstan, Bulgaria	
Kazakhstan	423	420–427	Romania, Bulgaria	
Bulgaria	421	415–427	Romania, Kazakhstan, Moldova, Malaysia	
Moldova	417	412–422	Bulgaria, Malaysia, Mongolia, Colombia, Costa Rica	
Malaysia	416	412–421	Bulgaria, Moldova, Mongolia, Colombia, Costa Rica, Cyprus, Mexico, Thailand	

Table 3.5 (cont'd)

Achievement scores in science

Country or province	Average score	95% confidence interval	Countries or provinces whose mean score is not significantly different from the comparison country or province	
Mongolia	412	408–417	Moldova, Malaysia, Colombia, Costa Rica, Cyprus, Mexico, Thailand, Peru, Argentina	
Colombia	411	405–418	Moldova, Malaysia, Mongolia, Costa Rica, Cyprus, Mexico, Thailand, Peru, Argentina, Jamaica	
Costa Rica	411	406–416	Moldova, Malaysia, Mongolia, Colombia, Cyprus, Mexico, Thailand, Peru, Argentina, Jamaica	
Cyprus	411	408–414	Malaysia, Mongolia, Colombia, Costa Rica, Mexico, Thailand, Peru, Argentina, Jamaica	
Mexico	410	405–415	Malaysia, Mongolia, Colombia, Costa Rica, Cyprus, Thailand, Peru, Argentina, Jamaica	
Thailand	409	404–415	Malaysia, Mongolia, Colombia, Costa Rica, Cyprus, Mexico, Peru, Argentina, Brazil, Jamaica	
Peru	408	403–413	Mongolia, Colombia, Costa Rica, Cyprus, Mexico, Thailand, Argentina, Montenegro, Brazil, Jamaica	
Argentina	406	401–411	Mongolia, Colombia, Costa Rica, Cyprus, Mexico, Thailand, Peru, Montenegro, Brazil, Jamaica	
Montenegro	403	401–405	Peru, Argentina, Brazil, Jamaica	
Brazil	403	399–407	Thailand, Peru, Argentina, Montenegro, Jamaica	
Jamaica	403	395–411	Colombia, Costa Rica, Cyprus, Mexico, Thailand, Peru, Argentina, Montenegro, Brazil	
Saudi Arabia	390	387–394	Panama	Below the OECD average
Panama	388	381–395	Saudi Arabia, Georgia, Indonesia, Baku (Azerbaijan)	
Georgia	384	380–389	Panama, Indonesia, Baku (Azerbaijan), North Macedonia	
Indonesia	383	378–388	Panama, Georgia, Baku (Azerbaijan), North Macedonia	
Baku (Azerbaijan)	380	376–384	Panama, Georgia, Indonesia, North Macedonia, Albania, Jordan	
North Macedonia	380	378–382	Georgia, Indonesia, Baku (Azerbaijan), Albania	
Albania	376	372–380	Baku (Azerbaijan), North Macedonia, Jordan, El Salvador, Guatemala	
Jordan	375	370–379	Baku (Azerbaijan), Albania, El Salvador, Guatemala, Palestinian Authority	
El Salvador	373	368–378	Albania, Jordan, Guatemala, Palestinian Authority, Paraguay, Morocco	
Guatemala	373	369–377	Albania, Jordan, El Salvador, Palestinian Authority, Paraguay, Morocco	
Palestinian Authority	369	365–373	Jordan, El Salvador, Guatemala, Paraguay, Morocco	
Paraguay	368	364–372	El Salvador, Guatemala, Palestinian Authority, Morocco	
Morocco	365	359–372	El Salvador, Guatemala, Palestinian Authority, Paraguay, Dominican Republic	
Dominican Republic	360	356–364	Morocco, Kosovo, Philippines, Uzbekistan	
Kosovo	357	355–359	Dominican Republic, Philippines, Uzbekistan	
Philippines	356	350–362	Dominican Republic, Kosovo, Uzbekistan	
Uzbekistan	355	351–359	Dominican Republic, Kosovo, Philippines	
Cambodia	347	343–351		

Note: OECD countries appear in italics. The OECD average was 485, with a standard error of 0.4. See OECD (2023a) for notes regarding Israeli statistical data, Cyprus, and Kosovo. Results for Canada, most Canadian provinces (except Prince Edward Island, New Brunswick, and Saskatchewan), and certain countries should be treated with caution because one or more PISA technical standards were not met (for more information, see the Reader's Guide section of OECD [2023a]).

▭	Above the Canadian average	▮	Above the OECD average
▭	At the Canadian average	▮	At the OECD average
▭	Below the Canadian average	▮	Below the OECD average

In reading, students in Newfoundland and Labrador and New Brunswick performed at the OECD average, while students in all other provinces performed above that average (Table 3.4, Appendix B.3.3). In science, students in Quebec, Ontario, Saskatchewan, Alberta, and British Columbia had scores above the OECD average, while all other provinces performed at that average (Table 3.5, Appendix B.3.4).

When we turn to how provincial scores compare to the Canadian average, we see that students in Alberta performed above the Canadian average in both reading and science. In contrast, students in Newfoundland and Labrador, Nova Scotia, New Brunswick, Manitoba, and Saskatchewan performed below the Canadian average in both domains, while students in Prince Edward Island, Quebec, Ontario, and British Columbia performed at the Canadian average (Tables 3.4–3.6, Appendices B.3.3 and B.3.4).

Table 3.6		
Comparison of provincial achievement scores to the Canadian average in reading and science		
Above* the Canadian average	**At the Canadian average**	**Below* the Canadian average**
Reading		
Alberta	Prince Edward Island, Quebec, Ontario, British Columbia	Newfoundland and Labrador, Nova Scotia, New Brunswick, Manitoba, Saskatchewan
Science		
Alberta	Prince Edward Island, Quebec, Ontario, British Columbia	Newfoundland and Labrador, Nova Scotia, New Brunswick, Manitoba, Saskatchewan

*Denotes significant difference.
Note: Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

While average scores are useful in assessing the overall performance of students, they can mask significant variation within participating countries and provinces. The gap that exists between students with the highest and lowest levels of performance is an important indicator of the equity of educational outcomes. Further information on the performance of countries and provinces can be obtained by examining the relative distribution of scores.

For Canada overall, those in the highest decile (90th percentile) scored 278 points higher in reading and 260 points higher in science than those in the lowest decile (10th percentile). These gaps are similar to the 262-point difference in reading and 254-point difference in science on average across all OECD countries. At the same time, the average scores of Canadian students in the lowest decile in reading (365 points) and science (383 points) were higher than those of students in the lowest decile across OECD countries (342 points and 356 points, respectively). The higher disparities observed in Canada between the 10th and 90th deciles are a reflection of the fact that students in the highest decile in Canada scored higher than students in the highest decile on average across the OECD (643 points compared to 603 points in reading, and 643 points compared to 611 points in science) (Appendices B.3.5 and B.3.6).

Figures 3.3 and 3.4 show the differences in average scores between the lowest and highest deciles for Canada, the provinces, and the OECD, for reading and science, respectively. For reading, differences range from 257 in Saskatchewan to 288 in Alberta; for science, differences range from 234 in Saskatchewan to 273 in Alberta. In all provinces except Saskatchewan, the difference in performance between students at the 90th percentile and the 10th percentile in reading was greater than or equal to the OECD average. In science, the difference in performance between students at the 90th and 10th percentiles was smaller than the OECD average in Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Manitoba, and Saskatchewan (Appendices B.3.5 and B.3.6). It is worth noting that, although countries with the highest average scores tend to have larger gaps, high achievement does not necessarily come at the cost of equity. Notably, Singapore achieved the highest average reading and science scores across all participating countries (543 and 561, respectively) while having score gaps between the lowest and highest achievers (271 and 258, respectively) that are similar to the OECD average.

Figure 3.3

Difference between high and low achievers in reading

Difference between the 90th and 10th percentiles

Note: Results are ordered from the smallest to the largest difference between the 90th and 10th percentiles. Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

Difference between high and low achievers in science

Difference between the 90th and 10th percentiles

Saskatchewan	234
Manitoba	241
Prince Edward Island	244
Newfoundland and Labrador	247
New Brunswick	250
Nova Scotia	253
OECD average	254
Quebec	254
British Columbia	256
Canada	260
Ontario	261
Alberta	273

Percentiles of performance

10th 25th 75th 90th

95% confidence interval

Note: Results are ordered from the smallest to the largest difference between the 90th and 10th percentiles. Results for Cana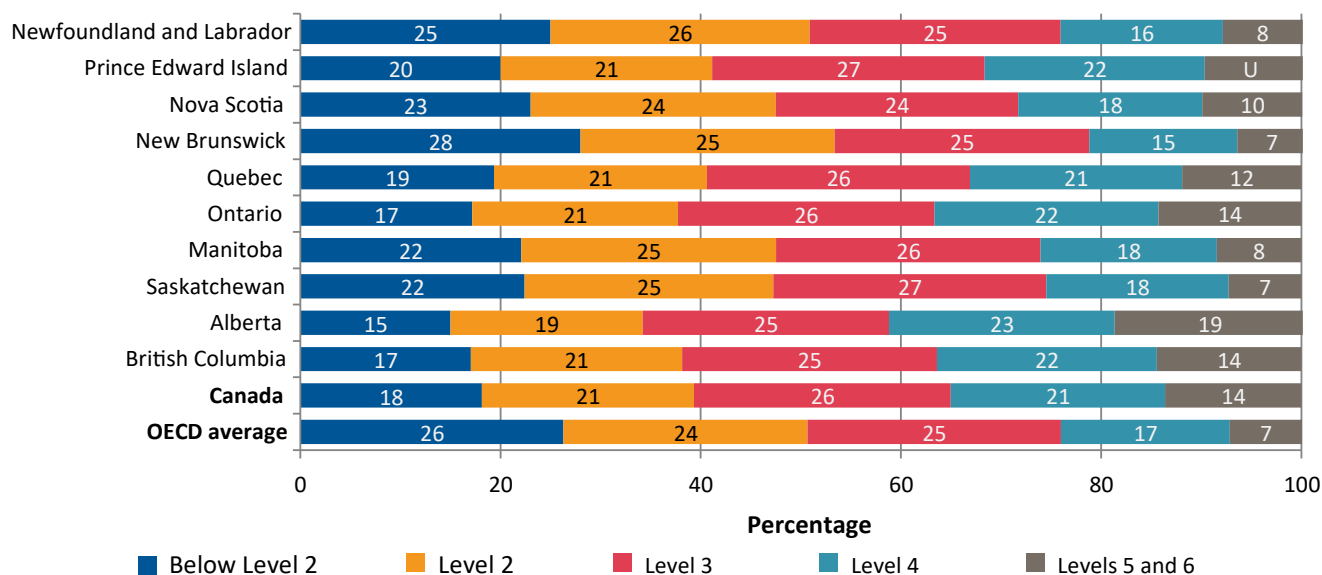da and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

Achievement in reading and science by language of the school system

In Canada in PISA 2022, oversampling allowed separate reporting of results by language of the school system for eight provinces (see the Introduction for further information). In reading, on average across these provinces, a higher proportion of students in anglophone than in francophone school systems reached Level 2 or higher (83 percent versus 78 percent). In addition, a higher proportion of students in anglophone school systems reached Levels 5 and 6 in reading, relative to their peers in francophone school systems. Specifically, 14 percent of students in anglophone school systems performed at this high level of proficiency, compared to 11 percent in francophone school systems (Figure 3.5, Appendix B.3.8a).

Figure 3.5

Percentage of students at each proficiency level in reading in Canada, by language of the school system
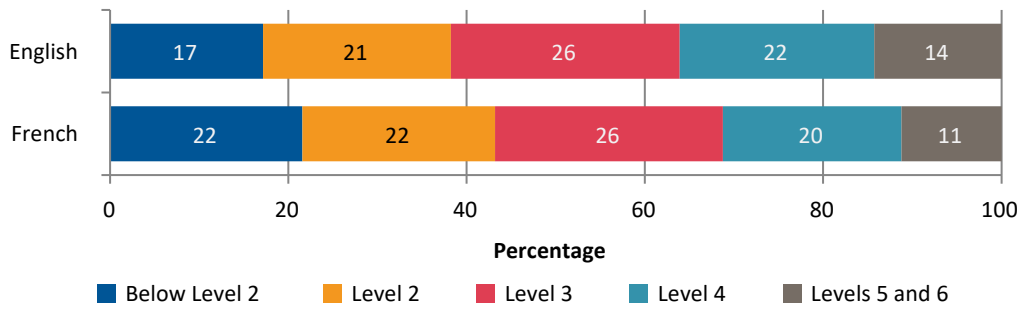
Language	Below Level 2	Level 2	Level 3	Level 4	Levels 5 and 6
English	17	21	26	22	14
French	22	22	26	20	11

Note: Percentages may not add up to 100 due to rounding. Results for Canada should be treated with caution because more than one PISA technical standard was not met (see Appendix A for further details).

At the provincial level, the proportion of students performing at or above Level 2 in reading in English-language school systems ranged from 75 percent in Newfoundland and Labrador to 85 percent in Alberta. In French-language school systems, this proportion ranged from 61 percent in Manitoba to 80 percent in Quebec and British Columbia. A higher proportion of students performed at or above the baseline level of reading proficiency in English-language school systems than in French-language systems in Nova Scotia, New Brunswick, Ontario, Manitoba, and Alberta (Appendix B.3.8a).

With respect to science, on average across Canada, no statistically significant difference between the two language systems was observed in the proportion of students reaching Level 2 or higher, although a higher proportion of students in English-language school systems than in French-language school systems performed at the highest levels of proficiency (Levels 5 and 6) (Figure 3.6, Appendix B.3.8b)

Figure 3.6

Percentage of students at each proficiency level in science in Canada, by language of the school system
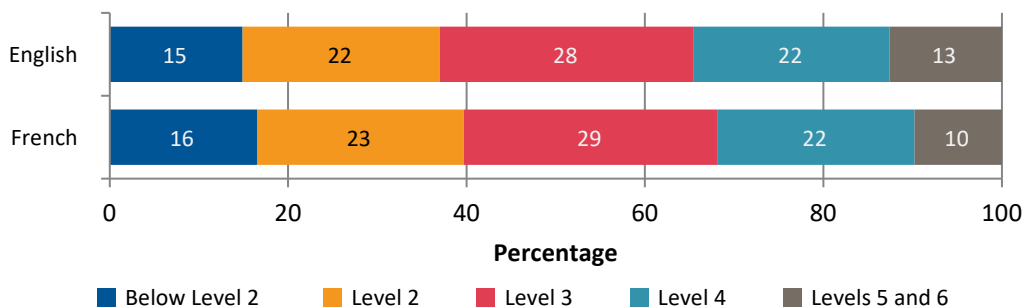
Language	Below Level 2	Level 2	Level 3	Level 4	Levels 5 and 6
English	15	22	28	22	13
French	16	23	29	22	10

Note: Percentages may not add up to 100 due to rounding. Results for Canada should be treated with caution because more than one PISA technical standard was not met (see Appendix A for further details).

At the provincial level, the proportion of students performing at or above Level 2 in science in English-language school systems varied from 79 percent in Newfoundland and Labrador and Nova Scotia to 88 percent in Alberta. In francophone school systems, the proportion ranged from 71 percent in New Brunswick to 85 percent in Quebec and British Columbia. The proportions of students performing at or above the baseline level of science proficiency was similar across the two school systems in the majority of provinces. However, in

Ontario and Alberta, a higher proportion of students in English-language systems reached this level compared to students in French-language systems. In addition, a higher proportion of students in English-language school systems were high achievers in science (Levels 5 and 6) than their peers in French-language school systems in Ontario and Alberta (Appendix B.3.8b).

Average scores in reading and science by the language of the school system for Canada and the provinces are summarized and compared in Table 3.7. The relative performance of students in the two systems varied across provinces and by domain. In reading, students in English-language school systems in Newfoundland and Labrador, Nova Scotia, New Brunswick, Manitoba, and Saskatchewan had scores that were lower than the anglophone Canadian average, while those in Alberta had higher scores than that average. Students in French-language school systems in Nova Scotia, New Brunswick, Ontario, Manitoba, Saskatchewan, and Alberta had average scores in reading that were lower than the francophone Canadian average, while in Quebec they had higher scores than that average (Appendix B.3.9).

In science, students in the English-language school system in Alberta performed above students in English-language school systems on average across Canada, while those in Newfoundland and Labrador, Nova Scotia, New Brunswick, Manitoba, and Saskatchewan performed below the anglophone Canadian average. Students in French-language school systems in Nova Scotia, New Brunswick, Ontario, Manitoba, and British Columbia scored below the average of students in French-language school systems across Canada in science, while in Quebec they had higher scores than that average (Table 3.7, Appendix B.3.10).

Table 3.7		
Summary and comparison of average scores in reading and science for Canada and the provinces, by language of the school system		
Reading		
Anglophone schools performed better* than francophone schools	**Francophone schools performed better* than anglophone schools**	**No difference between school systems**
Canada, Nova Scotia, New Brunswick, Ontario, Manitoba, Alberta, British Columbia		Quebec, Saskatchewan
Anglophone school systems		
Above* the Canadian English average	**At the Canadian English average**	**Below* the Canadian English average**
Alberta	Prince Edward Island, Quebec, Ontario, British Columbia	Newfoundland and Labrador, Nova Scotia, New Brunswick, Manitoba, Saskatchewan
Francophone school systems		
Above* the Canadian French average	**At the Canadian French average**	**Below* the Canadian French average**
Quebec	British Columbia	Nova Scotia, New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta
Science		
Anglophone schools performed better* than francophone schools	**Francophone schools performed better* than anglophone schools**	**No difference between school systems**
Ontario, Manitoba, Alberta, British Columbia		Canada, Nova Scotia, New Brunswick, Quebec, Saskatchewan
Anglophone school systems		
Above* the Canadian English average	**At the Canadian English average**	**Below* the Canadian English average**
Alberta	Prince Edward Island, Quebec, Ontario, British Columbia	Newfoundland and Labrador, Nova Scotia, New Brunswick, Manitoba, Saskatchewan
Francophone school systems		
Above* the Canadian French average	**At the Canadian French average**	**Below* the Canadian French average**
Quebec	Saskatchewan, Alberta	Nova Scotia, New Brunswick, Ontario, Manitoba, British Columbia

* Denotes significant difference.
Note: Because Newfoundland and Labrador and Prince Edward Island did not oversample students by language of the school system, results for only English-language schools are available for these provinces. Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

Differences between the two language systems in the average scores of students in reading were observed within Canada and some provinces. Students in anglophone school systems in Canada overall outperformed those in francophone school systems in reading by 16 points (Figure 3.7). At the provincial level, students in anglophone school systems performed above their peers in francophone school systems in reading in all provinces except Quebec and Saskatchewan, where there was no difference between the two systems (Table 3.7, Appendix B.3.9).

In science, there was no statistically significant difference in the performance of students in anglophone and francophone school systems in Canada overall (Figure 3.7, Appendix 3.10). At the provincial level, students in anglophone school systems in Ontario, Manitoba, Alberta, and British Columbia performed better in science than their counterparts in francophone school systems in those provinces (Table 3.7, Appendix B.3.10). In the other provinces, there was no difference between the two systems.

Figure 3.7

Average scores in reading and science in Canada, by language of the school system
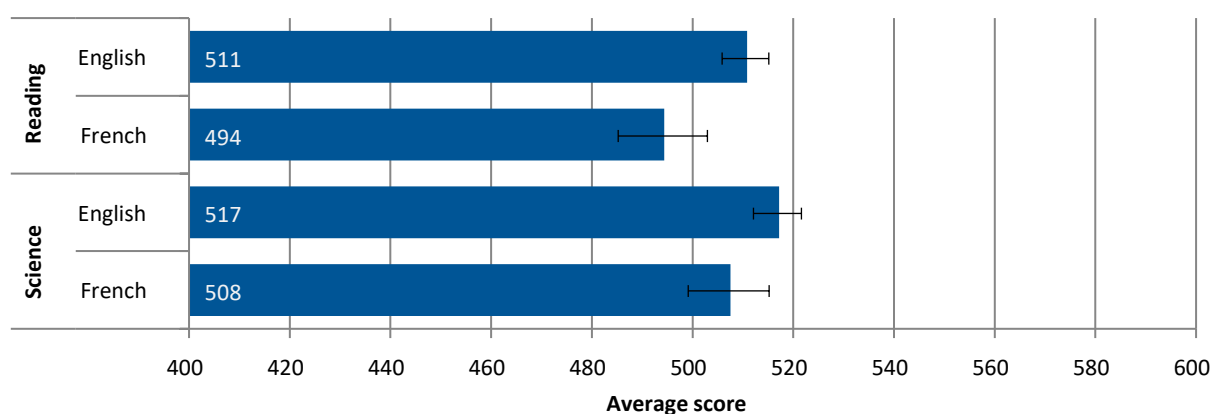
Note: Results for Canada should be treated with caution because more than one PISA technical standard was not met (see Appendix A for further details).

Achievement in reading and science by gender

In reading, on average across the OECD and in Canada overall, girls outperformed boys by 24 points in PISA 2022. Girls also outperformed boys in every province except Prince Edward Island (Table 3.8, Appendix B.3.13). In science, no difference in average scores between boys and girls was observed in Canada overall or in any province (Table 3.8, Appendix B.3.14). Unlike in reading, there was no gender gap in science on average across OECD countries (Appendix B.3.14).

Table 3.8

Summary of Canadian and provincial achievements scores in reading and science, by gender

Girls performed better* than boys	Boys performed better* than girls	No significant difference between girls and boys
Reading		
Canada, Newfoundland and Labrador, Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia		Prince Edward Island
Science		
		Canada, all provinces

* Denotes significant difference.
Note: Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

With respect to proficiency levels, a larger percentage of girls than boys in Canada overall performed at the highest levels (Levels 5 and 6) in reading, while a larger percentage of boys compared to girls performed at the lowest levels (below Level 2). Provincially, no gender differences were observed at the highest level of proficiency except in Ontario and Manitoba. However, a higher proportion of boys than girls performed at the lowest levels of proficiency in reading in all ten provinces (Table 3.9, Appendix B.3.12a).

Table 3.9		
Summary and comparison of highest and lowest levels of proficiency in reading for Canada and the provinces, by gender		
Levels 5 and 6		
Percentage of girls is higher* than percentage of boys	**Percentage of boys is higher* than percentage of girls**	**No significant differences in the percentage of boys and girls**
Canada, Ontario, Manitoba		Newfoundland and Labrador, Nova Scotia, New Brunswick, Quebec, Saskatchewan, Alberta, British Columbia
Girls		
Higher* percentage than Canada	**The same percentage as Canada**	**Lower* percentage than Canada**
Alberta	Nova Scotia, Quebec, Ontario, British Columbia	Newfoundland and Labrador, New Brunswick, Manitoba, Saskatchewan
Boys		
Higher* percentage than Canada	**The same percentage as Canada**	**Lower* percentage than Canada**
Alberta	Quebec, Ontario, British Columbia	Newfoundland and Labrador, Nova Scotia, New Brunswick, Manitoba, Saskatchewan
Below Level 2		
Percentage of girls is higher* than percentage of boys	**Percentage of boys is higher* than percentage of girls**	**No difference in the percentage of boys and girls**
	Canada, all provinces	
Girls		
Higher* percentage than Canada	**The same percentage as Canada**	**Lower* percentage than Canada**
New Brunswick, Manitoba	Newfoundland and Labrador, Prince Edward Island, Nova Scotia, Quebec, Ontario, Saskatchewan, British Columbia	Alberta
Boys		
Higher* percentage than Canada	**The same percentage as Canada**	**Lower* percentage than Canada**
Newfoundland and Labrador, Nova Scotia, New Brunswick, Saskatchewan	Prince Edward Island, Quebec, Ontario, Manitoba, Alberta, British Columbia	

* Denotes significant difference.
Note: Results for some proficiency levels in Prince Edward Island are missing because they are too unreliable to be published, due to small sample sizes. Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

There was some variation in the reading scores of girls and boys across the provinces (Table 3.10, Appendix B.3.13). In particular, the average score of girls in Alberta was higher than the Canadian average for girls, while girls in Newfoundland and Labrador, Nova Scotia, New Brunswick, Quebec, Manitoba, and Saskatchewan had lower scores than the Canadian average for girls. Boys in Alberta had scores on the reading assessment that were higher than the average for boys in Canada overall, while boys in Newfoundland and Labrador, Nova Scotia, New Brunswick, Manitoba, and Saskatchewan had lower scores than the Canadian average for boys.

Results in science for girls also varied across the provinces, as did those for boys (Table 3.10, Appendix B.3.14). Girls in Alberta had higher scores than the Canadian average for girls, while girls in Newfoundland and Labrador, Nova Scotia, New Brunswick, Manitoba, and Saskatchewan had scores that were below the Canadian average. The scores for boys reflect the same pattern: boys in Alberta had average scores in science that were

higher than the Canadian average for boys, while boys in Newfoundland and Labrador, Nova Scotia, New Brunswick, Manitoba, and Saskatchewan had scores below the Canadian average.

Table 3.10		
Comparison of Canadian and provincial achievement scores in reading and science, by gender		
Girls		
Above* the Canadian average for girls	**At the Canadian average for girls**	**Below* the Canadian average for girls**
Reading		
Alberta	Prince Edward Island, Ontario, British Columbia	Newfoundland and Labrador, Nova Scotia, New Brunswick, Quebec, Manitoba, Saskatchewan
Science		
Alberta	Prince Edward Island, Quebec, Ontario, British Columbia	Newfoundland and Labrador, Nova Scotia, New Brunswick, Manitoba, Saskatchewan
Boys		
Above* the Canadian average for boys	**At the Canadian average for boys**	**Below* the Canadian average for boys**
Reading		
Alberta	Prince Edward Island, Quebec, Ontario, British Columbia	Newfoundland and Labrador, Nova Scotia, New Brunswick, Manitoba, Saskatchewan
Science		
Alberta	Prince Edward Island, Quebec, Ontario, British Columbia	Newfoundland and Labrador, Nova Scotia, New Brunswick, Manitoba, Saskatchewan

* Denotes significant difference.
Note: Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

In science, a larger proportion of boys than girls performed at the highest levels of proficiency (Levels 5 and 6) as well as at the lowest level of proficiency (below Level 2) in Canada overall. At the provincial level, no gender differences were observed in most provinces regarding the proportion performing at the lowest or the highest levels of proficiency in science. The exceptions were in Newfoundland and Labrador, where the percentage of boys performing at the lowest levels was higher than the percentage of girls, and in Ontario, where the proportion of boys performing at the highest level was higher than that of girls (Table 3.11, Appendix B.3.12b).

Table 3.11

Summary and comparison of highest and lowest levels of proficiency in science for Canada and the provinces, by gender

Levels 5 and 6		
Percentage of girls is higher* than percentage of boys	**Percentage of boys is higher* than percentage of girls**	**No difference in the percentage of boys and girls**
	Canada, Ontario	Newfoundland and Labrador, Nova Scotia, New Brunswick, Quebec, Manitoba, Saskatchewan, Alberta, British Columbia
Girls		
Higher* percentage than Canada	**The same percentage as Canada**	**Lower* percentage than Canada**
Alberta	Quebec, Ontario, British Columbia	Newfoundland and Labrador, Nova Scotia, New Brunswick, Manitoba, Saskatchewan
Boys		
Higher* percentage than Canada	**The same percentage as Canada**	**Lower* percentage than Canada**
Alberta	Quebec, Ontario, British Columbia	Newfoundland and Labrador, Nova Scotia, New Brunswick, Manitoba, Saskatchewan
Below Level 2		
Percentage of girls is higher* than percentage of boys	**Percentage of boys is higher* than percentage of girls**	**No difference in the percentage of boys and girls**
	Canada, Newfoundland and Labrador	Prince Edward Island, Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia
Girls		
Higher* percentage than Canada	**The same percentage as Canada**	**Lower* percentage than Canada**
Nova Scotia, New Brunswick, Manitoba	Newfoundland and Labrador, Prince Edward Island, Quebec, Ontario, Saskatchewan, British Columbia	Alberta
Boys		
Higher* percentage than Canada	**The same percentage as Canada**	**Lower* percentage than Canada**
Newfoundland and Labrador, Nova Scotia, New Brunswick, Saskatchewan	Prince Edward Island, Quebec, Ontario, Manitoba, Alberta, British Columbia	

* Denotes significant difference.
Note: Results for some proficiency levels in Prince Edward Island are missing because they are too unreliable to be published, due to small sample sizes. Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

Achievement in reading and science by socioeconomic status

For the purposes of reporting how students results vary in relation to the index of economic, social, and cultural status (ESCS), students in the top 25 percent (top quarter) of the index were defined as socioeconomically advantaged students, whereas those in the bottom 25 percent (bottom quarter) were defined as socioeconomically disadvantaged students. (See Chapter 2 for more information on the ESCS index in Canada.)

In both reading and science, socioeconomically advantaged students performed above disadvantaged students in PISA 2022 across all participating countries, although the difference in performance related to SES status varies considerably (OECD, 2023a). This trend also holds true for Canada and all provinces (Tables 3.12 and 3.13, Appendices B.3.15 and B.3.16).

In Canada, there is difference of 74 points in the average reading score, and 72 points in the average science score, between socioeconomically advantaged students and socioeconomically disadvantaged students. These differences are about 20 points lower than the OECD averages in both domains. In other words, the difference in the average results of students by SES is lower in Canada than in the OECD, on average, for both reading and science (Appendices B.3.15 and B.3.16).

Tables 3.12 and 3.13 show the relationship between socioeconomic status (SES) and scores in reading and science, respectively. In Canada overall, 7 percent of the variation in reading scores can be attributed to differences in SES. The corresponding figure for the OECD is 13 percent. The percentages in the provinces vary from 5 percent in Newfoundland and Labrador, Manitoba, and Saskatchewan to 10 percent in Quebec (Appendix 3.15).

In science, the variation in achievement scores that can be explained by SES factors was 8 percent in Canada, compared to 14 percent in the OECD. In the provinces, the figure varied from a low of 6 percent in Ontario and Saskatchewan to a high of 10 percent in Alberta (Appendix 3.16).

Table 3.12			
Relationship between average reading scores and socioeconomic status (SES)			
	Socioeconomically advantaged students	Socioeconomically disadvantaged students	Difference (advantaged - disadvantaged)	Percentage of variance explained by SES factors
	Average score	Average score		
Newfoundland and Labrador	508	449	59*	4.8
Prince Edward Island	532	469	63*	6.9
Nova Scotia	537	460	76*	6.7
New Brunswick	508	430	78*	8.0
Quebec	546	461	85*	9.6
Ontario	546	479	67*	5.8
Manitoba	513	457	56*	5.0
Saskatchewan	521	460	61*	5.3
Alberta	568	486	83*	8.0
British Columbia	544	475	69*	5.8
Canada	**546**	**472**	**74***	**7.1**
OECD	**527**	**434**	**93***	**12.6**

* Denotes significant difference.
Note: Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

	Table 3.13			
Relationship between average science scores and socioeconomic status (SES)				
	Socioeconomically advantaged students	Socioeconomically disadvantaged students	Difference (advantaged - disadvantaged)	Percentage of variance explained by SES factors
	Average score	Average score		
Newfoundland and Labrador	523	464	59*	6.5
Prince Edward Island	530	457	73*	9.3
Nova Scotia	535	464	70*	7.0
New Brunswick	526	447	79*	8.9
Quebec	550	475	74*	9.3
Ontario	551	484	67*	6.4
Manitoba	521	460	60*	6.7
Saskatchewan	528	472	56*	5.7
Alberta	578	489	89*	10.2
British Columbia	557	482	75*	8.2
Canada	**552**	**479**	**72***	**8.1**
OECD	**538**	**442**	**96***	**14.2**

* Denotes significant difference.

Note: Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

Achievement in reading and science by immigrant status

As discussed earlier, research has found that children in immigrant families are more likely to be educationally disadvantaged (Andon et al., 2014; Bruckauf, 2016; OECD, 2010). (See Chapter 2 for more information on immigrant status and education.) This trend is borne out on average in OECD countries, where non-immigrant students performed above their immigrant peers by 41 points in reading and 38 points in science in PISA 2022. However, this was not the case in Canada, where, on average, the scores of immigrant students in the two minor domains were either above or not significantly different from those of their non-immigrant peers (Appendix B.3.17a and B.3.18a).

Figures 3.8 and 3.9 show the average reading and science scores for first- and second-generation immigrant students and non-immigrant students in Canada (see Chapter 2 for a description of these categories).

Figure 3.8

Average reading scores in Canada, by immigrant status
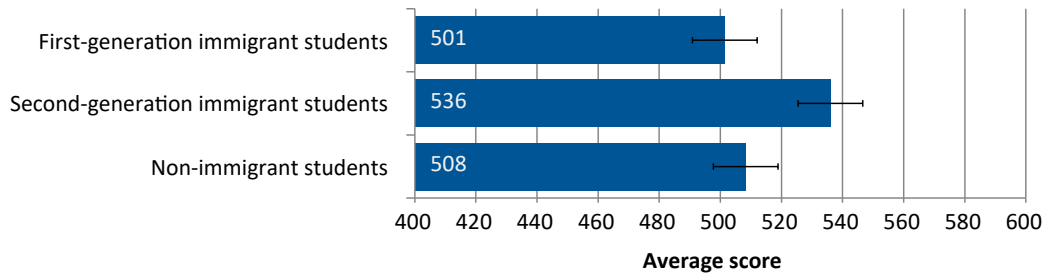
	Average score
First-generation immigrant students	501
Second-generation immigrant students	536
Non-immigrant students	508

Note: Results for Canada should be treated with caution because more than one PISA technical standard was not met (see Appendix A for further details).

Figure 3.9

Average science scores in Canada, by immigrant status
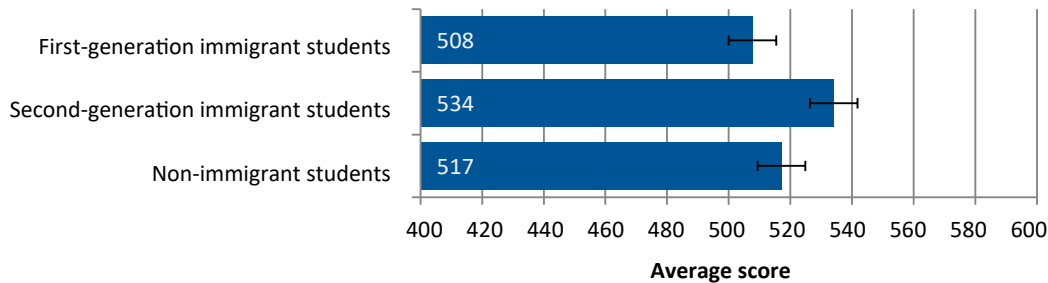
	Average score
First-generation immigrant students	508
Second-generation immigrant students	534
Non-immigrant students	517

Note: Results for Canada should be treated with caution because more than one PISA technical standard was not met (see Appendix A for further details).

In reading, immigrant students in Canada performed better than non-immigrant students on average by 11 points, due to the higher performance of second-generation immigrants. First-generation immigrants had average scores that were similar to those of non-immigrants in Canada overall. Provincially, immigrant students in Nova Scotia and Ontario performed better than non-immigrant students. By contrast, non-immigrant students in Quebec had better average reading scores than immigrant students (Table 3.14, Appendix B.3.17a).

In science, there was no statistically significant difference in Canada overall between the average scores of immigrant and non-immigrant students. However, second-generation immigrant students performed better on average than their non-immigrant and first-generation peers in Canada, with a differences of 17 and 26 points respectively. Provincially, immigrant students in Ontario performed better on average in science than non-immigrant students, while non-immigrant students in Quebec performed better than immigrant students (Table 3.14, Appendix B.3.18a).

Table 3.14

Summary and comparison of average scores in reading and science for Canada and the provinces, by immigrant status

Reading		
Non-immigrant students performed better* than immigrant students	**Immigrant students performed better* than non-immigrant students**	**No difference between non-immigrant and immigrant students**
Quebec	Canada, Nova Scotia, Ontario	Newfoundland and Labrador, Prince Edward Island, New Brunswick, Manitoba, Saskatchewan, Alberta, British Columbia
Non-immigrant students performed better* than second-generation immigrant students	**Second-generation immigrant students performed better* than non-immigrant students**	**No difference between non-immigrant and second-generation immigrant students**
	Canada, Nova Scotia, Ontario, Saskatchewan, Alberta, British Columbia	Newfoundland and Labrador, Prince Edward Island, New Brunswick, Quebec, Manitoba
Non-immigrant students performed better* than first-generation immigrant students	**First-generation immigrant students performed better* than non-immigrant students**	**No difference between non-immigrant and first-generation immigrant students**
Quebec		Canada, Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia
Science		
Non-immigrant students performed better* than immigrant students	**Immigrant students performed better* than non-immigrant students**	**No difference between non-immigrant and immigrant students**
Quebec	Ontario	Canada, Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Manitoba, Saskatchewan, Alberta, British Columbia
Non-immigrant students performed better* than second-generation immigrant students	**Second-generation immigrant students performed better* than non-immigrant students**	**No difference between non-immigrant and second-generation immigrant students**
Quebec	Canada, Ontario, British Columbia	Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Manitoba, Saskatchewan, Alberta
Non-immigrant students performed better* than first-generation immigrant students	**First-generation immigrant students performed better* than non-immigrant students**	**No difference between non-immigrant and first-generation immigrant students**
Canada, Quebec		Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia

* Denotes significant difference.
Note: Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

In terms of the proportion of students not reaching Level 2, there are no significant differences in Canada overall between non-immigrant and immigrant students in either reading or science. This finding hides the fact, however, that a greater proportion of first-generation immigrant students did not reach this baseline level compared to their non-immigrants counterparts, while the proportion of second-generation immigrant students that did not reach this level was smaller than for the two other groups (Appendices B.3.17b and B.3.18b). Results varied across provinces, but in many provinces there was no significant difference between the three groups.

Achievement in reading and science by language spoken at home

With the exception of Quebec, the majority of students in all provinces attend anglophone schools. However, the language that students speak at home is affected by immigration, the impact of which differs from province to province.

In Canada, the vast majority of students (81 percent) who participated in PISA 2022 spoke one of Canada's two official languages at home. (See Chapter 2 for background on language spoken at home in Canada.)

In Canada overall, there is no statistically significant difference in the average scores in either reading or science between those speaking English at home, those speaking French at home, and those speaking a language other than English or French at home (Figures 3.10 and 3.11, Appendices B.3.19a and B.3.20a).

Figure 3.10

Average reading scores in Canada, by language spoken at home
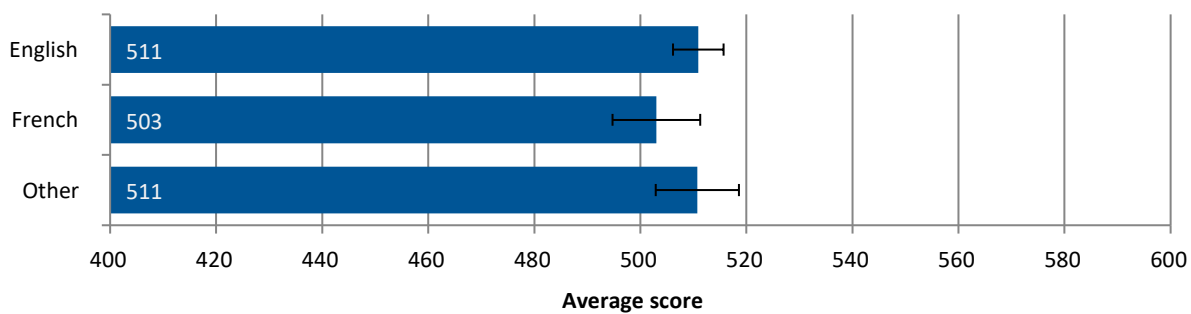
Note: Results for Canada should be treated with caution because more than one PISA technical standard was not met (see Appendix A for further details).

Figure 3.11

Average science scores in Canada, by language spoken at home
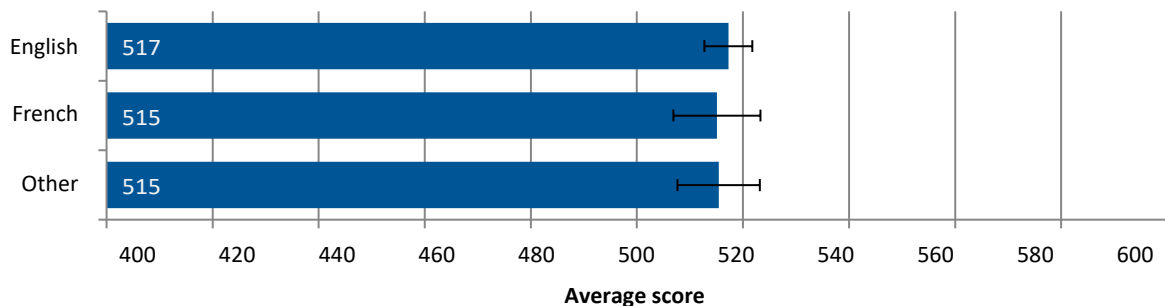
Note: Results for Canada should be treated with caution because more than one PISA technical standard was not met (see Appendix A for further details).

In most provinces, there was no significant difference in average scores in either domain between those who spoke one of the two official languages at home and those who spoke another language at home. The exceptions were Quebec in reading and science, and Manitoba in science (Table 3.15, Appendices B.3.19a and B.3.20a).

Table 3.15		

Summary and comparison of average scores in reading and science for Canada and the provinces, by language spoken at home

Reading		
Students speaking an official language at home performed better* than those speaking another language at home	**Students speaking another language at home performed better* than those speaking an official language at home**	**No significant differences between students by languages spoken at home**
Quebec		Canada, Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia
Science		
Students speaking an official language at home performed better* than those speaking another language at home	**Students speaking another language at home performed better* than those speaking an official language at home**	**No significant differences between students by languages spoken at home**
Quebec, Manitoba		Canada, Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Ontario, Saskatchewan, Alberta, British Columbia

* Denotes significant difference.

Note: Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

When the performance levels of students who speak an official language at home are compared to those who speak another language at home, there was no significant difference in Canada overall in the proportion of students not reaching the baseline level of proficiency (Level 2) in either reading or science. Provincially, the only exception to these findings was in Quebec, where a higher proportion of students speaking another language at home did not reach Level 2 in either reading and science, compared to those speaking an official language at home (Appendices B.3.19b and B.3.20b).

Changes in reading and science performance over time

PISA 2022 is the sixth assessment of science since 2006, when science was the major domain for the first time, and the eighth assessment of reading since 2000, when reading was the major domain for the first time. (See Chapter 1 for caveats related to interpreting changes over time.)

PISA 2022 is the first PISA assessment since the COVID-19 pandemic, which disrupted school systems and students to different degrees in every country and every Canadian province. That context should be taken into account when interpreting changes in achievement over time.

In reading, average scores declined by 10 points across OECD countries between 2018 and 2022. Average reading scores increased on a statistically significant basis in seven of the participating countries and decreased in 36 countries, with no statistically significant changes observed in the remaining countries. In Canada, performance in reading declined by 13 points between 2018 and 2022. Scores declined in every province except Prince Edward Island, Manitoba, Alberta, and British Columbia, with the largest declines in Newfoundland and Labrador (34 points), Nova Scotia (27 points), New Brunswick (20 points), and Quebec (19 points) (Table 3.16). While reading performance declined in Canada overall, it is important to put this trend in an international context: the decline in performances in reading in Canada is comparable to that observed on average in OECD countries (Appendix B.3.21c).

Table 3.16

Canadian and provincial average scores in reading over time, 2018–2022

	2018		2022	
	Average score	Standard error	Average score	Standard error
Newfoundland and Labrador	512	(4.3)	478*	(7.2)
Prince Edward Island	503	(8.3)	496	(10.4)
Nova Scotia	516	(3.9)	489*	(6.4)
New Brunswick	489	(3.5)	469*	(4.3)
Quebec	519	(3.5)	501*	(4.9)
Ontario	524	(3.5)	512*	(4.1)
Manitoba	494	(3.4)	486	(4.1)
Saskatchewan	499	(3.0)	484*	(4.3)
Alberta	532	(4.3)	525	(6.4)
British Columbia	519	(4.5)	511	(6.0)
Canada	**520**	**(1.8)**	**507***	**(2.5)**

* Significant difference compared with baseline (2018).
Note: The linkage error is incorporated into the standard error for 2022. Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

On average across OECD countries, science scores remained unchanged between 2018 and 2022. The OECD average of 487 points in 2022 was not significantly different from the baseline average score of 489 in 2018. However, there were changes in achievement in some of the countries that participated in both PISA 2018 and PISA 2022. In 18 countries, science performance improved on a statistically significant basis, while it declined in 21 countries, with the other countries having no statistically significant changes in their scores. In Canada overall, there was no statistically significant change in the average scores of students in science between 2018 (518) and 2022 (515) (Appendix B.3.22c).

Performance in science remained stable in most provinces between 2018 and 2022, except in Nova Scotia, where it declined by 16 points (Appendix B.3.22c). However, there was a significant decline if we compare results in 2022 with those of the baseline in 2015, the last time science was the major domain, across OECD countries, in Canada overall, and in five provinces (Newfoundland and Labrador, Nova Scotia, New Brunswick, Quebec and British Columbia) (Table 3.17, Appendix B.3.22b).

Table 3.17

Canadian and provincial average scores in science over time, 2015–2022

	2015		2022	
	Average score	Standard error	Average score	Standard error
Newfoundland and Labrador	506	(3.2)	491*	(5.4)
Prince Edward Island	515	(5.4)	496	(13.4)
Nova Scotia	517	(4.5)	492*	(4.1)
New Brunswick	506	(4.5)	483*	(4.5)
Quebec	537	(4.7)	512*	(4.4)
Ontario	524	(3.9)	517	(3.9)
Manitoba	499	(4.7)	492	(4.3)
Saskatchewan	496	(3.1)	494	(3.4)
Alberta	541	(4.0)	534	(6.9)
British Columbia	539	(4.3)	519*	(5.1)
Canada	**528**	**(2.1)**	**515***	**(2.4)**

* Significant difference compared with baseline (2015).
Note: The linkage error is incorporated into the standard error for 2022. Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan) should be treated with caution because one or more PISA technical standards were not met (see Appendix A for further details).

In reading, the proportion of low-performing students (below Level 2) increased in Canada overall from 14 to 18 percent between 2018 and 2022. At the provincial level, the proportion of students performing below Level 2 in reading increased in Newfoundland and Labrador, Nova Scotia, New Brunswick, Quebec, Ontario, and Saskatchewan. The proportion of high-achieving students (Levels 5 and 6) in reading remained unchanged between 2018 and 2022 in Canada and all provinces, except in Newfoundland and Labrador, where it decreased (Appendix B.3.25).

In science, the proportion of students performing below Level 2 increased in Canada from 13 percent to 15 percent between 2018 and 2022. At the provincial level, the proportion of students achieving below Level 2 increased only in Nova Scotia and Quebec. The proportion of Canadian students achieving below Level 2 was even lower in the baseline year 2015, at 11 percent (Appendix B.3.27). The proportion of high-achieving students (Levels 5 and 6) in science was 12 percent and remained unchanged over the 2018–2022 period at the Canadian level and in every province (Appendix B.3.26). In PISA 2015, the proportion of Canadian students reaching Level 5 or 6 was also 12 percent, same as in 2022 (Appendix B.3.27).

The increase in the proportion of students not reaching the baseline (Level 2) in reading is part of a longer-term trend. Ten percent of students in Canada were below Level 2 in 2009; this proportion increased to 14 percent in 2018 and 18 percent in 2022 (Appendix B.3.27). In science, a similar long-term trend is present, with 11 percent of students achieving below Level 2 in 2015, 13 percent in 2018, and 15 percent in 2022 (Appendix B.3.27). An increase in the percentage of students not reaching Level 2 in reading or science over the last several cycles of PISA was also observed on average across OECD countries (OECD, 2023a). At the same time, the percentage of high-achieving students in both reading and science remained unchanged in Canada overall between 2018 and 2022 (Appendices B.3.25 and B.3.26).

Overall, while results show a slight decline in reading scores in Canada since the pandemic, PISA results show that Canada's education systems remain among the best in the world.

Summary

Since reading and science were minor domains in PISA 2022, a smaller number of items and less testing time were dedicated to them, compared to the mathematics assessment. As a result, this chapter has provided information on overall performance in these two domains but not on their subscales.

Despite a decrease in average scores in reading between 2018 and 2022, Canada continues to perform well internationally in both reading and science. Students in Canada scored well above the OECD average in both domains, and were outperformed by students in only five countries in reading and six in science, among the 81 countries that participated in PISA 2022. Among the provinces, students in Quebec, Ontario, Saskatchewan, Alberta, and British Columbia performed above the OECD average in both reading and science. Students in Prince Edward Island, Nova Scotia, and Manitoba performed above the OECD average in reading and at the OECD average in science. Students in Newfoundland and Labrador and New Brunswick performed at the OECD average in both reading and science.

In spite of these strong results in PISA 2022, some concerns arise with regard to the overall performance of Canadian students in reading and science. Of particular note, 18 percent of Canadian students did not meet the benchmark level of reading (Level 2), a percentage that has increased since 2009. In science, around 15 percent of Canadian students did not meet the benchmark level. It is noteworthy as well that, in reading, girls continued to outperform boys in Canada, although there were no significant differences in average scores in science by gender.

Conclusion

In 2022, Canada participated for the eighth time in the Programme for International Student Assessment (PISA), which measures trends in the learning outcomes of 15-year-old students in mathematics, reading, and science. The study has been conducted every three years since 2000, under the aegis of the Organisation for Economic Co-operation and Development (OECD). In 2022, around 690,000 from 81 countries participated; in Canada, approximately 23,000 students from over 850 schools participated across the 10 provinces. The major focus of PISA 2022 was mathematics, while reading and science were tested as minor domains, with creative thinking as an innovative domain and financial literacy as an optional minor domain.

PISA is valuable for its capacity to provide comparative information on the skill levels of students as they near the end of compulsory education. Not only does PISA enable comparisons between provinces and countries, it also provides an opportunity to monitor how skill levels change over time.

The 2022 cycle of PISA included some changes to the mathematics assessment relative to 2012, when mathematics was last the major domain. For example, in this cycle, an emphasis on 21st-century skills was included in the assessment framework, and one topic from each of the four content categories was flagged for special emphasis: growth phenomena (in change and relationships); geometric approximation (in space and shape); computer simulations (in quantity); and conditional decision making (in uncertainty and data). In addition, in order to improve the accuracy of the scores of both high- and low-performing students, PISA 2022 adopted a multi-stage adaptive testing design for mathematics. A similar approach was initially introduced for reading in 2018.

Achievement in mathematics, reading, and science

In Canada overall, 78 percent of students performed at or above Level 2 in mathematics, the baseline level of mathematics literacy required to take advantage of further learning opportunities and to participate fully in modern society. This proportion was higher than the OECD average of 69 percent. Across the provinces, the proportion of students reaching this benchmark varied from 66 percent in Newfoundland and Labrador to 83 percent in Quebec.

At the higher end of the PISA mathematics scale, 12 percent of Canadian students performed at the highest proficiency levels (Levels 5 and 6), compared to 9 percent performing at these levels on average across OECD countries. At the provincial level, 15 percent or more of students in Alberta and Quebec achieved a proficiency level of 5 or higher in mathematics.

By contrast, 7 percent of Canadian participants did not achieve Level 1a in mathematics; the corresponding proportion across OECD countries was 12 percent. At the provincial level, the proportion of students performing below Level 1a ranged from 5 percent in Quebec to 12 percent in Newfoundland and Labrador.

In addition to reporting results by proficiency levels, this report has also presented results by average scores, which are expressed on a scale with an average of 500 points for OECD countries and a standard deviation of 100. This average was established in 2003 and decreased to 494 in 2012 and 472 in 2022.

Overall, Canadian students achieved a mean score of 497 in mathematics, which is 25 points above the OECD average. This score was surpassed by students in only eight countries. The scores in four provinces were above the OECD average. When compared to the results for Canada overall, Quebec students achieved scores that were

above the Canadian average, while students in Ontario, Alberta, and British Columbia achieved scores that were at the Canadian average.

Results in mathematics were also reported for the four mathematical processes and four content knowledge subscales. The Canadian averages for the four mathematical process subscales were 494 for formulating, 495 for employing, 503 for interpreting, and 499 for mathematical reasoning. Across OECD countries, students scored 469, 472, 474, and 473, respectively, in the four mathematical process subscales. On the content knowledge subscales, Canadian students achieved an average score of 502 in change and relationships, 494 in quantity, 491 in space and shape, and 500 in uncertainty and data, while the OECD averages on these subscales were 470, 472, 471, and 474, respectively.

In reading, 82 percent of Canadian students and 74 percent of students in OECD countries performed at or above Level 2, the baseline level of reading proficiency. At the provincial level, the percentage of Canadian students at or above Level 2 ranged from 72 percent in New Brunswick to 85 percent in Alberta. In contrast, 18 percent of Canadian students did not reach the baseline level in reading, compared to an average of 26 percent across OECD countries.

At the higher end of the PISA reading scale, 14 percent of students in Canada performed at Level 5 or above, compared to an average of 7 percent across OECD countries. Canada had a higher proportion of students at Level 5 or above than almost all the other participating countries: only one country (Singapore) had a statistically higher proportion of high achievers than Canada. At the provincial level, slightly fewer than one in five students in Alberta performed at Level 5 or 6. By contrast, in Newfoundland and Labrador, New Brunswick, Manitoba, and Saskatchewan, fewer than one in ten students achieved at the highest performance levels.

Canadian students achieved an average score of 507 in reading, well above the OECD average of 476. Among the 81 countries that participated in PISA 2022, only five had higher scores than Canada in reading. Students in Newfoundland and Labrador and New Brunswick performed at the OECD average, while students in all other provinces performed above the OECD average.

In science, 85 percent of Canadian students and 76 percent of students in OECD countries performed at or above Level 2 in PISA 2022. At the provincial level, the percentage of students performing at or above this baseline level of proficiency ranged from 77 percent in New Brunswick to 88 percent in Alberta. In contrast, 15 percent of students in Canada overall did not reach the baseline level in science, compared to 24 percent of students on average across OECD countries. More than 70 countries had a higher proportion of low performers in science relative to Canada. At the provincial level, 23 percent of students in New Brunswick were low achievers in science, compared to 12 percent of students in Alberta.

At the higher end of the science achievement scale, 12 percent of Canadian students performed at Level 5 or above, compared to the OECD average of 7 percent. Canada is among the countries with the largest share of high-performing students in science, surpassed only by five countries. At the provincial level, 10 percent or more of students in Quebec, Ontario, Alberta, and British Columbia performed at Level 5 or above.

Canadian students had an average score of 515 in science, well above the OECD average of 485. Among the 81 countries that participated in PISA 2022, six had higher science scores than Canada. Students in Quebec, Ontario, Saskatchewan, Alberta, and British Columbia had achievement scores above the OECD average, while the scores of students in all other provinces were at the OECD average.

Achievement by language of the school system

In eight Canadian provinces (Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan, Alberta, and British Columbia), samples were representative of both majority and minority official language groups and allowed separate reporting of results by language of the school system.

In mathematics, French-language school systems had a greater proportion of students performing at Level 2 or above compared to English-language school systems in Canada overall (82 percent and 77 percent, respectively). The proportion of students performing at Levels 5 and 6 was also higher in francophone systems than in anglophones systems (16 percent and 11 percent, respectively). French-language school systems had a lower proportion of students performing below Level 2, in comparison to their English-language counterparts.

In English-language school systems, students in Prince Edward Island, Alberta, and British Columbia achieved Level 2 or above in mathematics at a rate similar to students in Canada as a whole; students in Quebec and Ontario achieved Level 2 or above at a rate higher than the Canadian average; and students in the remaining provinces achieved Level 2 or above at a rate lower than the Canadian average. With respect to French-language school systems, students in Quebec achieved Level 2 or above at a higher rate than their peers in Canada as a whole, while the percentage of students in Nova Scotia, New Brunswick, Ontario, and Manitoba achieving these levels was below the Canadian average.

In Canada, students in French-language school systems achieved higher average scores in mathematics than those in English-language systems. This finding is consistent with the results reported in PISA 2018.

In reading, students in anglophone school systems had higher achievement scores than their peers in francophone school systems in Canada overall and in six provinces. No difference between the school systems was observed in reading scores in Quebec and Saskatchewan.

In science, the average scores of students in anglophone school systems were higher than those of their counterparts in francophone school systems in four provinces. No difference was observed between francophone and anglophone systems in Canada overall, Nova Scotia, New Brunswick, Quebec, and Saskatchewan.

Achievement by gender

As was the case internationally, Canadian boys outperformed girls in mathematics overall (by 12 points) and across all mathematical process and content knowledge subscales. At the provincial level, a statistically significant gender gap favouring boys in overall mathematics scores ranged from 9 points in Quebec to 23 points in Prince Edward Island. In Ontario, a gender gap favouring boys existed across all mathematical process and content knowledge subscales; the other provinces had gaps in several, but not all, subscales.

In reading, girls outperformed boys in Canada overall and in all provinces except Prince Edward Island, where there was no significant difference. In science, no difference in average achievement scores between boys and girls was apparent in Canada or any of the provinces.

Performance comparisons over time

Although they are still strong, Canadian results in mathematics have slipped over time. Overall mathematics performance has declined between 2003 (the first time mathematics was the major domain) and 2022 in Canada and all of the provinces. At the pan-Canadian level and in all provinces except Prince Edward Island, the proportion of low-performing students in mathematics (below Level 2) increased between 2012 and 2022. At the same time, the proportion of students reaching the highest levels in mathematics (Levels 5 and 6) decreased in Canada overall and in Newfoundland and Labrador, New Brunswick, Quebec, Manitoba, Saskatchewan, and British Columbia.

Reading performance in Canada overall declined by 13 points between 2018 (the last time reading was the major domain) and 2022, which is comparable to the decline observed on average across OECD countries. The proportion of low-performing (below Level 2) students increased in Canada overall and in Newfoundland and Labrador, Nova Scotia, New Brunswick, Quebec, Ontario, and Saskatchewan. On the other hand, the proportion of top-performing (Level 5 or above) students remained unchanged over this period in Canada overall and all provinces except Newfoundland and Labrador, where this proportion decreased.

With respect to science, at the pan-Canadian level and in five provinces (Newfoundland and Labrador, Nova Scotia, New Brunswick, Quebec, and British Columbia), the average performance of students decreased between 2015 — the last time the major focus of PISA was science — and 2022. However, average scores in science remained stable between 2018 and 2022 in Canada overall and in all provinces except Nova Scotia, where it declined. Between 2018 and 2022, the proportion of low-performing (below Level 2) students increased in Canada overall and in two provinces (Nova Scotia and Quebec); no significant differences were observed in Canada overall or in any provinces in the proportion of top-performing students.

Contextual factors influencing mathematics scores

As part of the PISA 2022 assessment, students completed a questionnaire designed to provide contextual information to aid in the interpretation of the performance results. This report has presented information on select indicators that, in past cycles of PISA, have been found to correlate with mathematics achievement. Specifically, Chapter 2 discussed some sociodemographic characteristics, as well as students' attitudes, behaviours, and beliefs, in relation to mathematics achievement in the Canadian context.

Student demographic characteristics

In the background questionnaire accompanying the PISA 2022 assessment, students were asked to provide information on themselves and their home environment. In particular, they were asked to respond to questions on the occupation and educational attainment of their parents and on a number of home possessions that can be used as proxies for material wealth, including the number of books and other educational resources available in the home. Answers to these questions were used to derive a measure of socioeconomic status called the index of economic, social, and cultural status (ESCS). Students were also asked about their immigration background and language spoken at home.

Canada, with an ESCS index of 0.38, placed among the top participating countries in terms of socioeconomic status, with only two countries reporting higher average scores on the index.

Compared to other OECD countries, Canada has higher-than-average social mobility. In the context of PISA, this means that the difference between the average mathematics scores of socioeconomically advantaged students and socioeconomically disadvantaged students in Canada was lower than the OECD average. Still, 10 percent of the variation in mathematics scores in Canada overall can be attributed to differences in socioeconomic status. Compared to the Canadian average, socioeconomic status explained more of the variation in overall mathematics scores in Alberta (13 percent) and less of the variation in Newfoundland and Labrador, Ontario, and Manitoba (8 percent).

In Canada, 34 percent of students identified themselves as having an immigrant background. In most countries participating in PISA 2022, non-immigrant students outperformed their first- and second-generation immigrant peers in mathematics. However, this trend was not observed in Canada, where immigrant students outperformed non-immigrant students in this domain. Second-generation immigrant students, in particular, had a significantly higher average mathematics score compared to both first-generation immigrant students and non-immigrant students in Canada overall. However, this trend was not observed in all provinces. For instance, in Quebec, where non-immigrant students had the highest average mathematics score of all non-immigrant students across Canada, non-immigrant students outperformed their first- and second-generation immigrant peers. In contrast, in Alberta, where non-immigrant students had the second-highest average mathematics score of all non-immigrant students in Canada, second-generation immigrant students outperformed non-immigrant students.

In Canada overall, 64 percent of participating students spoke English at home, while 17 percent spoke French at home and 19 percent spoke another language at home. Quebec is the only province where French was spoken

at home by the majority of students (72 percent). The proportion of students speaking a language other than English or French at home ranged from 24 percent in British Columbia to 3 percent in Newfoundland and Labrador.

In mathematics in PISA 2022, students in Canada who spoke English at home had lower achievement scores compared to those who spoke French or another language at home. In Quebec, students who spoke French at home outperformed students who spoke English or a language other than English or French. In Ontario, students who spoke another language other than English or French at home had higher average scores than their anglophone and francophone peers. In Nova Scotia and British Columbia, students who spoke another language other than English or French outperformed students who spoke English at home.

Students' attitudes, behaviours, and beliefs

Identifying and understanding the attitudes that students have toward mathematics may be helpful for educators and parents in supporting students in their mathematics learning. The association between attitudes toward mathematics and mathematics achievement has been recognized, with some interpretations of this relationship being that: 1) more positive attitudes lead to higher mathematics achievement; 2) higher mathematics achievement leads to enhanced positive attitudes toward mathematics; or 3) these processes operate in reciprocity (Kiwanuka et al., 2022).

In PISA 2022, students were asked to respond to three items concerning their attitudes toward mathematics. In Canada overall, close to 50 percent of participants reported that mathematics was one of their favorite subjects, while 54 percent reported that mathematics was easy for them. Additionally, 93 percent of students indicated that they wanted to do well in their mathematics class.

Positive attitudes toward mathematics were positively related to mathematics achievement. In Canada and almost all the provinces, students who indicated that mathematics was one of their favorite subjects, who found mathematics easy, or who wanted to do well in mathematics outperformed those who did not agree with those statements. In addition, students in Canada who responded that they put effort into their mathematics assignments "all or almost all of the time" had significantly higher mathematics scores than students who put in such effort "more than half of the time."

Self-efficacy refers to a student's belief that, by engaging in specific activities, they can produce desired effects, such as achieving a personal goal. Self-efficacy may be of crucial interest to mathematics educators, since this belief has a considerable impact when students are facing higher-level academic/mathematical challenges. In PISA 2022, students were asked to respond to two sets of items that gauged their feelings about their ability to resolve mathematics problems. For Canada overall, a majority of respondents felt confident or very confident that they could solve applied mathematics problems. However, overall, a smaller proportion of students reported feeling confident or very confident about applying their skills to solve reasoning or 21st-century mathematics problems. A positive relationship exists between students' confidence in their ability to resolve mathematics problems and their performance in mathematics: average scores were significantly lower for students with less self-efficacy in mathematics and higher for those with more self-efficacy.

As was observed in PISA 2012 and 2018, students with high levels of anxiety about mathematics do not perform as well, on average, as students with lower levels of anxiety about the domain. In PISA 2022, students were asked about their level of agreement with a set of six items gauging their anxiety with regard to various mathematics activities. On average, in Canada, a difference of 66 points was observed in the scores of students who strongly agreed that they often worried that their mathematics classes would be difficult for them compared with those who strongly disagreed with that statement. The most notable performance gaps at the provincial level were observed in Nova Scotia and Alberta, with a difference of 95 points and 87 points, respectively, between the two groups.

COVID-19 in Canada: school closures and students' learning and well-being

The COVID-19 pandemic affected the way students learn, as a result of school closures and other measures of public health (e.g., distancing, masks, etc.) put in place in schools. The types of devices used and school supports offered during those closures varied across countries and provinces.

Similarly to students across OECD countries, students in Canada often used their own digital device for schoolwork during school closures. On average, over two-thirds (68 percent) of Canadian students used their own laptop, desktop computer, or tablet during closures; the proportions ranged from 50 percent in Newfoundland and Labrador to 75 percent in Ontario. Other students used their smartphone (15 percent), a digital device they shared with their family (6 percent), or a digital device lent by the school (10 percent). A small number (1 percent) did not use a digital device. The type and ownership of digital device that students used during school closures were associated with students' achievement in mathematics. While the students who worked on their own computer/tablet had an average mathematics score of 519, the small minority of students who did not have digital devices had an average mathematics score of 428 — a substantial and statistically significant difference. Those students who used their smartphones also had lower achievement (474) than those who used their own computers/tablets.

During COVID-19-related closures, Canadian schools used a variety of approaches to support students' remote learning. While some of these appear to be associated with higher achievement, it is important to further explore the accessibility and availability of these resources, materials, and supports.

Final statement

The results of PISA 2022 reveal that Canada continues to perform well in mathematics. A majority of students in Canada have attained the level of mathematics proficiency required to take advantage of further learning opportunities and to participate fully in modern society. In spite of these results, declining mathematics scores in Canada overall and all provinces since PISA 2003 suggest that there is cause for concern. For numerous students, mathematics continues to present a challenge; notably, one in five Canadian students performed at the lowest levels of proficiency (below Level 2). A persistent gender gap favouring boys also continues to exist.

Results from this assessment provide an opportunity to confirm the success of our world-class education systems from a global perspective. Canada remains in the group of top-performing countries in all three domains and achieves its standing with relatively equitable outcomes.

While students around the world faced challenges to their academic progress during the COVID-19 crisis, school systems across Canada deployed a remarkable array of strategies to try to ensure that students remained engaged and continued to learn. While findings suggest that some of these strategies were associated with higher achievement, it is important to conduct further research that also considers the equity implications of the use of such strategies and their relative ability to reach students in different settings and from different backgrounds. It also remains to be seen how school systems will bounce back in the coming years.

While it can be tempting to make inferences about the role of the COVID-19 pandemic on changes in performance since PISA 2018, the results must be considered in a wider context. Changes in performance between PISA cycles may be affected by many factors that vary by jurisdiction, such as the evolution of education systems, changes in education policies, economic developments, and changes in social norms and expectations. Analyzing the potential impact of such factors (including the COVID-19 pandemic) on performance goes beyond the scope of this report. Moreover, the comparative approach taken in this report does not lend itself to developing causal explanations for changes over time. The report provides information for

ministries/departments of education as well as for education partners, contributing to their ability to validate current education policies, learning outcomes, and teaching approaches and strategies, as well as to allocate resources to ensure that they continue meeting the needs of our society.

While this report has looked at the association between selected background variables and performance in mathematics, further analysis of the information collected through PISA will help provide a better understanding of the extent to which other important background variables are related to the differences in performance highlighted here.

The 15-year-olds who participated in PISA 2022 will eventually become adults responsible for the success of our economy, so it is important to both celebrate the successes and address the challenges highlighted in this report. It is essential that our education systems contribute significantly to preparing Canadian youth for full participation in our modern society for the generations to come.

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Appendix A

PISA 2022 Sampling Procedures, Exclusion Rates, Response Rates, and Non-Response Bias Analysis

The accuracy of PISA survey results depends on the quality of the information on which the sample is based, as well as the sampling procedures. The PISA 2022 sample for Canada was based on a two-stage stratified sample. The first stage consisted of sampling individual schools in which 15-year-old students were enrolled. Schools were sampled systematically, with probabilities proportional to size (the measure of size being a function of the estimated number of eligible (15-year-old) students enrolled in the school). While a minimum of 150 schools were required to be selected in each country, in Canada a much larger sample of schools was selected in order to produce reliable estimates for each province and for both the anglophone and francophone school systems in Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan, Alberta, and British Columbia.

The second stage of the selection process sampled students within schools. Once schools were selected, a list of all 15-year-old students (based on birth year, regardless of grade) in each school was prepared. From this list, up to 42 students from each school were then selected, with equal probability. All 15-year-old students were selected if fewer than 42 were enrolled in a given school. More than 42 students were selected in some schools from the francophone school systems in Nova Scotia, Manitoba, and British Columbia in order to meet sample size requirements. Additionally, if a province participated in the financial literacy (FL) international option, the design required that the number of students in each school in that province be increased to 53 so that, for each school, 42 students were selected for the regular PISA test plus 11 additional students for the FL assessment. All provinces participated in the FL option, with the exception of Quebec and Saskatchewan.

Each country participating in PISA attempted to maximize the coverage of the assessment's target population within the sampled schools. This was especially important for the 2022 cycle, which, although delayed for a year (it had originally been scheduled to take place in 2021), was still affected by the pandemic and, as a result, had a high risk of low participation rates. Within each sampled school in Canada, all eligible students were first listed. Tables A.1a and A.1b show the total number of excluded students by province, who are further described and classified into specific categories in accordance with the international technical standards. Students could be excluded from PISA if they fell into any of the following four categories:

1) *functional disability*: a student has a moderate-to-severe permanent physical disability such that they cannot participate in the PISA testing situation

2) *intellectual disability*: a student has a cognitive, behavioural, and/or socio-emotional disability such that they cannot perform in the PISA testing situation

3) *limited proficiency in the assessment language:* a student is not a native speaker of any of the languages of the assessment in the country, has limited proficiency in these languages, and would be unable to overcome the language barrier in the PISA testing situation (typically a student who has received less than one year of instruction in the language of the assessment)

4) *online/virtual students*: students who were learning remotely on a regular basis, and not attending in-person instruction, at the time of the PISA assessment[12]

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[12] This is a new category added only for the PISA 2022 cycle to account for students who were participating in virtual/online instruction on a regular basis as a result of the COVID-19 pandemic. These students were not attending in-person instruction at the time of the administration of PISA and thus could not participate in the assessment.

School staff determined whether a student fit into any of these categories.

The weighted total exclusion rate for Canada overall was 5.8 percent, which exceeds the maximum exclusion rate of 5 percent allowed by technical standards in PISA. The weighted school exclusion rate for Canada was 1.5 percent, while the weighted student exclusion rate was 4.4 percent (Table A.1a). The weighted student exclusion rate ranged from 1.6 percent in Prince Edward Island to 6.7 percent in Ontario. Across most provinces, with the exception of Prince Edward Island, Ontario, and Manitoba, the category with the highest percentage of exclusions was category 2 (students with an intellectual disability). In contrast, in Prince Edward Island, the highest percentage of exclusions was in category 3 (students with limited language skills); in Ontario and Manitoba, as well as in Canada overall, it was in category 4 (online/virtual students) (Table A.1b). Even though the PISA 2022 cycle was uniquely impacted by the COVID-19 pandemic, further steps will be required in future PISA cycles to address the issue of high exclusion rates for schools and students in some provinces.

Table A.1a						
PISA 2022 student exclusion rate						
Canada or province	Total number of eligible students sampled (participating, not participating, and excluded)		Total number of students excluded		Student exclusion rate	
	Unweighted*	Weighted**	Unweighted*	Weighted**	Unweighted*	Weighted**
Newfoundland and Labrador	1,403	5,237	24	112	1.7	2.1
Prince Edward Island	420	1,617	8	26	1.9	1.6
Nova Scotia	2,098	8,917	53	187	2.5	2.1
New Brunswick	2,017	7,516	56	198	2.8	2.6
Quebec	5,305	79,933	97	1,349	1.8	1.7
Ontario	7,803	143,995	508	9,689	6.5	6.7
Manitoba	3,347	14,368	72	310	2.2	2.2
Saskatchewan	2,799	11,879	99	434	3.5	3.7
Alberta	2,134	52,249	56	1,768	2.6	3.4
British Columbia	3,028	48,590	147	2,316	4.9	4.8
Canada	**30,354**	**374,301**	**1,120**	**16,390**	**3.7**	**4.4**

* Based on students selected to participate.
** Weighted based on student enrolment, such that the total weighted value represents all 15-year-olds enrolled in the province and not just those selected for PISA.

PISA 2022 student exclusion rate by type of exclusion

Canada or province	Students with a physical disability		Students with an intellectual disability		Students with limited language skills		Online/virtual students	
	Unweighted*	Weighted**	Unweighted*	Weighted**	Unweighted*	Weighted**	Unweighted*	Weighted**
	%	%	%	%	%	%	%	%
Newfoundland and Labrador	0.14	0.16	0.78	0.96	0.36	0.39	0.43	0.62
Prince Edward Island	0.00	0.00	0.95	0.76	0.95	0.84	0.00	0.00
Nova Scotia	0.05	0.02	1.53	1.46	0.33	0.25	0.62	0.37
New Brunswick	0.15	0.11	1.83	1.67	0.15	0.11	0.64	0.75
Quebec	0.04	0.03	0.89	0.82	0.28	0.36	0.62	0.48
Ontario	0.17	0.16	1.82	1.76	0.32	0.41	4.20	4.40
Manitoba	0.24	0.25	0.60	0.78	0.15	0.16	1.17	0.98
Saskatchewan	0.25	0.30	2.29	2.23	0.29	0.32	0.71	0.80
Alberta	0.33	0.32	0.80	1.44	0.84	1.07	0.66	0.55
British Columbia	0.50	0.52	2.97	2.77	0.43	0.41	0.96	1.07
Canada	**0.19**	**0.20**	**1.53**	**1.60**	**0.34**	**0.47**	**1.63**	**2.11**

* Based on students selected to participate.

** Weighted based on student enrolment, such that the total weighted value represents all 15-year-olds enrolled in the province and not just those selected for PISA.

To minimize the potential for response bias, data technical standards in PISA require minimum participation rates for schools and students. At the country level, a minimum response rate of 85 percent was required for schools initially selected to participate (schools with student participation rates of less than 33 percent were not counted as participating). PISA 2022 also required a minimum student participation rate of 80 percent within all participating schools combined (originally sampled and replacement schools[13]).

If these technical standards are not met, a non-response bias analysis (NRBA) is required to determine whether the data are of acceptable quality for inclusion in the PISA data set. The main objective of the NRBA analysis is to assess whether the participating schools and students differ in comparison to the non-respondent schools and students, and to the entire PISA sample within each province (after weighting adjustments have been applied), using student and school demographic and achievement data.

Table A.2 shows the response rates for schools and students, before and after replacement, for Canada and the 10 provinces. In Canada, 1,166 schools in total were selected to participate in PISA 2022, and 828 of these initially selected schools participated. Rather than calculating school participation rates by dividing the number of participating schools by the total number of schools, school response rates were weighted based on the enrolment numbers for 15-year-olds in each school.

Across Canada, the weighted school response rate before replacement was 81.3 percent. At the provincial level, weighted school response rates before replacement ranged from 47.6 percent in Alberta to 99 percent in Newfoundland and Labrador.

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[13] Replacement schools for each sampled school were selected at the same time as the originally sampled schools, in case an originally sampled school was not able to participate.

Canada was required to complete a non-response bias analysis for school-response rate

Where the weighted school response rates before replacement were below the international technical standard of 85 percent, an NRBA was required. Specifically, in Canada, a non-response bias analysis was undertaken for two provinces: Alberta and Quebec (where weighted school response rates before replacement were 47.5 and 62.1 percent, respectively).

The school non-response bias analysis was conducted by Statistics Canada. The achievement variables used for the analysis in each province were as follows:

- Quebec: school-level means of provincial exam marks in mathematics and science, and French reading course results (at the Secondary IV level) for the schools selected for PISA 2022
- Alberta: school-level means of mathematics, English language arts, and science course marks (at the Grade 9 level) for the schools selected for PISA 2022

Non-response bias analysis revealed no potential bias at the school level

The NRBA showed no significant differences between the achievement indicators (i.e., school results provided by the ministry or department of education) for PISA 2022 responding schools and non-responding schools, or for responding schools and all selected schools (responding and non-responding), with weighting adjustments. Overall, no evidence of non-response bias at the school level in Alberta and Quebec was observed..

Canada was required to complete a non-response bias analysis for student-response rate

At the student level, PISA defines a student as "assessed" when one of the following criteria is met: (a) a student has answered a minimum number of background questionnaire items and at least one cognitive item; or (b) a student has answered more than half of the items on the testing form.

In Canada, 29,234 students in total were selected to participate in PISA 2022, and 23,073 students participated (Table A.2). The number of students that participated includes students who wrote the UH (*une heure*, or one-hour) version of the PISA test. The UH Test is a shorter version of PISA, which was assigned to students with special education needs who did not meet the exclusion criteria but could not successfully complete the full version of the PISA assessment. For PISA 2022 in Canada, a total of 723 students successfully wrote the UH Test, and their results are included in the data analyses in this report.

In PISA 2022, Canada's weighted student response rate after replacement was 77 percent. At the provincial level, weighted student response rates after replacement ranged from 63 percent in Alberta to 86 percent in Prince Edward Island (Table A.2). Compared to PISA 2018, the weighted student participation rates after replacement decreased in all participating provinces. However, when comparing participation rates across cycles, it is important to take into consideration COVID-19-related impacts on school and student participation rates.

Where the weighted student response rates after replacement were below the international technical standard of 80 percent, an NRBA was required. A student NRBA was undertaken in seven provinces: Newfoundland and Labrador, Nova Scotia, Quebec, Ontario, Manitoba, Alberta, and British Columbia.

The student NRBA was also conducted by Statistics Canada. Individual student-level achievement data for the students selected for PISA 2022 were used for the analysis. In Quebec, students from anglophone and francophone school systems were included in the analysis, as the student response rate was not met for either group. In the remaining six provinces, students from only anglophone school systems were included in the analysis, as the required minimum student response rate for francophone students was met.

The achievement data used differed from province to province:

- individual student-level course achievement data (Grade 10 mathematics, reading, and science marks for students in Newfoundland and Labrador; Grade 10 English reading and mathematics marks for student in Nova Scotia; Secondary IV reading, science, and mathematics marks for students in Quebec; Grade 6 mathematics, English language arts, and science marks for students in Alberta)
- individual student-level provincial assessment data (Grade 10 provincial reading assessment theta scores for students in Ontario; Grade 8 reading assessment outcomes for students in Manitoba; and Grade 10 numeracy and reading assessment outcomes for students in British Columbia)

Non-response bias analysis revealed potential bias at the student level in seven provinces and Canada overall

The NRBA showed differences in student academic achievement for the provided variables between the PISA 2022 respondent and non-respondent anglophone students, as well as between respondent and all selected anglophone students (respondent and non-respondent), with weighting adjustments. This finding was consistent across all seven provinces and Canada overall. On average, respondents in anglophone school systems showed higher mean scores in comparison to the non-respondents and all the selected students. The findings for students in the francophone school system in Quebec were inconclusive.

In summary, the analysis showed evidence of a potential non-response bias at the student level in anglophone schools in Newfoundland and Labrador, Nova Scotia, Quebec, Ontario, Manitoba, Alberta, British Columbia, and Canada overall.

Table A.2									
PISA 2022 school and student response rates									
Canada or province	**Total number of selected schools (participating and not participating)**	**School response rate before replacement**		**School response rate after replacement**		**Total number of eligible students sampled (participating and not participating)**		**Total number of students participating**		**Weighted % student participation rate after replacement (participating and not participating)**
		Number	Weighted %	Number	Weighted %	Unweighted	Weighted	Unweighted	Weighted	
Newfoundland and Labrador	53	47	99.0	47	99.0	1,379	5,095	1,053	3,870	75.9
Prince Edward Island	22	16	97.4	18	98.5	412	1,564	357	1,347	86.1
Nova Scotia	76	62	92.0	62	92.0	2,045	8,050	1,590	6,227	77.3
New Brunswick	68	55	98.5	55	98.5	1,961	7,193	1,653	6,091	84.7
Quebec	191	121	62.1	133	69.9	5,208	54,938	4,137	43,559	79.3
Ontario	220	190	92.8	196	95.8	7,295	128,083	5,918	101,306	79.1
Manitoba	138	103	95.3	106	95.9	3,275	13,488	2,629	10,759	79.8
Saskatchewan	126	95	96.9	99	97.9	2,700	11,207	2,276	9,439	84.2
Alberta	140	53	47.6	64	57.0	2,078	28,655	1,330	18,021	62.9
British Columbia	132	86	96.0	87	97.4	2,881	45,347	2,130	33,155	73.1
Canada	**1,166**	**828**	**81.3**	**867**	**85.6**	**29,234**	**303,622**	**23,073**	**233,773**	**77.0**

Note: School response rates were weighted based on student enrolment.

Non-response bias conclusion

Based on the NRBA, which was deemed thorough and technically strong, the PISA international consortium judged that the Canadian data overall were of suitable quality to be included fully in the PISA data sets. However, the results for Canada overall, as well as for Newfoundland and Labrador, Nova Scotia, Quebec, Ontario, Manitoba, Alberta, and British Columbia are to be treated with caution because of a possible non-response bias at the student level, and should be annotated accordingly in all international regional analyses and national reporting.

Appendix B

PISA 2022 Data Tables

Results for Canada and most provinces (except Prince Edward Island, New Brunswick, and Saskatchewan), as well as for certain other countries, should be treated with caution because one or more PISA technical standards were not met (see Appendix A and OECD [2023a] for further details).

Table B.1.1a

Percentage of students at each proficiency level: MATHEMATICS

Country, province, or OECD average	Below Level 1a		Level 1a		Level 2		Level 3		Level 4		Level 5		Level 6	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Singapore	2.2	(0.2)	5.9	(0.4)	11.2	(0.6)	17.6	(0.6)	22.6	(0.7)	22.0	(0.7)	18.6	(0.5)
Macao (China)	1.9	(0.2)	6.5	(0.5)	14.4	(0.7)	23.2	(0.8)	25.4	(1.1)	18.4	(0.8)	10.2	(0.5)
Japan	3.2	(0.4)	8.8	(0.7)	16.0	(0.8)	24.0	(0.9)	25.1	(1.0)	16.2	(0.8)	6.8	(0.7)
Hong Kong (China)	4.8	(0.5)	9.1	(0.6)	14.8	(0.8)	21.0	(0.8)	23.1	(0.9)	16.7	(0.7)	10.6	(0.8)
Chinese Taipei	5.4	(0.5)	9.2	(0.6)	13.5	(0.8)	18.7	(0.9)	21.5	(0.8)	18.0	(0.9)	13.7	(1.2)
Estonia	3.4	(0.4)	11.6	(0.6)	23.3	(0.8)	27.3	(1.0)	21.3	(0.9)	9.9	(0.6)	3.2	(0.3)
Korea	6.0	(0.8)	10.2	(0.8)	16.7	(0.8)	22.0	(0.9)	22.2	(1.0)	14.4	(0.9)	8.5	(0.8)
Quebec	**5.5**	**(0.6)**	**11.2**	**(0.8)**	**19.3**	**(1.1)**	**25.0**	**(1.3)**	**22.7**	**(1.2)**	**12.7**	**(1.1)**	**3.7**	**(0.5)**
Ireland	4.8	(0.4)	14.2	(0.7)	25.9	(0.8)	29.0	(0.9)	18.8	(0.7)	6.2	(0.5)	1.0	(0.2)
Switzerland	6.2	(0.5)	13.2	(0.7)	20.5	(0.7)	23.5	(0.8)	20.4	(0.8)	11.9	(0.7)	4.2	(0.4)
Denmark	5.3	(0.4)	15.1	(0.7)	26.3	(0.9)	28.1	(0.8)	17.5	(0.8)	6.5	(0.5)	1.3	(0.2)
British Columbia	**6.8**	**(1.0)**	**14.5**	**(1.2)**	**23.5**	**(1.4)**	**24.8**	**(1.4)**	**18.4**	**(1.2)**	**8.7**	**(0.9)**	**3.4**	**(0.6)**
Alberta	**6.6**	**(1.1)**	**14.8**	**(1.5)**	**21.0**	**(1.9)**	**23.6**	**(1.8)**	**19.0**	**(1.6)**	**10.0**	**(1.4)**	**5.0**	**(1.0)**
Ontario	**6.6**	**(0.6)**	**14.9**	**(0.9)**	**23.5**	**(0.9)**	**25.6**	**(1.1)**	**17.6**	**(0.9)**	**8.4**	**(0.7)**	**3.3**	**(0.5)**
Canada	**6.9**	**(0.4)**	**14.7**	**(0.4)**	**22.7**	**(0.5)**	**24.8**	**(0.5)**	**18.5**	**(0.5)**	**9.1**	**(0.4)**	**3.3**	**(0.2)**
Latvia	5.5	(0.5)	16.7	(0.7)	28.4	(0.9)	27.2	(0.9)	15.8	(0.8)	5.2	(0.4)	1.2	(0.2)
Poland	7.6	(0.6)	15.4	(0.8)	23.8	(0.9)	25.6	(0.9)	18.2	(0.7)	7.5	(0.5)	1.9	(0.3)
United Kingdom	9.0	(0.5)	15.3	(0.7)	23.1	(0.7)	24.2	(0.8)	17.1	(0.7)	8.2	(0.6)	3.1	(0.4)
Slovenia	7.7	(0.5)	16.9	(0.7)	25.7	(0.9)	24.2	(0.9)	16.1	(0.7)	7.5	(0.4)	1.9	(0.3)
Austria	9.2	(0.7)	15.7	(0.7)	22.5	(0.7)	24.2	(0.7)	18.1	(0.7)	8.1	(0.5)	2.2	(0.2)
Finland	8.4	(0.4)	16.4	(0.6)	23.7	(0.7)	25.5	(0.7)	17.4	(0.6)	7.0	(0.5)	1.5	(0.2)
Belgium	9.6	(0.6)	15.3	(0.6)	21.5	(0.7)	23.5	(0.8)	18.6	(0.7)	8.9	(0.5)	2.6	(0.2)
Czech Republic	8.4	(0.5)	17.1	(0.7)	23.2	(0.7)	23.4	(0.8)	17.3	(0.7)	8.1	(0.5)	2.5	(0.3)
Australia	9.8	(0.4)	16.5	(0.5)	22.8	(0.6)	22.3	(0.7)	16.2	(0.5)	8.8	(0.4)	3.5	(0.3)
Sweden	10.4	(0.6)	16.8	(0.6)	22.6	(0.7)	23.5	(0.8)	16.7	(0.8)	7.8	(0.5)	2.1	(0.3)
Spain	9.7	(0.5)	17.6	(0.5)	26.2	(0.5)	25.4	(0.5)	15.2	(0.4)	5.0	(0.3)	0.9	(0.1)
Netherlands	12.2	(1.3)	15.2	(0.9)	18.2	(0.8)	19.8	(1.0)	19.2	(0.9)	11.7	(0.7)	3.7	(0.4)
Prince Edward Island	**9.0**	**(1.9)**	**18.4**	**(2.7)**	**24.2**	**(3.5)**	**24.0**	**(3.7)**	**17.9**	**(3.2)**	**U‡**	**(1.9)**	**U‡**	**(1.1)**
Lithuania	8.7	(0.6)	19.1	(0.8)	26.5	(0.7)	24.0	(0.8)	14.5	(0.6)	5.8	(0.5)	1.4	(0.2)
Vietnam	9.5	(1.1)	18.6	(1.1)	28.1	(1.2)	24.7	(1.0)	13.6	(0.9)	4.5	(0.6)	0.9	(0.3)
Manitoba	**9.4**	**(1.0)**	**19.1**	**(1.0)**	**27.1**	**(1.3)**	**24.6**	**(1.1)**	**14.0**	**(1.0)**	**4.8**	**(0.7)**	**0.9‡**	**(0.3)**
New Zealand	11.6	(0.7)	17.2	(0.8)	22.9	(0.7)	22.6	(0.8)	15.4	(0.7)	7.4	(0.6)	2.9	(0.3)
France	11.0	(0.7)	17.8	(0.7)	24.2	(0.7)	23.9	(0.7)	15.7	(0.7)	6.2	(0.5)	1.1	(0.2)

Percentage of students at each proficiency level: MATHEMATICS

Country, province, or OECD average	Below Level 1a		Level 1a		Level 2		Level 3		Level 4		Level 5		Level 6	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Hungary	12.2	(0.7)	17.3	(0.9)	23.8	(0.9)	23.8	(0.9)	15.1	(0.7)	6.3	(0.5)	1.6	(0.3)
Germany	11.5	(0.9)	18.0	(0.8)	23.6	(0.9)	23.0	(0.9)	15.3	(0.8)	6.7	(0.5)	1.9	(0.2)
Italy	10.1	(0.7)	19.5	(0.9)	26.0	(0.9)	23.2	(0.8)	14.2	(0.9)	5.7	(0.6)	1.2	(0.2)
Portugal	10.4	(0.9)	19.3	(0.7)	25.0	(0.8)	23.0	(0.8)	15.6	(0.7)	5.5	(0.4)	1.1	(0.2)
Saskatchewan	**9.9**	**(1.1)**	**20.1**	**(1.2)**	**27.8**	**(1.6)**	**22.9**	**(1.4)**	**13.6**	**(1.2)**	**4.6**	**(0.7)**	**1.1‡**	**(0.3)**
Nova Scotia	**10.7**	**(1.3)**	**20.6**	**(1.5)**	**25.0**	**(1.7)**	**22.3**	**(1.8)**	**14.2**	**(1.4)**	**5.6**	**(0.8)**	**1.7‡**	**(0.5)**
New Brunswick	**10.6**	**(1.0)**	**20.8**	**(1.4)**	**25.5**	**(1.8)**	**23.7**	**(1.6)**	**13.0**	**(1.1)**	**4.9**	**(0.8)**	**1.6‡**	**(0.4)**
Norway	12.8	(0.6)	18.7	(0.7)	23.8	(0.7)	23.0	(0.8)	14.9	(0.6)	5.5	(0.4)	1.4	(0.2)
Malta	15.6	(0.7)	17.0	(0.8)	22.3	(1.1)	22.7	(0.9)	15.2	(1.0)	5.7	(0.6)	1.5	(0.2)
Croatia	11.4	(0.8)	21.5	(0.8)	26.8	(0.8)	21.7	(0.9)	12.7	(0.7)	4.9	(0.5)	1.0	(0.2)
Slovak Republic	16.1	(1.1)	17.1	(0.9)	22.0	(1.0)	22.6	(0.8)	14.9	(0.7)	5.7	(0.4)	1.6	(0.2)
Newfoundland and Labrador	**12.3**	**(1.9)**	**21.5**	**(1.9)**	**27.6**	**(2.3)**	**22.2**	**(2.3)**	**11.6**	**(1.5)**	**4.0**	**(1.1)**	**U‡**	**(0.4)**
United States	13.1	(1.0)	20.8	(1.0)	23.9	(0.8)	21.5	(0.9)	13.3	(0.8)	5.7	(0.7)	1.6	(0.3)
Iceland	13.1	(0.6)	21.0	(0.8)	26.2	(0.8)	22.4	(0.8)	12.4	(0.8)	4.2	(0.5)	0.7‡	(0.2)
Israel	18.9	(1.0)	18.4	(0.8)	21.1	(0.8)	19.7	(0.8)	13.6	(0.8)	6.2	(0.5)	2.2	(0.4)
Türkiye	14.8	(0.7)	23.9	(0.7)	25.3	(0.7)	19.2	(0.7)	11.3	(0.6)	4.6	(0.4)	0.9	(0.2)
Brunei Darussalam	15.9	(0.4)	26.0	(0.7)	27.3	(0.6)	18.6	(0.6)	9.2	(0.5)	2.8	(0.3)	U‡	(0.1)
Ukrainian regions (18 of 27)	18.1	(1.6)	24.3	(1.3)	25.9	(1.2)	19.2	(1.2)	9.3	(0.8)	2.7	(0.4)	U‡	(0.2)
Serbia	18.1	(0.9)	25.0	(0.8)	26.3	(0.9)	18.1	(0.8)	8.8	(0.5)	3.0	(0.5)	U	(0.4)
Greece	20.4	(1.0)	26.8	(0.8)	26.0	(0.8)	17.3	(0.7)	7.5	(0.5)	1.8	(0.3)	U‡	(0.1)
Romania	25.6	(1.4)	22.9	(1.0)	22.3	(0.9)	16.4	(0.9)	8.7	(0.7)	3.2	(0.5)	0.8	(0.2)
United Arab Emirates	25.7	(0.4)	23.3	(0.4)	21.1	(0.4)	15.3	(0.4)	9.2	(0.3)	4.0	(0.2)	1.3	(0.1)
Kazakhstan	19.5	(0.7)	30.1	(0.6)	27.5	(0.7)	15.6	(0.5)	5.7	(0.3)	1.4	(0.2)	U	(0.1)
Mongolia	21.6	(0.9)	29.5	(0.8)	25.1	(0.7)	15.1	(0.7)	6.4	(0.5)	1.9	(0.4)	U‡	(0.1)
Cyprus	30.5	(0.7)	22.7	(0.7)	20.5	(0.7)	14.5	(0.5)	8.0	(0.5)	3.1	(0.3)	0.8	(0.1)
Bulgaria	29.4	(1.2)	24.2	(0.9)	21.2	(0.9)	14.5	(0.8)	7.5	(0.7)	2.5	(0.4)	U	(0.2)
Chile	25.0	(1.1)	30.7	(0.8)	26.0	(0.8)	13.5	(0.6)	4.1	(0.4)	0.6	(0.1)	U‡	(0.0)
Moldova	24.6	(0.9)	31.1	(0.9)	24.8	(0.7)	13.3	(0.8)	4.9	(0.5)	1.1	(0.2)	U‡	(0.1)
Qatar	28.5	(0.7)	28.0	(1.0)	22.3	(0.7)	12.5	(0.6)	6.0	(0.4)	2.1	(0.2)	0.6	(0.1)
Uruguay	28.6	(1.0)	27.9	(0.8)	24.1	(0.7)	13.6	(0.6)	4.9	(0.4)	0.9	(0.2)	U‡	(0.0)
Malaysia	26.5	(1.0)	32.5	(0.9)	24.8	(0.9)	11.4	(0.6)	3.7	(0.4)	0.9	(0.3)	U‡	(0.2)
Montenegro	30.2	(0.7)	29.3	(0.8)	22.4	(0.8)	12.5	(0.5)	4.7	(0.3)	0.9	(0.1)	U‡	(0.1)
Baku (Azerbaijan)	34.3	(1.1)	27.6	(0.8)	21.7	(0.8)	11.7	(0.6)	3.9	(0.4)	0.7	(0.2)	U‡	(0.0)
Mexico	30.8	(1.2)	35.1	(1.1)	23.0	(0.9)	9.0	(0.7)	2.0	(0.3)	U‡	(0.1)	U‡	(0.0)
Peru	35.7	(1.2)	30.5	(0.7)	20.8	(0.8)	9.7	(0.6)	2.8	(0.3)	0.5	(0.1)	U‡	(0.0)
North Macedonia	38.6	(0.7)	27.7	(0.8)	19.9	(0.6)	10.1	(0.4)	3.1	(0.3)	0.6	(0.1)	U‡	(0.0)
Georgia	38.0	(1.0)	28.4	(0.8)	19.6	(0.7)	9.4	(0.5)	3.4	(0.4)	1.0	(0.3)	U‡	(0.1)
Thailand	34.1	(1.2)	34.2	(1.0)	19.4	(0.8)	8.1	(0.7)	3.2	(0.4)	0.8	(0.2)	U	(0.1)
Saudi Arabia	33.4	(1.0)	36.6	(0.9)	21.7	(0.8)	6.7	(0.5)	1.3	(0.2)	U‡	(0.1)	U‡	(0.0)
Colombia	39.0	(1.9)	32.3	(1.0)	19.1	(1.0)	7.7	(0.6)	1.7	(0.3)	U‡	(0.1)	U‡	(0.0)
Costa Rica	35.3	(1.3)	36.5	(1.1)	20.9	(0.9)	6.0	(0.5)	1.1	(0.2)	U‡	(0.1)	U‡	(0.0)
Argentina	42.1	(1.3)	30.8	(0.8)	18.1	(0.8)	6.9	(0.5)	1.7	(0.2)	0.3	(0.1)	U‡	(0.0)
Brazil	43.1	(0.9)	30.3	(0.7)	16.7	(0.6)	7.0	(0.4)	2.4	(0.3)	0.5	(0.1)	U‡	(0.0)
Jamaica	42.5	(2.0)	31.3	(1.3)	17.5	(1.2)	7.1	(0.7)	1.4	(0.3)	U‡	(0.1)	0.0‡	(0.0)
Albania	48.5	(1.2)	25.4	(0.7)	16.2	(0.7)	7.1	(0.4)	2.1	(0.3)	0.6	(0.2)	U‡	(0.1)

Percentage of students at each proficiency level: MATHEMATICS

Country, province, or OECD average	Below Level 1a		Level 1a		Level 2		Level 3		Level 4		Level 5		Level 6	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Palestinian Authority	47.9	(1.2)	32.1	(0.9)	15.2	(0.7)	4.1	(0.4)	0.7	(0.2)	U‡	(0.0)	U‡	(0.0)
Uzbekistan	48.9	(1.3)	31.8	(0.8)	14.4	(0.8)	4.2	(0.5)	0.7	(0.2)	U‡	(0.0)	U‡	(0.0)
Morocco	49.1	(2.2)	32.5	(1.2)	14.0	(1.1)	3.9	(0.7)	U‡	(0.3)	U‡	(0.0)	0.0‡	(0.0)
Indonesia	47.8	(1.7)	33.8	(1.2)	14.1	(0.9)	3.8	(0.5)	0.5	(0.1)	U‡	(0.0)	U‡	(0.0)
Jordan	49.6	(1.4)	33.2	(1.0)	13.9	(0.9)	3.0	(0.4)	U‡	(0.1)	U‡	(0.0)	0.0‡	(0.0)
Panama	54.1	(1.7)	29.7	(1.3)	12.1	(1.0)	3.3	(0.7)	U‡	(0.3)	U‡	(0.0)	0.0‡	(0.0)
Philippines	56.3	(1.6)	27.7	(0.9)	12.2	(0.9)	3.2	(0.4)	0.5	(0.2)	U‡	(0.1)	0.0‡	(0.0)
Kosovo	55.4	(0.9)	29.6	(0.9)	11.7	(0.6)	2.9	(0.3)	U‡	(0.1)	U‡	(0.0)	0.0‡	(0.0)
Paraguay	61.2	(1.2)	24.3	(1.0)	11.0	(0.7)	3.0	(0.4)	0.6‡	(0.2)	U‡	(0.0)	0.0‡	(0.0)
Guatemala	58.7	(1.2)	28.2	(1.0)	10.5	(0.8)	2.3	(0.5)	U‡	(0.2)	U‡	(0.0)	U‡	(0.0)
Cambodia	61.9	(1.5)	26.1	(1.1)	9.5	(0.9)	2.2	(0.5)	U‡	(0.2)	U‡	(0.0)	U‡	(0.0)
El Salvador	62.8	(1.5)	26.5	(1.0)	8.8	(0.7)	1.7	(0.3)	U‡	(0.1)	0.0‡	(0.0)	0.0‡	(0.0)
Dominican Republic	66.0	(1.3)	26.4	(1.0)	6.7	(0.6)	0.8	(0.2)	U‡	(0.1)	0.0‡	(0.0)	0.0‡	(0.0)
OECD average	**12.4**	**(0.1)**	**18.7**	**(0.1)**	**23.3**	**(0.1)**	**22.0**	**(0.1)**	**14.9**	**(0.1)**	**6.7**	**(0.1)**	**2.0**	**(0.0)**

SE Standard error
‡ There are fewer than 30 observations.
U Too unreliable to be published.
Note: Countries and provinces have been sorted in descending order by the total percentage of students who attained Level 2 or higher. See OECD (2023a) for notes regarding Israeli statistical data, Cyprus, and Kosovo.

Table B.1.1b

Proportion of students who performed below Level 2, at Level 2 or above, and at Levels 5 and 6: MATHEMATICS

Country, province, or OECD average	Proficiency levels					
	Below Level 2		Level 2 or above		Levels 5 and 6	
	%	Standard error	%	Standard error	%	Standard error
Singapore	8.0	(0.4)	92.0	(0.4)	40.5	(0.7)
Macao (China)	8.4	(0.5)	91.6	(0.5)	28.6	(0.8)
Japan	12.0	(1.0)	88.0	(1.0)	23.0	(1.2)
Hong Kong (China)	13.8	(0.9)	86.2	(0.9)	27.2	(1.0)
Chinese Taipei	14.6	(0.9)	85.4	(0.9)	31.7	(1.4)
Estonia	15.0	(0.7)	85.0	(0.7)	13.1	(0.7)
Korea	16.2	(1.2)	83.8	(1.2)	22.9	(1.4)
Quebec	**16.7**	**(1.1)**	**83.3**	**(1.1)**	**16.4**	**(1.3)**
Ireland	19.0	(0.9)	81.0	(0.9)	7.2	(0.5)
Switzerland	19.5	(0.9)	80.5	(0.9)	16.1	(0.7)
Denmark	20.4	(0.8)	79.6	(0.8)	7.7	(0.6)
British Columbia	**21.3**	**(1.7)**	**78.7**	**(1.7)**	**12.1**	**(1.2)**
Alberta	**21.4**	**(1.9)**	**78.6**	**(1.9)**	**15.0**	**(1.8)**
Ontario	**21.6**	**(1.0)**	**78.4**	**(1.0)**	**11.7**	**(0.9)**
Canada	**21.6**	**(0.5)**	**78.4**	**(0.5)**	**12.5**	**(0.5)**
Latvia	22.2	(0.9)	77.8	(0.9)	6.4	(0.5)
Poland	23.0	(1.0)	77.0	(1.0)	9.4	(0.6)
United Kingdom	24.3	(0.8)	75.7	(0.8)	11.3	(0.7)
Slovenia	24.6	(0.8)	75.4	(0.8)	9.4	(0.5)
Austria	24.9	(1.0)	75.1	(1.0)	10.3	(0.6)
Finland	24.9	(0.8)	75.1	(0.8)	8.6	(0.5)
Belgium	25.0	(0.9)	75.0	(0.9)	11.5	(0.6)
Czech Republic	25.5	(0.9)	74.5	(0.9)	10.6	(0.6)
Australia	26.3	(0.7)	73.7	(0.7)	12.3	(0.6)
Sweden	27.2	(0.9)	72.8	(0.9)	10.0	(0.5)
Spain	27.3	(0.7)	72.7	(0.7)	5.9	(0.3)
Netherlands	27.4	(1.8)	72.6	(1.8)	15.4	(0.8)
Prince Edward Island	**27.4**	**(3.2)**	**72.6**	**(3.2)**	**6.5‡**	**(2.0)**
Lithuania	27.8	(0.9)	72.2	(0.9)	7.2	(0.5)
Vietnam	28.2	(1.7)	71.8	(1.7)	5.4	(0.8)
Manitoba	**28.5**	**(1.3)**	**71.5**	**(1.3)**	**5.7**	**(0.7)**
New Zealand	28.8	(0.9)	71.2	(0.9)	10.3	(0.6)
France	28.8	(1.1)	71.2	(1.1)	7.4	(0.5)
Hungary	29.5	(1.1)	70.5	(1.1)	7.8	(0.7)
Germany	29.5	(1.3)	70.5	(1.3)	8.6	(0.6)
Italy	29.6	(1.2)	70.4	(1.2)	7.0	(0.8)
Portugal	29.7	(1.1)	70.3	(1.1)	6.7	(0.4)
Saskatchewan	**30.0**	**(1.3)**	**70.0**	**(1.3)**	**5.7**	**(0.6)**
Nova Scotia	**31.3**	**(1.8)**	**68.7**	**(1.8)**	**7.2**	**(0.9)**
New Brunswick	**31.4**	**(1.5)**	**68.6**	**(1.5)**	**6.4**	**(0.8)**
Norway	31.5	(1.0)	68.5	(1.0)	6.9	(0.4)
Malta	32.6	(0.9)	67.4	(0.9)	7.2	(0.7)
Croatia	32.9	(1.2)	67.1	(1.2)	5.9	(0.5)
Slovak Republic	33.2	(1.3)	66.8	(1.3)	7.3	(0.6)
Newfoundland and Labrador	**33.9**	**(2.9)**	**66.1**	**(2.9)**	**4.7**	**(1.1)**
United States	33.9	(1.7)	66.1	(1.7)	7.3	(0.9)
Iceland	34.1	(0.9)	65.9	(0.9)	4.9	(0.5)
Israel	37.3	(1.3)	62.7	(1.3)	8.4	(0.7)

Proportion of students who performed below Level 2, at Level 2 or above, and at Levels 5 and 6: MATHEMATICS

Country, province, or OECD average	Proficiency levels					
	Below Level 2		Level 2 or above		Levels 5 and 6	
	%	Standard error	%	Standard error	%	Standard error
Türkiye	38.7	(1.0)	61.3	(1.0)	5.4	(0.4)
Brunei Darussalam	41.9	(0.7)	58.1	(0.7)	3.0	(0.3)
Ukrainian regions (18 of 27)	42.4	(2.0)	57.6	(2.0)	3.3	(0.6)
Serbia	43.1	(1.2)	56.9	(1.2)	3.8	(0.9)
Greece	47.2	(1.2)	52.8	(1.2)	2.0	(0.3)
Romania	48.6	(1.9)	51.4	(1.9)	4.0	(0.5)
United Arab Emirates	49.0	(0.5)	51.0	(0.5)	5.3	(0.2)
Kazakhstan	49.6	(1.0)	50.4	(1.0)	1.6	(0.2)
Mongolia	51.1	(1.2)	48.9	(1.2)	2.3	(0.5)
Cyprus	53.2	(0.7)	46.8	(0.7)	3.9	(0.3)
Bulgaria	53.6	(1.5)	46.4	(1.5)	3.1	(0.5)
Chile	55.7	(1.2)	44.3	(1.2)	0.6	(0.1)
Moldova	55.8	(1.3)	44.2	(1.3)	1.3	(0.2)
Qatar	56.5	(0.8)	43.5	(0.8)	2.6	(0.3)
Uruguay	56.5	(1.1)	43.5	(1.1)	1.0	(0.2)
Malaysia	59.0	(1.3)	41.0	(1.3)	U	(0.4)
Montenegro	59.5	(0.8)	40.5	(0.8)	1.0	(0.2)
Baku (Azerbaijan)	61.9	(1.2)	38.1	(1.2)	0.8	(0.2)
Mexico	65.8	(1.3)	34.2	(1.3)	U‡	(0.1)
Peru	66.2	(1.2)	33.8	(1.2)	0.5	(0.1)
North Macedonia	66.2	(0.6)	33.8	(0.6)	0.6	(0.1)
Georgia	66.4	(1.1)	33.6	(1.1)	U	(0.4)
Thailand	68.3	(1.4)	31.7	(1.4)	1.0	(0.3)
Saudi Arabia	70.0	(1.1)	30.0	(1.1)	U‡	(0.1)
Colombia	71.2	(1.5)	28.8	(1.5)	U	(0.1)
Costa Rica	71.8	(1.2)	28.2	(1.2)	U‡	(0.1)
Argentina	72.9	(1.2)	27.1	(1.2)	0.3	(0.1)
Brazil	73.4	(0.9)	26.6	(0.9)	0.6	(0.1)
Jamaica	73.8	(1.8)	26.2	(1.8)	U‡	(0.1)
Albania	73.9	(1.0)	26.1	(1.0)	0.6	(0.2)
Palestinian Authority	79.9	(0.9)	20.1	(0.9)	U‡	(0.0)
Uzbekistan	80.7	(1.0)	19.3	(1.0)	U‡	(0.0)
Morocco	81.6	(1.7)	18.4	(1.7)	U‡	(0.0)
Indonesia	81.7	(1.2)	18.3	(1.2)	U‡	(0.0)
Jordan	82.8	(1.2)	17.2	(1.2)	U‡	(0.0)
Panama	83.9	(1.6)	16.1	(1.6)	U‡	(0.0)
Philippines	84.0	(1.3)	16.0	(1.3)	U‡	(0.1)
Kosovo	85.0	(0.6)	15.0	(0.6)	U‡	(0.0)
Paraguay	85.5	(0.8)	14.5	(0.8)	U‡	(0.0)
Guatemala	86.9	(1.1)	13.1	(1.1)	U‡	(0.0)
Cambodia	88.0	(1.2)	12.0	(1.2)	U‡	(0.0)
El Salvador	89.3	(0.9)	10.7	(0.9)	0.0‡	(0.0)
Dominican Republic	92.4	(0.7)	7.6	(0.7)	0.0‡	(0.0)
OECD average	**31.1**	**(0.2)**	**68.9**	**(0.2)**	**8.7**	**(0.1)**

‡ There are fewer than 30 observations.
U Too unreliable to be published.
Note: Countries and provinces have been sorted in descending order by the total percentage of students who attained Level 2 or higher. See OECD (2023a) for notes regarding Israeli statistical data, Cyprus, and Kosovo.

Average scores and confidence intervals: MATHEMATICS

Country, province, or OECD average	Average	Standard error	Confidence interval – 95% lower limit	Confidence interval – 95% upper limit	Difference from Canadian average		Difference from OECD average	
Singapore	575	(1.2)	572	577	78**	(2.0)	102***	(1.3)
Macao (China)	552	(1.1)	550	554	55**	(1.9)	80***	(1.2)
Chinese Taipei	547	(3.8)	540	554	50**	(4.1)	75***	(3.8)
Hong Kong (China)	540	(3.0)	534	546	43**	(3.4)	68***	(3.0)
Japan	536	(2.9)	530	541	39**	(3.3)	63***	(3.0)
Korea	527	(3.9)	520	535	30**	(4.2)	55***	(3.9)
Quebec	**514**	**(3.9)**	**506**	**521**	**17****	**(3.6)**	**41*** **	**(3.9)**
Estonia	510	(2.0)	506	514	13**	(2.5)	38***	(2.0)
Switzerland	508	(2.1)	504	512	11**	(2.7)	36***	(2.2)
Alberta	**504**	**(5.7)**	**492**	**515**	**7**	**(5.0)**	**31*** **	**(5.7)**
Canada	**497**	**(1.6)**	**494**	**500**	**--**	**--**	**25*** **	**(1.6)**
British Columbia	**496**	**(4.4)**	**488**	**505**	**-1**	**(4.0)**	**24*** **	**(4.4)**
Ontario	**495**	**(3.0)**	**489**	**501**	**-2**	**(2.6)**	**23*** **	**(3.0)**
Netherlands	493	(3.8)	485	500	-4	(4.1)	20***	(3.8)
Ireland	492	(2.0)	488	496	-5**	(2.6)	19***	(2.1)
Belgium	489	(2.2)	485	494	-7**	(2.7)	17***	(2.2)
Denmark	489	(1.9)	485	493	-8**	(2.5)	17***	(2.0)
United Kingdom	489	(2.2)	485	493	-8**	(2.7)	17***	(2.3)
Poland	489	(2.3)	485	493	-8**	(2.8)	17***	(2.3)
Austria	487	(2.3)	483	492	-10**	(2.8)	15***	(2.4)
Australia	487	(1.8)	484	491	-10**	(2.4)	15***	(1.8)
Czech Republic	487	(2.1)	483	491	-10**	(2.6)	15***	(2.1)
Slovenia	485	(1.2)	482	487	-12**	(2.0)	12***	(1.3)
Finland	484	(1.9)	480	488	-13**	(2.4)	12***	(1.9)
Latvia	483	(2.0)	479	487	-14**	(2.6)	11***	(2.1)
Sweden	482	(2.1)	478	486	-15**	(2.6)	9***	(2.1)
New Zealand	479	(2.0)	475	483	-18**	(2.5)	7***	(2.0)
Prince Edward Island	**478**	**(6.6)**	**465**	**491**	**-19****	**(6.9)**	**5**	**(6.7)**
Lithuania	475	(1.8)	472	479	-22**	(2.4)	3	(1.9)
Germany	475	(3.1)	469	481	-22**	(3.4)	2	(3.1)
France	474	(2.5)	469	479	-23**	(2.9)	2	(2.5)
Spain	473	(1.5)	470	476	-24**	(2.2)	1	(1.6)
Hungary	473	(2.5)	468	478	-24**	(3.0)	0	(2.5)
Portugal	472	(2.4)	467	477	-25**	(2.8)	0	(2.4)
Italy	471	(3.1)	465	477	-26**	(3.5)	-1	(3.1)
Manitoba	**470**	**(2.7)**	**465**	**476**	**-26****	**(3.2)**	**-2**	**(2.7)**
Nova Scotia	**470**	**(3.6)**	**463**	**477**	**-27****	**(3.6)**	**-2**	**(3.6)**
Vietnam	469	(3.9)	462	477	-28**	(4.2)	-3	(3.9)
Norway	468	(2.1)	464	472	-28**	(2.6)	-4	(2.1)
New Brunswick	**468**	**(3.1)**	**462**	**474**	**-29****	**(3.3)**	**-5**	**(3.1)**
Saskatchewan	**468**	**(2.6)**	**462**	**473**	**-29****	**(3.0)**	**-5**	**(2.7)**
Malta	466	(1.6)	463	469	-31**	(2.2)	-6***	(1.6)
United States	465	(4.0)	457	473	-32**	(4.3)	-7	(4.0)
Slovak Republic	464	(2.9)	458	470	-33**	(3.3)	-8***	(2.9)
Croatia	463	(2.4)	458	468	-34**	(2.8)	-9***	(2.4)
Iceland	459	(1.6)	456	462	-38**	(2.2)	-13***	(1.6)
Newfoundland and Labrador	**459**	**(5.5)**	**448**	**469**	**-38****	**(5.6)**	**-14*** **	**(5.6)**
Israel	458	(3.3)	451	464	-39**	(3.6)	-14***	(3.3)

Average scores and confidence intervals: MATHEMATICS

Country, province, or OECD average	Average	Standard error	Confidence interval – 95% lower limit	Confidence interval – 95% upper limit	Difference from Canadian average		Difference from OECD average	
Türkiye	453	(1.6)	450	456	-44**	(2.2)	-19***	(1.6)
Brunei Darussalam	442	(0.9)	440	444	-55**	(1.8)	-30***	(1.0)
Ukrainian regions (18 of 27)	441	(4.1)	433	449	-56**	(4.3)	-32***	(4.1)
Serbia	440	(3.0)	434	446	-57**	(3.4)	-32***	(3.0)
United Arab Emirates	431	(0.9)	429	433	-66**	(1.8)	-41***	(1.0)
Greece	430	(2.3)	426	435	-67**	(2.8)	-42***	(2.4)
Romania	428	(4.0)	420	436	-69**	(4.3)	-45***	(4.0)
Kazakhstan	425	(1.7)	422	429	-72**	(2.3)	-47***	(1.7)
Mongolia	425	(2.6)	420	430	-72**	(3.0)	-48***	(2.6)
Cyprus	418	(1.2)	416	421	-79**	(2.0)	-54***	(1.2)
Bulgaria	417	(3.3)	411	424	-80**	(3.7)	-55***	(3.3)
Moldova	414	(2.3)	410	419	-83**	(2.8)	-58***	(2.3)
Qatar	414	(1.1)	412	416	-83**	(1.9)	-58***	(1.2)
Chile	412	(2.1)	408	416	-85**	(2.6)	-61***	(2.1)
Uruguay	409	(2.0)	405	413	-88**	(2.6)	-64***	(2.1)
Malaysia	409	(2.4)	404	413	-88**	(2.9)	-64***	(2.4)
Montenegro	406	(1.1)	403	408	-91**	(1.9)	-67***	(1.2)
Baku (Azerbaijan)	397	(2.4)	392	402	-100**	(2.9)	-75***	(2.4)
Mexico	395	(2.3)	391	399	-102**	(2.8)	-77***	(2.3)
Thailand	394	(2.7)	389	399	-103**	(3.1)	-78***	(2.7)
Peru	391	(2.3)	387	396	-106**	(2.8)	-81***	(2.4)
Georgia	390	(2.4)	385	395	-107**	(2.8)	-82***	(2.4)
Saudi Arabia	389	(1.8)	385	392	-108**	(2.4)	-84***	(1.8)
North Macedonia	389	(0.9)	387	390	-108**	(1.8)	-84***	(1.0)
Costa Rica	385	(1.9)	381	388	-112**	(2.5)	-88***	(1.9)
Colombia	383	(3.0)	377	389	-114**	(3.4)	-90***	(3.1)
Brazil	379	(1.6)	376	382	-118**	(2.2)	-94***	(1.6)
Argentina	378	(2.3)	373	382	-119**	(2.7)	-95***	(2.3)
Jamaica	377	(3.1)	371	384	-120**	(3.5)	-95***	(3.2)
Albania	368	(2.1)	364	372	-129**	(2.6)	-104***	(2.1)
Palestinian Authority	366	(1.8)	362	369	-131**	(2.4)	-107***	(1.9)
Indonesia	366	(2.4)	361	370	-131**	(2.8)	-107***	(2.4)
Morocco	365	(3.4)	358	371	-132**	(3.7)	-108***	(3.4)
Uzbekistan	364	(2.0)	360	368	-133**	(2.6)	-108***	(2.1)
Jordan	361	(2.0)	357	365	-136**	(2.6)	-111***	(2.1)
Panama	357	(2.8)	351	362	-140**	(3.2)	-116***	(2.9)
Kosovo	355	(1.0)	353	357	-142**	(1.9)	-117***	(1.1)
Philippines	355	(2.6)	350	360	-142**	(3.0)	-118***	(2.6)
Guatemala	344	(2.2)	340	349	-153**	(2.7)	-128***	(2.2)
El Salvador	343	(2.0)	340	347	-153**	(2.5)	-129***	(2.0)
Dominican Republic	339	(1.6)	336	342	-158**	(2.3)	-133***	(1.7)
Paraguay	338	(2.2)	333	342	-159**	(2.7)	-135***	(2.2)
Cambodia	336	(2.7)	331	342	-161**	(3.1)	-136***	(2.7)
OECD average	**472**	**(0.4)**	**472**	**473**	**-25****	**(1.6)**	**--**	**--**

Note: Countries and provinces have been sorted in descending order by average score. See OECD (2023a) for notes regarding Israeli statistical data, Cyprus, and Kosovo.
** Significant difference compared to Canada.
*** Significant difference compared to OECD.

Average scores and confidence intervals: MATHEMATICS BY MATHEMATICAL PROCESS SUBSCALES

Subscale	Canada, province, or OECD average	Average	Standard error	Confidence interval – 95% lower limit	Confidence interval – 95% upper limit
Formulating	**Canada**	**494**	**(2.4)**	**489**	**498**
	Newfoundland and Labrador	448**	(8.4)	432	465
	Prince Edward Island	470**	(9.3)	452	488
	Nova Scotia	467**	(7.3)	453	482
	New Brunswick	462**	(8.1)	446	478
	Quebec	513**	(5.2)	503	524
	Ontario	490	(4.2)	482	498
	Manitoba	464**	(6.2)	451	476
	Saskatchewan	458**	(7.0)	445	472
	Alberta	500	(7.4)	486	515
	British Columbia	497	(5.6)	486	508
	OECD average	**469****	**(0.5)**	**468**	**470**
Employing	**Canada**	**495**	**(2.2)**	**490**	**499**
	Newfoundland and Labrador	452**	(7.1)	438	466
	Prince Edward Island	476	(15.6)	445	507
	Nova Scotia	466**	(6.2)	454	478
	New Brunswick	468**	(6.2)	456	480
	Quebec	516**	(5.0)	506	525
	Ontario	491	(3.6)	484	498
	Manitoba	469**	(4.7)	460	478
	Saskatchewan	466**	(4.0)	459	474
	Alberta	503	(6.5)	490	516
	British Columbia	490	(5.9)	479	502
	OECD average	**472****	**(0.4)**	**471**	**473**
Interpreting	**Canada**	**503**	**(2.0)**	**499**	**507**
	Newfoundland and Labrador	469**	(9.4)	450	487
	Prince Edward Island	485	(10.7)	464	506
	Nova Scotia	475**	(4.0)	467	483
	New Brunswick	473**	(6.0)	461	485
	Quebec	517**	(4.6)	508	526
	Ontario	502	(3.8)	494	509
	Manitoba	476**	(3.7)	469	483
	Saskatchewan	470**	(5.5)	459	481
	Alberta	512	(6.1)	500	524
	British Columbia	503	(5.8)	491	514
	OECD average	**474****	**(0.5)**	**474**	**475**
Mathematical reasoning	**Canada**	**499**	**(2.1)**	**495**	**503**
	Newfoundland and Labrador	460**	(9.0)	442	477
	Prince Edward Island	476	(17.5)	442	511
	Nova Scotia	479**	(6.2)	467	491
	New Brunswick	468**	(6.2)	456	481
	Quebec	510**	(4.4)	501	519
	Ontario	499	(4.1)	491	507
	Manitoba	472**	(4.2)	464	480
	Saskatchewan	472**	(2.6)	467	478
	Alberta	508	(6.2)	495	520
	British Columbia	501	(5.5)	491	512
	OECD average	**473****	**(0.4)**	**472**	**474**

** Significant difference compared to Canada.

Average scores and confidence intervals: MATHEMATICS BY MATHEMATICAL CONTENT KNOWLEDGE SUBSCALES

Subscale	Canada, province, or OECD average	Average	Standard error	Confidence interval – 95% lower limit	Confidence interval – 95% upper limit
Change and relationships	Canada	502	(1.9)	498	506
	Newfoundland and Labrador	464**	(6.4)	452	477
	Prince Edward Island	477**	(10.9)	455	498
	Nova Scotia	479**	(5.4)	468	489
	New Brunswick	468**	(6.6)	455	481
	Quebec	512**	(5.3)	502	522
	Ontario	501	(3.6)	494	508
	Manitoba	474**	(5.0)	464	484
	Saskatchewan	469**	(4.9)	459	478
	Alberta	518**	(6.6)	505	531
	British Columbia	502	(5.1)	492	512
	OECD average	470**	(0.5)	469	471
Quantity	Canada	494	(2.0)	490	498
	Newfoundland and Labrador	452**	(7.2)	438	467
	Prince Edward Island	477	(11.3)	455	499
	Nova Scotia	464**	(7.0)	450	478
	New Brunswick	467**	(7.1)	453	481
	Quebec	514**	(4.4)	505	522
	Ontario	490	(3.8)	483	498
	Manitoba	469**	(4.3)	461	477
	Saskatchewan	464**	(4.2)	456	473
	Alberta	499	(6.5)	486	512
	British Columbia	495	(5.6)	484	506
	OECD average	472**	(0.4)	472	473
Space and shape	Canada	491	(2.2)	487	496
	Newfoundland and Labrador	449**	(10.9)	428	470
	Prince Edward Island	463	(14.8)	434	492
	Nova Scotia	468**	(5.9)	456	480
	New Brunswick	471**	(4.9)	462	481
	Quebec	511**	(5.6)	500	522
	Ontario	491	(4.0)	483	498
	Manitoba	466**	(8.0)	451	482
	Saskatchewan	463**	(7.0)	449	476
	Alberta	493	(6.5)	480	506
	British Columbia	485	(7.1)	471	499
	OECD average	471**	(0.5)	470	471
Uncertainty and data	Canada	500	(1.9)	497	504
	Newfoundland and Labrador	467**	(8.9)	449	484
	Prince Edward Island	474	(14.3)	446	502
	Nova Scotia	474**	(6.9)	461	488
	New Brunswick	470**	(7.3)	456	484
	Quebec	515**	(4.9)	505	524
	Ontario	499	(4.0)	491	507
	Manitoba	471**	(4.0)	464	479
	Saskatchewan	472**	(6.0)	460	484
	Alberta	507	(6.4)	494	519
	British Columbia	502	(6.2)	490	515
	OECD average	474**	(0.5)	473	475

** Significant difference compared to Canada.

Variation in student performance between percentiles: MATHEMATICS

Country, province, or OECD average	Percentiles												Difference in score points between the 10th and 90th percentiles
	5th		10th		25th		75th		90th		95th		
	Score	SE	Score	SE	Score	SE	Score	SE	Score	SE	Score	SE	
Dominican Republic	256	(2.3)	273	(2.1)	302	(1.8)	373	(2.3)	410	(2.9)	434	(4.1)	137
El Salvador	254	(3.0)	272	(2.3)	303	(1.9)	380	(2.7)	423	(3.9)	450	(4.8)	151
Indonesia	271	(2.6)	290	(2.4)	323	(2.1)	404	(3.3)	448	(3.8)	477	(4.2)	158
Jordan	265	(2.1)	284	(2.0)	318	(2.1)	402	(2.7)	442	(3.1)	468	(4.4)	158
Kosovo	262	(2.1)	280	(1.7)	311	(1.4)	394	(1.8)	438	(2.6)	467	(3.4)	159
Morocco	271	(2.7)	289	(2.6)	321	(2.6)	404	(4.2)	449	(6.3)	478	(8.0)	160
Philippines	262	(2.2)	279	(2.2)	308	(2.1)	395	(3.5)	443	(4.8)	472	(5.6)	164
Panama	258	(2.8)	278	(2.5)	311	(2.4)	396	(3.8)	443	(6.7)	473	(8.3)	165
Saudi Arabia	288	(2.2)	308	(2.1)	343	(2.0)	431	(2.3)	474	(2.8)	503	(4.2)	166
Palestinian Authority	265	(2.8)	285	(2.2)	319	(1.9)	408	(2.5)	452	(3.1)	481	(4.5)	167
Costa Rica	282	(2.5)	302	(2.3)	339	(2.1)	427	(2.5)	470	(3.1)	497	(4.5)	168
Uzbekistan	261	(2.3)	283	(2.2)	318	(1.9)	406	(2.8)	453	(3.6)	482	(4.0)	170
Guatemala	232	(3.8)	256	(3.1)	299	(2.4)	389	(2.5)	432	(4.3)	459	(6.2)	176
Mexico	288	(3.6)	310	(2.8)	347	(2.3)	440	(2.9)	487	(3.8)	515	(4.9)	178
Cambodia	218	(4.0)	244	(3.1)	288	(3.0)	383	(3.4)	428	(4.5)	457	(5.9)	184
Jamaica	271	(3.1)	291	(2.8)	326	(3.1)	423	(4.9)	475	(5.0)	506	(5.1)	185
Colombia	272	(3.4)	293	(3.1)	332	(3.2)	429	(3.7)	481	(4.4)	511	(4.8)	187
Thailand	286	(2.6)	306	(2.3)	342	(2.2)	437	(3.9)	495	(6.5)	536	(7.4)	189
Argentina	265	(2.9)	287	(2.8)	325	(2.3)	425	(2.8)	477	(3.3)	509	(3.7)	190
Malaysia	296	(2.6)	317	(2.3)	355	(2.1)	456	(3.0)	509	(5.1)	543	(7.1)	193
Brazil	268	(1.7)	288	(1.6)	325	(1.2)	425	(2.4)	482	(3.1)	519	(4.5)	194
Chile	292	(3.6)	315	(2.9)	358	(2.5)	464	(2.4)	514	(2.8)	543	(3.4)	198
Paraguay	215	(3.6)	241	(2.9)	283	(2.6)	389	(2.8)	439	(3.4)	469	(4.1)	199
Kazakhstan	304	(2.5)	329	(1.9)	371	(1.8)	477	(2.1)	529	(2.6)	562	(3.2)	201
Peru	273	(3.1)	295	(2.6)	335	(2.3)	442	(2.9)	497	(3.6)	528	(3.9)	201
Moldova	292	(2.7)	317	(2.5)	359	(1.9)	465	(3.4)	521	(4.3)	554	(4.5)	205
Latvia	354	(3.7)	381	(3.4)	428	(2.5)	537	(2.6)	587	(3.0)	617	(3.5)	207
Ireland	359	(3.2)	387	(2.8)	437	(2.9)	547	(2.1)	594	(2.7)	621	(3.2)	207
Montenegro	282	(2.3)	306	(1.7)	346	(1.7)	460	(2.1)	517	(2.4)	550	(3.4)	211
Denmark	355	(3.2)	383	(2.5)	433	(2.4)	545	(2.5)	595	(3.0)	625	(3.8)	213
North Macedonia	263	(2.6)	287	(1.9)	329	(1.4)	444	(1.8)	500	(2.2)	533	(2.5)	213
Georgia	263	(3.1)	288	(2.7)	330	(2.1)	444	(3.2)	502	(4.9)	540	(7.0)	214
Mongolia	298	(3.4)	323	(2.9)	366	(2.2)	479	(3.3)	537	(4.5)	572	(6.1)	214
Albania	240	(2.6)	266	(2.5)	308	(2.2)	423	(2.9)	481	(3.5)	517	(4.7)	216
Greece	301	(3.6)	326	(3.0)	370	(2.8)	487	(2.6)	542	(3.2)	572	(4.2)	216
Uruguay	278	(2.7)	303	(2.6)	349	(2.7)	466	(2.7)	520	(3.2)	551	(3.6)	217
Brunei Darussalam	311	(2.4)	337	(2.0)	383	(1.2)	499	(1.6)	556	(2.3)	587	(3.1)	219
Estonia	373	(3.5)	401	(2.5)	450	(2.5)	569	(2.5)	620	(3.0)	651	(3.8)	219
Vietnam	329	(6.7)	360	(5.5)	412	(4.3)	527	(4.6)	580	(4.8)	611	(6.4)	220
Baku (Azerbaijan)	265	(3.2)	290	(2.5)	336	(2.7)	455	(3.0)	511	(3.6)	543	(3.7)	221
Manitoba	**332**	**(6.6)**	**360**	**(4.6)**	**411**	**(3.4)**	**530**	**(3.0)**	**582**	**(4.2)**	**611**	**(4.7)**	**222**
Saskatchewan	**331**	**(5.8)**	**358**	**(4.8)**	**407**	**(3.9)**	**527**	**(4.3)**	**581**	**(5.2)**	**612**	**(4.4)**	**223**
Newfoundland and Labrador	**322**	**(7.3)**	**349**	**(7.3)**	**398**	**(7.2)**	**517**	**(7.2)**	**573**	**(8.0)**	**604**	**(8.3)**	**224**
Spain	329	(2.6)	359	(2.2)	414	(1.9)	533	(1.6)	584	(1.8)	613	(2.0)	225
Lithuania	337	(2.6)	364	(2.9)	413	(2.4)	535	(2.5)	591	(3.0)	624	(4.1)	227
Ukrainian regions (18 of 27)	303	(5.8)	329	(5.4)	378	(5.2)	501	(4.7)	557	(5.3)	590	(6.5)	228
Prince Edward Island	**333**	**(12.6)**	**363**	**(11.7)**	**412**	**(9.4)**	**542**	**(9.3)**	**591**	**(11.0)**	**618**	**(13.9)**	**228**

Variation in student performance between percentiles: MATHEMATICS

Country, province, or OECD average	Percentiles												Difference in score points between the 10th and 90th percentiles
	5th		10th		25th		75th		90th		95th		
	Score	SE	Score	SE	Score	SE	Score	SE	Score	SE	Score	SE	
Qatar	285	(2.7)	307	(2.0)	350	(1.6)	469	(2.0)	536	(2.7)	576	(3.7)	229
Serbia	301	(4.3)	329	(3.6)	377	(2.7)	499	(3.6)	558	(5.8)	594	(8.8)	229
New Brunswick	**324**	**(6.9)**	**355**	**(5.2)**	**404**	**(4.3)**	**529**	**(4.0)**	**585**	**(6.3)**	**619**	**(8.7)**	**230**
Iceland	317	(3.6)	344	(2.9)	396	(2.5)	520	(2.6)	574	(3.3)	606	(4.5)	230
Croatia	325	(3.6)	352	(3.2)	400	(2.9)	524	(3.5)	582	(3.7)	614	(3.6)	230
Italy	329	(3.8)	357	(3.0)	408	(3.0)	533	(4.4)	589	(5.1)	622	(4.6)	232
Portugal	326	(5.0)	356	(4.1)	408	(3.0)	536	(2.7)	589	(2.2)	619	(3.0)	233
Finland	336	(2.4)	366	(2.5)	420	(2.2)	547	(2.4)	600	(2.7)	630	(3.1)	234
Poland	340	(3.9)	370	(3.1)	426	(3.2)	552	(2.6)	604	(3.1)	635	(3.7)	234
Slovenia	341	(3.1)	369	(2.7)	421	(1.9)	546	(2.3)	604	(2.6)	636	(3.6)	234
Nova Scotia	**329**	**(6.3)**	**355**	**(5.6)**	**403**	**(5.1)**	**533**	**(5.4)**	**590**	**(5.8)**	**625**	**(7.6)**	**235**
Türkiye	316	(2.8)	341	(2.3)	387	(2.4)	515	(2.2)	576	(2.6)	611	(3.7)	236
France	324	(3.5)	353	(3.0)	408	(3.3)	539	(3.1)	593	(3.1)	623	(3.6)	239
Ontario	**346**	**(4.2)**	**376**	**(3.5)**	**431**	**(3.1)**	**556**	**(4.3)**	**616**	**(4.7)**	**651**	**(5.2)**	**240**
British Columbia	**345**	**(6.9)**	**377**	**(6.5)**	**431**	**(5.5)**	**560**	**(5.0)**	**617**	**(5.2)**	**650**	**(7.2)**	**240**
Quebec	**354**	**(6.2)**	**390**	**(5.3)**	**450**	**(4.8)**	**581**	**(4.6)**	**631**	**(4.3)**	**659**	**(4.7)**	**241**
Macao (China)	395	(3.9)	429	(2.7)	489	(2.1)	616	(1.8)	670	(2.6)	701	(3.6)	241
Japan	376	(5.0)	410	(4.9)	473	(4.2)	601	(3.3)	652	(4.3)	681	(4.5)	243
Canada	**345**	**(2.4)**	**375**	**(2.3)**	**430**	**(1.7)**	**562**	**(2.2)**	**619**	**(2.2)**	**653**	**(2.3)**	**244**
Norway	317	(2.8)	345	(2.6)	401	(2.5)	535	(2.6)	589	(2.6)	622	(3.1)	244
Czech Republic	338	(3.1)	365	(2.7)	418	(3.0)	553	(2.7)	610	(2.9)	642	(2.9)	245
United States	316	(4.9)	345	(4.0)	396	(4.2)	531	(4.5)	590	(5.9)	625	(6.6)	246
Austria	332	(3.5)	362	(3.7)	420	(3.6)	554	(2.7)	608	(2.7)	638	(3.4)	246
Hungary	318	(3.4)	348	(3.2)	406	(3.3)	538	(3.4)	595	(4.2)	627	(4.5)	247
Germany	321	(4.2)	351	(4.2)	407	(3.9)	541	(3.4)	599	(3.7)	631	(3.1)	248
Bulgaria	271	(3.6)	298	(3.5)	346	(3.2)	483	(4.9)	549	(6.5)	586	(6.7)	251
United Kingdom	330	(3.2)	363	(3.1)	422	(2.8)	555	(2.9)	614	(4.1)	648	(4.5)	251
Sweden	326	(3.3)	356	(2.9)	413	(2.9)	550	(2.8)	607	(2.8)	638	(2.9)	251
Switzerland	349	(3.1)	379	(3.0)	439	(3.1)	578	(2.6)	632	(2.7)	663	(3.4)	253
Belgium	328	(3.3)	359	(3.0)	420	(3.0)	559	(2.9)	614	(2.7)	644	(3.0)	254
Alberta	**348**	**(8.9)**	**376**	**(6.5)**	**432**	**(6.9)**	**571**	**(7.4)**	**633**	**(9.5)**	**670**	**(9.2)**	**257**
Romania	274	(4.2)	303	(3.8)	356	(4.1)	495	(5.6)	559	(6.1)	597	(6.4)	257
New Zealand	321	(3.5)	350	(3.2)	408	(3.2)	547	(2.9)	609	(3.7)	644	(3.4)	258
Malta	303	(3.5)	333	(3.4)	395	(2.9)	537	(2.5)	592	(3.7)	621	(4.4)	259
Australia	328	(2.5)	358	(2.0)	416	(2.1)	556	(2.7)	619	(3.3)	654	(3.7)	261
Slovak Republic	293	(4.9)	327	(5.2)	392	(4.4)	536	(3.0)	591	(3.6)	625	(4.6)	263
Cyprus	267	(3.3)	294	(2.0)	343	(1.9)	487	(2.1)	556	(2.8)	595	(2.7)	262
United Arab Emirates	280	(1.7)	306	(1.5)	356	(1.4)	500	(1.6)	570	(1.4)	610	(1.7)	264
Singapore	395	(3.3)	433	(2.8)	505	(2.3)	649	(2.0)	702	(2.3)	732	(2.6)	268
Korea	349	(6.8)	388	(6.4)	456	(5.1)	600	(4.2)	660	(5.0)	695	(5.9)	272
Hong Kong (China)	360	(5.3)	398	(5.2)	469	(4.4)	614	(3.0)	672	(4.1)	706	(4.8)	274
Israel	284	(4.7)	317	(4.3)	380	(3.9)	534	(3.8)	597	(4.6)	633	(5.7)	280
Netherlands	319	(5.3)	348	(5.7)	411	(6.6)	574	(3.4)	630	(2.8)	658	(2.9)	282
Chinese Taipei	354	(5.1)	393	(5.1)	470	(4.6)	628	(4.5)	687	(5.5)	721	(6.7)	294
OECD average	**326**	**(0.6)**	**355**	**(0.6)**	**408**	**(0.5)**	**535**	**(0.5)**	**590**	**(0.6)**	**621**	**(0.7)**	**235**

SE Standard error

Note: Countries and provinces have been sorted in ascending order by the difference in score points between the 10th and 90th percentiles. See OECD (2023a) for notes regarding Israeli statistical data, Cyprus, and Kosovo.

Percentage of students at each proficiency level in anglophone and francophone school systems: MATHEMATICS

Canada or province	Below Level 1a		Level 1a		Level 2		Level 3		Level 4		Level 5		Level 6	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Anglophone school systems														
Canada	**7.2**	**(0.5)**	**15.6**	**(0.5)**	**23.5**	**(0.5)**	**24.8**	**(0.6)**	**17.4**	**(0.6)**	**8.2**	**(0.5)**	**3.3**	**(0.3)**
Newfoundland and Labrador	12.3	(1.9)	21.5	(1.9)	27.6	(2.3)	22.2	(2.3)	11.6	(1.5)	4.0	(1.1)	U‡	(0.4)
Prince Edward Island	9.0	(1.9)	18.4	(2.7)	24.2	(3.5)	24.0	(3.7)	17.9	(3.2)	U‡	(1.9)	U‡	(1.1)
Nova Scotia	10.8	(1.4)	20.7	(1.6)	24.9	(1.8)	22.1	(1.9)	14.1	(1.4)	5.6	(0.8)	1.7‡	(0.6)
New Brunswick	10.9	(1.2)	21.7	(1.7)	27.0	(2.1)	23.1	(2.0)	11.3	(1.3)	4.7	(0.9)	U‡	(0.5)
Quebec	6.1	(0.9)	13.4	(1.1)	22.2	(1.9)	26.7	(1.9)	19.8	(1.8)	9.1	(1.1)	2.7	(0.6)
Ontario	6.5	(0.7)	14.7	(0.9)	23.5	(1.0)	25.8	(1.1)	17.7	(1.0)	8.5	(0.7)	3.4	(0.5)
Manitoba	9.5	(1.1)	19.1	(1.0)	27.1	(1.3)	24.6	(1.2)	14.1	(1.0)	4.8	(0.7)	0.9‡	(0.3)
Saskatchewan	9.9	(1.1)	20.2	(1.2)	27.8	(1.6)	22.8	(1.4)	13.6	(1.2)	4.6	(0.7)	1.1‡	(0.3)
Alberta	6.6	(1.1)	14.8	(1.5)	21.0	(1.9)	23.6	(1.8)	19.0	(1.6)	10.0	(1.4)	5.0	(1.0)
British Columbia	6.8	(1.0)	14.5	(1.2)	23.5	(1.4)	24.7	(1.4)	18.3	(1.2)	8.7	(0.9)	3.4	(0.6)
Francophone school systems														
Canada	**5.9**	**(0.7)**	**12.0**	**(0.8)**	**19.6**	**(1.1)**	**24.6**	**(1.3)**	**22.2**	**(1.1)**	**12.3**	**(1.1)**	**3.6**	**(0.5)**
Nova Scotia	U‡	(2.5)	19.2	(2.7)	27.0	(3.3)	25.7	(3.1)	15.3	(3.4)	5.2‡	(1.7)	U‡	(0.6)
New Brunswick	9.9	(1.7)	18.7	(2.3)	21.8	(2.4)	25.1	(2.3)	17.3	(2.3)	5.3‡	(1.4)	U‡	(0.9)
Quebec	5.4	(0.7)	11.0	(0.9)	19.0	(1.2)	24.8	(1.4)	23.0	(1.3)	13.1	(1.2)	3.8	(0.6)
Ontario	9.7	(1.5)	20.6	(1.9)	25.2	(1.7)	21.5	(1.4)	15.4	(1.2)	6.3	(1.2)	U‡	(0.5)
Manitoba	7.9‡	(1.8)	18.7	(3.1)	27.8	(3.4)	25.5	(3.3)	13.9	(2.5)	4.7‡	(1.4)	U‡	(0.8)
Saskatchewan	U‡	(3.4)	U‡	(5.9)	29.6‡	(8.3)	28.4‡	(8.0)	U‡	(7.1)	U‡	(4.9)	U‡	(0.9)
Alberta	U‡	(2.8)	14.3‡	(4.0)	22.9	(4.6)	23.5	(3.9)	15.6‡	(3.5)	U‡	(3.7)	U‡	(2.4)
British Columbia	U‡	(1.7)	14.7‡	(3.7)	22.7	(4.6)	31.1	(5.2)	19.6‡	(4.0)	U‡	(2.3)	U‡	(1.4)

SE Standard error
‡ There are fewer than 30 observations.
U Too unreliable to be published.
Note: Because Newfoundland and Labrador and Prince Edward Island did not oversample students by language, results for only English-language schools are available for these provinces.

Proportion of students in anglophone and francophone school systems who performed below Level 2, at Level 2 or above, and at Levels 5 and 6: MATHEMATICS

Canada or province	Below Level 2						Level 2 or above						Levels 5 and 6					
	Anglophone school systems		Francophone school systems		Difference (A - F)		Anglophone school systems		Francophone school systems		Difference (A - F)		Anglophone school systems		Francophone school systems		Difference (A - F)	
	%	SE	%	SE	Dif.	SE	%	SE	%	SE	Dif.	SE	%	SE	%	SE	Dif.	SE
Canada	22.7	(0.7)	17.8	(1.1)	4.9*	(1.3)	77.3	(0.7)	82.2	(1.1)	-4.9*	(1.3)	11.5	(0.6)	15.8	(1.3)	-4.3*	(1.5)
Newfoundland and Labrador	33.9**	(2.9)	--	--	--	--	66.1**	(2.9)	--	--	--	--	4.7**	(1.1)	--	--	--	--
Prince Edward Island	27.4	(3.2)	--	--	--	--	72.6	(3.2)	--	--	--	--	6.5**	(2.0)	--	--	--	--
Nova Scotia	31.5**	(1.8)	26.3**	(3.1)	5.2	(3.2)	68.5**	(1.8)	73.7**	(3.1)	-5.2	(3.2)	7.3**	(0.9)	5.7**	(1.9)	1.6	(2.0)
New Brunswick	32.6**	(1.9)	28.6**	(2.6)	4.0	(3.2)	67.4**	(1.9)	71.4**	(2.6)	-4.0	(3.2)	6.1**	(0.9)	7.2**	(1.6)	-1.0	(1.8)
Quebec	19.5**	(1.4)	16.4**	(1.2)	3.1	(1.8)	80.5**	(1.4)	83.6**	(1.2)	-3.1	(1.8)	11.8	(1.2)	16.9**	(1.5)	-5.1*	(1.8)
Ontario	21.2**	(1.1)	30.3**	(1.6)	-9.2*	(2.0)	78.8**	(1.1)	69.7**	(1.6)	9.2*	(2.0)	11.8	(1.0)	7.6**	(1.4)	4.3*	(1.7)
Manitoba	28.6**	(1.4)	26.6**	(3.1)	2.0	(3.1)	71.4**	(1.4)	73.4**	(3.1)	-2.0	(3.1)	5.7**	(0.7)	6.1**	(1.6)	-0.4	(1.8)
Saskatchewan	30.1**	(1.3)	19.1	(6.1)	11.0	(6.4)	69.9**	(1.3)	80.9	(6.1)	-11.0	(6.4)	5.7**	(0.6)	U	(4.8)	--	--
Alberta	21.4	(2.0)	22.5	(4.2)	-1.1	(4.3)	78.6	(2.0)	77.5	(4.2)	1.1	(4.3)	15.0**	(1.8)	15.4	(3.7)	-0.4	(4.3)
British Columbia	21.3	(1.7)	19.2	(3.4)	2.1	(4.0)	78.7	(1.7)	80.8	(3.4)	-2.1	(4.0)	12.1	(1.2)	U	(2.6)	--	--

SE Standard error
Dif. Difference
-- Not available.
U Too unreliable to be published.
* Significant difference within Canada or province.
** Significant difference compared to Canada.
Note: Because Newfoundland and Labrador and Prince Edward Island did not oversample students by language, results for only English-language schools are available for these provinces.

Average scores by language of the school system: MATHEMATICS

Canada or province	Anglophone school systems		Francophone school systems		Difference (A - F)	
	Average	Standard error	Average	Standard error	Difference	Standard error
Canada	**493**	**(1.9)**	**511**	**(3.8)**	**-18***	**(4.6)**
Newfoundland and Labrador	459**	(5.5)	--	--	--	--
Prince Edward Island	478**	(6.6)	--	--	--	--
Nova Scotia	470**	(3.7)	476**	(5.9)	-6	(7.1)
New Brunswick	463**	(3.9)	478**	(5.9)	-15*	(7.4)
Quebec	500	(3.7)	515**	(4.3)	-15*	(5.6)
Ontario	496	(3.1)	473**	(3.6)	23*	(5.0)
Manitoba	470**	(2.7)	474**	(5.4)	-4	(5.7)
Saskatchewan	468**	(2.6)	487	(13.1)	-19	(13.2)
Alberta	504**	(5.7)	498	(8.5)	5	(9.8)
British Columbia	496	(4.4)	494**	(5.7)	2	(7.4)

-- Not available.
* Significant difference within Canada or province.
** Significant difference compared to Canada.
Note: Because Newfoundland and Labrador and Prince Edward Island did not oversample students by language, results for only English-language schools are available for these provinces.

Table B.1.8

Average scores by language of the school system: MATHEMATICS BY MATHEMATICAL PROCESS SUBSCALES

Subscale	Canada or province	Anglophone school systems		Francophone school systems		Difference (A - F)	
		Average	Standard error	Average	Standard error	Difference	Standard error
Formulating	**Canada**	**489**	**(2.8)**	**510**	**(5.0)**	**-21***	**(5.8)**
	Newfoundland and Labrador	448**	(8.4)	--	--	--	--
	Prince Edward Island	470**	(9.3)	--	--	--	--
	Nova Scotia	467**	(7.4)	476**	(13.9)	-9	(12.4)
	New Brunswick	457**	(9.7)	473**	(15.4)	-16	(18.5)
	Quebec	496	(6.6)	515**	(5.6)	-19*	(8.4)
	Ontario	491	(4.4)	468**	(10.1)	23*	(11.0)
	Manitoba	463**	(6.3)	476**	(13.7)	-13	(14.1)
	Saskatchewan	458**	(7.1)	482	(21.8)	-24	(24.1)
	Alberta	500	(7.5)	506	(13.0)	-6	(15.3)
	British Columbia	497	(5.6)	500	(12.1)	-4	(12.8)
Employing	**Canada**	**489**	**(2.5)**	**512**	**(4.8)**	**-23***	**(5.5)**
	Newfoundland and Labrador	452**	(7.1)	--	--	--	--
	Prince Edward Island	476	(15.6)	--	--	--	--
	Nova Scotia	466**	(6.3)	470**	(10.4)	-4	(10.5)
	New Brunswick	463**	(8.3)	479**	(8.9)	-16	(12.8)
	Quebec	498	(6.2)	517**	(5.3)	-20*	(7.3)
	Ontario	492	(3.8)	467**	(6.1)	25*	(7.6)
	Manitoba	469**	(4.7)	467**	(9.1)	2	(7.9)
	Saskatchewan	466**	(4.0)	479**	(16.5)	-13	(16.4)
	Alberta	503**	(6.6)	494	(15.1)	9	(15.8)
	British Columbia	490	(5.9)	492**	(6.7)	-1	(8.8)
Interpreting	**Canada**	**500**	**(2.3)**	**514**	**(4.6)**	**-14***	**(5.3)**
	Newfoundland and Labrador	469**	(9.4)	--	--	--	--
	Prince Edward Island	485	(10.7)	--	--	--	--
	Nova Scotia	475**	(4.2)	474**	(9.7)	1	(10.8)
	New Brunswick	471**	(7.4)	480**	(8.7)	-9	(10.9)
	Quebec	501	(7.2)	518**	(5.1)	-18	(9.4)
	Ontario	503	(4.0)	473**	(4.5)	30*	(5.9)
	Manitoba	476**	(3.8)	473**	(10.3)	3	(11.0)
	Saskatchewan	470**	(5.6)	492	(15.7)	-22	(16.5)
	Alberta	512**	(6.1)	489	(13.8)	23	(14.3)
	British Columbia	503	(5.8)	494**	(8.9)	9	(11.1)
Mathematical reasoning	**Canada**	**497**	**(2.6)**	**508**	**(4.2)**	**-11***	**(5.2)**
	Newfoundland and Labrador	460**	(9.0)	--	--	--	--
	Prince Edward Island	476	(17.5)	--	--	--	--
	Nova Scotia	479**	(6.3)	482**	(12.1)	-3	(11.1)
	New Brunswick	465**	(7.7)	476**	(8.9)	-11	(11.3)
	Quebec	501	(6.0)	511**	(4.8)	-10	(7.7)
	Ontario	500	(4.3)	481**	(6.3)	19*	(8.5)
	Manitoba	472**	(4.3)	474**	(7.5)	-2	(8.7)
	Saskatchewan	472**	(2.6)	485	(16.5)	-13	(16.5)
	Alberta	508	(6.3)	500	(11.6)	8	(12.0)
	British Columbia	501	(5.5)	494	(9.2)	7	(10.9)

-- Not available.
* Significant difference within Canada or province.
** Significant difference compared to Canada.
Note: Because Newfoundland and Labrador and Prince Edward Island did not oversample students by language, results for only English-language schools are available for these provinces.

Average scores by language of the school system: MATHEMATICS BY MATHEMATICAL CONTENT KNOWLEDGE SUBSCALES

Subscale	Canada or province	Anglophone school systems		Francophone school systems		Difference (A - F)	
		Average	Standard error	Average	Standard error	Difference	Standard error
Change and relationships	**Canada**	**500**	**(2.3)**	**509**	**(5.2)**	**-9**	**(6.1)**
	Newfoundland and Labrador	464**	(6.4)	--	--	--	--
	Prince Edward Island	477**	(10.9)	--	--	--	--
	Nova Scotia	479**	(5.4)	480**	(11.9)	-1	(11.6)
	New Brunswick	466**	(6.3)	476**	(12.3)	-10	(11.5)
	Quebec	499	(7.0)	513**	(5.7)	-14	(8.1)
	Ontario	503	(3.8)	473**	(8.5)	29*	(9.6)
	Manitoba	474**	(5.2)	478**	(13.1)	-4	(14.9)
	Saskatchewan	469**	(4.9)	484	(17.5)	-16	(18.3)
	Alberta	518**	(6.6)	500	(13.9)	18	(15.1)
	British Columbia	502	(5.1)	486	(13.3)	16	(13.9)
Quantity	**Canada**	**489**	**(2.5)**	**510**	**(4.3)**	**-21***	**(5.4)**
	Newfoundland and Labrador	452**	(7.2)	--	--	--	--
	Prince Edward Island	477	(11.3)	--	--	--	--
	Nova Scotia	464**	(7.3)	475**	(11.7)	-11	(14.1)
	New Brunswick	463**	(8.2)	476**	(11.7)	-13	(13.3)
	Quebec	500	(5.5)	515**	(4.9)	-15	(7.9)
	Ontario	491	(3.9)	467**	(7.6)	24*	(8.9)
	Manitoba	469**	(4.4)	469**	(7.9)	0	(7.6)
	Saskatchewan	464**	(4.2)	484	(15.1)	-19	(14.5)
	Alberta	499	(6.5)	494	(10.9)	5	(12.2)
	British Columbia	495	(5.6)	495	(9.8)	-1	(11.5)
Space and shape	**Canada**	**486**	**(2.7)**	**510**	**(5.3)**	**-25***	**(6.3)**
	Newfoundland and Labrador	449**	(10.9)	--	--	--	--
	Prince Edward Island	463	(14.8)	--	--	--	--
	Nova Scotia	468**	(6.2)	474**	(11.3)	-6	(12.7)
	New Brunswick	464**	(7.1)	488	(15.7)	-24	(20.1)
	Quebec	494	(9.1)	513**	(6.1)	-19	(11.0)
	Ontario	491	(4.2)	490	(9.0)	1	(10.6)
	Manitoba	466**	(8.1)	478**	(13.7)	-13	(14.4)
	Saskatchewan	462**	(7.0)	487	(16.5)	-24	(18.3)
	Alberta	493	(6.6)	497	(19.0)	-4	(20.5)
	British Columbia	485	(7.1)	510	(12.2)	-25	(14.0)
Uncertainty and data	**Canada**	**497**	**(2.4)**	**511**	**(4.8)**	**-14***	**(6.0)**
	Newfoundland and Labrador	467**	(8.9)	--	--	--	--
	Prince Edward Island	474	(14.3)	--	--	--	--
	Nova Scotia	474**	(7.2)	478**	(13.8)	-5	(15.6)
	New Brunswick	466**	(9.5)	480**	(11.3)	-14	(15.2)
	Quebec	505	(5.6)	516**	(5.4)	-11	(7.4)
	Ontario	500	(4.1)	469**	(7.5)	31*	(8.2)
	Manitoba	471**	(4.1)	474**	(8.7)	-2	(9.5)
	Saskatchewan	472**	(6.0)	491	(15.6)	-19	(17.0)
	Alberta	507	(6.5)	497	(12.6)	10	(13.2)
	British Columbia	502	(6.3)	498	(9.9)	5	(13.6)

-- Not available.

* Significant difference within Canada or province.

** Significant difference compared to Canada.

Note: Because Newfoundland and Labrador and Prince Edward Island did not oversample students by language, results for only English-language schools are available for these provinces.

Percentage of students at each proficiency level by gender: MATHEMATICS

Canada or province	Proficiency levels													
	Below Level 1a		Level 1a		Level 2		Level 3		Level 4		Level 5		Level 6	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Girls														
Canada	**6.4**	**(0.4)**	**15.6**	**(0.6)**	**24.8**	**(0.7)**	**25.8**	**(0.6)**	**17.7**	**(0.7)**	**7.7**	**(0.5)**	**2.1**	**(0.2)**
Newfoundland and Labrador	10.9	(2.3)	22.6	(2.3)	29.4	(3.0)	22.8	(2.9)	10.8	(2.3)	U‡	(1.1)	U‡	(0.4)
Prince Edward Island	8.0‡	(2.5)	18.6	(4.4)	30.7	(5.7)	27.3	(5.9)	12.6‡	(3.7)	U‡	(2.1)	U‡	(0.2)
Nova Scotia	9.5	(1.8)	21.7	(2.3)	27.7	(2.4)	22.1	(2.3)	13.0	(2.1)	5.0‡	(1.3)	U‡	(0.6)
New Brunswick	10.0	(1.3)	21.6	(2.0)	27.2	(2.5)	24.5	(2.4)	12.0	(1.7)	3.6	(0.9)	U‡	(0.4)
Quebec	5.0	(0.7)	11.4	(1.2)	21.0	(1.3)	26.5	(1.7)	22.7	(1.7)	10.8	(1.3)	2.6	(0.5)
Ontario	6.0	(0.8)	16.1	(1.1)	26.0	(1.2)	26.5	(1.4)	16.6	(1.2)	6.9	(0.7)	1.9	(0.4)
Manitoba	9.1	(1.7)	21.3	(1.6)	27.8	(1.8)	23.5	(1.6)	13.4	(1.4)	4.4	(0.9)	U‡	(0.3)
Saskatchewan	9.7	(1.4)	21.7	(1.8)	29.9	(2.2)	23.0	(1.6)	12.0	(1.5)	3.0	(0.8)	U‡	(0.4)
Alberta	6.8	(1.4)	15.0	(2.1)	22.5	(2.6)	25.7	(2.6)	18.5	(2.2)	8.8	(1.7)	U‡	(1.1)
British Columbia	6.5	(1.1)	15.7	(1.6)	26.5	(2.3)	25.4	(1.8)	16.5	(1.7)	7.1	(1.2)	2.3‡	(0.6)
Boys														
Canada	**7.3**	**(0.6)**	**14.0**	**(0.6)**	**20.6**	**(0.7)**	**23.7**	**(0.7)**	**19.3**	**(0.8)**	**10.5**	**(0.6)**	**4.6**	**(0.4)**
Newfoundland and Labrador	13.6	(2.3)	20.6	(2.6)	26.1	(2.9)	21.6	(2.8)	12.3	(1.9)	U‡	(1.6)	U‡	(0.6)
Prince Edward Island	9.8‡	(2.8)	17.6	(3.5)	18.3	(4.2)	21.1	(4.5)	23.1	(5.0)	U‡	(3.4)	U‡	(2.1)
Nova Scotia	11.7	(1.6)	19.6	(2.1)	22.6	(2.6)	22.5	(2.5)	15.3	(2.0)	6.1	(1.2)	U‡	(1.0)
New Brunswick	11.2	(1.6)	20.1	(1.9)	23.9	(2.4)	22.7	(1.9)	14.1	(1.7)	6.0	(1.4)	U‡	(0.7)
Quebec	6.0	(0.9)	11.0	(1.1)	17.7	(1.5)	23.4	(1.7)	22.6	(1.3)	14.5	(1.5)	4.8	(0.8)
Ontario	7.2	(0.8)	13.9	(1.2)	21.3	(1.5)	24.8	(1.5)	18.6	(1.4)	9.8	(1.0)	4.6	(0.7)
Manitoba	9.7	(1.0)	17.0	(1.6)	26.4	(1.9)	25.7	(1.8)	14.7	(1.3)	5.1	(0.9)	U‡	(0.4)
Saskatchewan	10.1	(1.3)	18.7	(1.7)	25.9	(2.1)	22.7	(2.0)	15.1	(1.4)	6.0	(1.0)	1.5‡	(0.5)
Alberta	6.4	(1.6)	14.7	(1.9)	19.4	(2.3)	21.3	(2.3)	19.5	(2.2)	11.3	(1.9)	7.4	(1.6)
British Columbia	7.1	(1.5)	13.3	(1.5)	20.5	(1.7)	24.1	(1.9)	20.2	(1.8)	10.4	(1.5)	4.4	(0.9)

SE Standard error

‡ There are fewer than 30 observations.

U Too unreliable to be published.

Table B.1.10b

Proportion of boys and girls who performed below Level 2, at Level 2 or above, and at Levels 5 and 6: MATHEMATICS

| Canada or province | Below Level 2 | | | | | | Level 2 or above | | | | | | Levels 5 and 6 | | | | | |
| | Girls | | Boys | | Difference (G - B) | | Girls | | Boys | | Difference (G - B) | | Girls | | Boys | | Difference (G - B) | |
	%	SE	%	SE	Dif.	SE	%	SE	%	SE	Dif.	SE	%	SE	%	SE	Dif.	SE
Canada	**22.0**	**(0.7)**	**21.3**	**(0.7)**	**0.7**	**(0.8)**	**78.0**	**(0.7)**	**78.7**	**(0.7)**	**-0.7**	**(0.8)**	**9.7**	**(0.6)**	**15.1**	**(0.7)**	**-5.4***	**(0.8)**
Newfoundland and Labrador	33.5**	(3.4)	34.2**	(3.3)	-0.6	(3.4)	66.5**	(3.4)	65.8**	(3.3)	0.6	(3.4)	U	(1.2)	5.9**	(1.7)	--	--
Prince Edward Island	26.6	(4.4)	27.4	(4.1)	-0.8	(5.7)	73.4	(4.4)	72.6	(4.1)	0.8	(5.7)	U	(2.1)	U	(3.6)	--	--
Nova Scotia	31.2**	(2.5)	31.3**	(2.4)	0.0	(3.3)	68.8**	(2.5)	68.7**	(2.4)	0.0	(3.3)	6.0**	(1.3)	8.4**	(1.4)	-2.4	(2.0)
New Brunswick	31.6**	(2.1)	31.3**	(2.2)	0.3	(2.9)	68.4**	(2.1)	68.7**	(2.2)	-0.3	(2.9)	4.7**	(1.0)	8.1**	(1.4)	-3.4	(1.8)
Quebec	16.3**	(1.4)	17.0**	(1.3)	-0.6	(1.5)	83.7**	(1.4)	83.0**	(1.3)	0.6	(1.5)	13.5**	(1.5)	19.3**	(1.7)	-5.8*	(1.8)
Ontario	22.0	(1.2)	21.1	(1.3)	1.0	(1.5)	78.0	(1.2)	78.9	(1.3)	-1.0	(1.5)	8.8	(0.8)	14.3	(1.3)	-5.6*	(1.2)
Manitoba	30.4**	(2.1)	26.8**	(1.8)	3.6	(2.8)	69.6**	(2.1)	73.2**	(1.8)	-3.6	(2.8)	5.0**	(0.9)	6.4**	(0.9)	-1.5	(1.3)
Saskatchewan	31.4**	(1.9)	28.8**	(1.8)	2.6	(2.7)	68.6**	(1.9)	71.2**	(1.8)	-2.6	(2.7)	3.6**	(0.8)	7.5**	(1.0)	-3.9*	(1.2)
Alberta	21.8	(2.3)	21.1	(2.4)	0.7	(2.7)	78.2	(2.3)	78.9	(2.4)	-0.7	(2.7)	11.5	(2.0)	18.7	(2.3)	-7.2*	(2.5)
British Columbia	22.2	(1.9)	20.4	(2.2)	1.8	(2.5)	77.8	(1.9)	79.6	(2.2)	-1.8	(2.5)	9.4	(1.6)	14.8	(1.6)	-5.4*	(2.2)

-- Not available.
SE Standard error
Dif. Difference
U Too unreliable to be published.
* Significant difference within Canada or province.
** Significant difference compared to Canada.

Table B.1.11

Average scores by gender: MATHEMATICS

Canada, province, or OECD average	Girls		Boys		Difference (G - B)	
	Average	Standard error	Average	Standard error	Difference	Standard error
Canada	**491**	**(1.7)**	**503**	**(1.9)**	**-12***	**(1.7)**
Newfoundland and Labrador	457**	(6.1)	460**	(6.7)	-2	(6.4)
Prince Edward Island	467**	(7.8)	489	(8.8)	-23*	(10.2)
Nova Scotia	467**	(4.5)	474**	(4.7)	-7	(5.6)
New Brunswick	463**	(4.3)	472**	(4.3)	-8	(5.9)
Quebec	509**	(4.3)	518**	(4.3)	-9*	(3.7)
Ontario	488	(3.0)	502	(3.6)	-13*	(3.0)
Manitoba	467**	(3.7)	474**	(3.3)	-7	(4.5)
Saskatchewan	461**	(3.3)	474**	(3.6)	-13*	(4.5)
Alberta	495	(6.1)	512	(6.7)	-16*	(6.0)
British Columbia	488	(5.2)	504	(5.6)	-16*	(6.2)
OECD average	**468***	**(0.4)**	**477***	**(0.5)**	**-9***	**(0.5)**

* Significant difference within Canada, province, or OECD.
** Significant difference compared to Canada.

Average scores by gender: MATHEMATICS BY MATHEMATICAL PROCESS SUBSCALES

Subscale	Canada or province	Girls		Boys		Difference (G - B)	
		Average	Standard error	Average	Standard error	Difference	Standard error
Formulating	**Canada**	**484**	**(2.8)**	**503**	**(2.6)**	**-19***	**(2.4)**
	Newfoundland and Labrador	443**	(9.9)	453**	(8.5)	-10	(7.8)
	Prince Edward Island	455**	(9.5)	486	(13.0)	-31*	(13.1)
	Nova Scotia	461**	(8.7)	473**	(7.7)	-13	(7.0)
	New Brunswick	455**	(9.2)	468**	(8.6)	-13	(7.0)
	Quebec	508**	(5.7)	519**	(5.9)	-12*	(5.4)
	Ontario	478	(4.6)	501	(4.8)	-23*	(4.0)
	Manitoba	459**	(6.6)	468**	(7.0)	-10	(5.6)
	Saskatchewan	449**	(6.7)	466**	(8.7)	-17*	(6.9)
	Alberta	488	(8.2)	513	(8.3)	-25*	(7.5)
	British Columbia	486	(6.6)	508	(6.9)	-22*	(7.5)
Employing	**Canada**	**487**	**(2.4)**	**502**	**(2.7)**	**-15***	**(2.6)**
	Newfoundland and Labrador	452**	(7.8)	452**	(8.3)	-1	(7.5)
	Prince Edward Island	465	(16.7)	488	(16.8)	-23	(12.4)
	Nova Scotia	462**	(6.8)	470**	(7.4)	-8	(6.7)
	New Brunswick	463**	(7.1)	471**	(6.9)	-8	(6.6)
	Quebec	509**	(5.3)	522**	(5.6)	-12*	(4.4)
	Ontario	482	(3.8)	499	(4.5)	-17*	(4.1)
	Manitoba	465**	(5.9)	473**	(4.8)	-8	(5.5)
	Saskatchewan	459**	(5.1)	473**	(4.8)	-15*	(5.8)
	Alberta	495	(7.3)	512	(7.6)	-17*	(7.2)
	British Columbia	481	(7.1)	499	(6.9)	-18*	(7.4)
Interpreting	**Canada**	**498**	**(2.2)**	**508**	**(2.6)**	**-10***	**(2.7)**
	Newfoundland and Labrador	471**	(11.2)	467**	(9.6)	3	(8.8)
	Prince Edward Island	479	(12.0)	493	(13.0)	-14	(13.5)
	Nova Scotia	474**	(5.1)	476**	(5.8)	-2	(7.4)
	New Brunswick	470**	(6.6)	476**	(6.9)	-5	(6.7)
	Quebec	511**	(4.9)	522**	(5.9)	-10	(5.8)
	Ontario	496	(4.1)	507	(4.7)	-11*	(4.5)
	Manitoba	475**	(4.8)	477**	(4.4)	-2	(5.6)
	Saskatchewan	466**	(6.1)	474**	(6.6)	-8	(6.3)
	Alberta	506	(6.8)	518	(7.3)	-12	(7.2)
	British Columbia	496	(6.3)	509	(7.3)	-13	(7.2)
Mathematical reasoning	**Canada**	**494**	**(2.6)**	**505**	**(2.5)**	**-11***	**(2.9)**
	Newfoundland and Labrador	458**	(9.2)	461**	(10.1)	-3	(7.2)
	Prince Edward Island	468	(19.4)	486	(17.7)	-18	(12.1)
	Nova Scotia	476**	(8.0)	482**	(6.1)	-7	(6.7)
	New Brunswick	464**	(7.3)	473**	(6.9)	-9	(7.3)
	Quebec	506**	(5.3)	515**	(4.9)	-9	(5.1)
	Ontario	493	(4.1)	505	(5.0)	-13*	(4.3)
	Manitoba	468**	(4.9)	476**	(5.0)	-7	(5.4)
	Saskatchewan	466**	(3.9)	478**	(3.6)	-12*	(5.3)
	Alberta	501	(7.0)	515	(7.0)	-14*	(6.3)
	British Columbia	494	(6.7)	508	(6.6)	-14	(7.4)

* Significant difference within Canada or province.
** Significant difference compared to Canada.

Average scores by gender: MATHEMATICS BY MATHEMATICAL CONTENT KNOWLEDGE SUBSCALES

Subscale	Canada or province	Girls		Boys		Difference (G - B)	
		Average	Standard error	Average	Standard error	Difference	Standard error
Change and relationships	**Canada**	**496**	**(2.1)**	**508**	**(2.5)**	**-12***	**(2.6)**
	Newfoundland and Labrador	465**	(7.5)	464**	(7.6)	1	(8.1)
	Prince Edward Island	467**	(11.1)	487	(14.5)	-20	(13.6)
	Nova Scotia	476**	(6.9)	482**	(6.5)	-7	(7.9)
	New Brunswick	465**	(7.9)	472**	(7.0)	-7	(6.7)
	Quebec	507**	(5.3)	516	(6.4)	-9	(5.2)
	Ontario	494	(3.8)	508	(4.6)	-13*	(4.3)
	Manitoba	471**	(5.4)	477**	(5.9)	-5	(5.1)
	Saskatchewan	463**	(6.3)	474**	(5.0)	-11	(5.6)
	Alberta	510**	(6.9)	526**	(7.8)	-16*	(6.7)
	British Columbia	493	(5.7)	510	(6.8)	-17*	(7.3)
Quantity	**Canada**	**486**	**(2.2)**	**502**	**(2.6)**	**-16***	**(2.6)**
	Newfoundland and Labrador	450**	(7.7)	455**	(8.5)	-6	(7.6)
	Prince Edward Island	465	(12.2)	489	(12.9)	-24*	(11.6)
	Nova Scotia	459**	(7.3)	469**	(8.1)	-10	(6.6)
	New Brunswick	463**	(8.3)	471**	(7.3)	-8	(6.6)
	Quebec	510**	(5.2)	517**	(4.9)	-7	(4.8)
	Ontario	480	(3.9)	500	(4.7)	-19*	(4.4)
	Manitoba	464**	(4.9)	473**	(5.0)	-9	(4.9)
	Saskatchewan	457**	(4.3)	471**	(5.9)	-15*	(5.9)
	Alberta	488	(7.3)	510	(7.3)	-22*	(7.0)
	British Columbia	484	(6.4)	505	(7.4)	-21*	(8.0)
Space and shape	**Canada**	**484**	**(2.7)**	**498**	**(2.3)**	**-15***	**(2.3)**
	Newfoundland and Labrador	444**	(10.3)	453**	(12.4)	-9	(7.4)
	Prince Edward Island	454	(15.6)	472	(16.3)	-19	(12.0)
	Nova Scotia	463**	(6.6)	473**	(6.8)	-10	(6.4)
	New Brunswick	466**	(5.9)	476**	(5.8)	-11	(6.7)
	Quebec	505**	(6.5)	518**	(6.4)	-13*	(6.4)
	Ontario	484	(4.2)	497	(4.6)	-14*	(3.8)
	Manitoba	461**	(9.2)	471**	(7.8)	-10	(6.1)
	Saskatchewan	455**	(9.1)	469**	(6.1)	-14*	(6.5)
	Alberta	482	(8.1)	505	(7.0)	-23*	(7.8)
	British Columbia	477	(8.4)	493	(7.7)	-16*	(7.4)
Uncertainty and data	**Canada**	**495**	**(2.2)**	**506**	**(2.6)**	**-11***	**(2.9)**
	Newfoundland and Labrador	469**	(9.9)	465**	(9.7)	4	(8.0)
	Prince Edward Island	464**	(15.4)	484	(16.0)	-20	(13.0)
	Nova Scotia	472**	(7.6)	476**	(8.0)	-4	(6.9)
	New Brunswick	468**	(8.5)	472**	(7.7)	-5	(6.9)
	Quebec	510**	(5.4)	520**	(6.1)	-10	(6.1)
	Ontario	493	(4.1)	505	(4.9)	-11*	(4.2)
	Manitoba	470**	(5.4)	473**	(4.0)	-4	(5.2)
	Saskatchewan	467**	(6.5)	477**	(6.5)	-11*	(5.2)
	Alberta	500	(6.8)	514	(8.3)	-14	(8.2)
	British Columbia	496	(7.3)	509	(7.7)	-13	(8.3)

* Significant difference within Canada or province.
** Significant difference compared to Canada.

Comparisons of performance, PISA 2003, 2006, 2009, 2012, 2015, 2018, and 2022: MATHEMATICS

Canada, province, or OECD average	2003		2006		2009		2012		2015		2018		2022	
	Av.	SE	Av.	SE	Av.	SE	Av.	SE	Av.	SE	Av.	SE	Av.	SE
Canada	**532**	**(1.8)**	**527**	**(2.4)**	**527**	**(2.6)**	**518***	**(2.7)**	**516***	**(6.1)**	**512***	**(3.7)**	**497***	**(5.8)**
Newfoundland and Labrador	517	(2.5)	507*	(2.8)	503*	(3.5)	490*	(4.2)	486*	(6.4)	488*	(7.0)	459*	(7.8)
Prince Edward Island	500	(2.0)	501	(2.7)	487*	(3.0)	479*	(3.2)	499	(8.5)	487	(11.4)	478*	(8.6)
Nova Scotia	515	(2.2)	506*	(2.6)	512	(3.0)	497*	(4.5)	497*	(7.2)	494*	(6.9)	470*	(6.6)
New Brunswick	511	(1.4)	506	(2.5)	504*	(3.0)	502*	(3.2)	493*	(7.5)	491*	(6.3)	468*	(6.3)
Quebec	536	(4.5)	540	(4.4)	543	(4.0)	536	(3.9)	544	(7.4)	532	(4.5)	514*	(6.8)
Ontario	530	(3.6)	526	(3.9)	526	(3.8)	514*	(4.5)	509*	(7.0)	513*	(5.3)	495*	(6.3)
Manitoba	528	(3.1)	521	(3.5)	501*	(4.1)	492*	(3.5)	489*	(7.0)	482*	(4.6)	470*	(6.2)
Saskatchewan	516	(3.9)	507	(3.6)	506	(3.8)	506	(3.6)	484*	(6.3)	485*	(5.8)	468*	(6.1)
Alberta	549	(4.3)	530*	(4.0)	529*	(4.8)	517*	(5.0)	511*	(7.3)	511*	(5.8)	504*	(7.9)
British Columbia	538	(2.4)	523*	(4.6)	523*	(5.0)	522*	(4.8)	522*	(7.5)	504*	(5.9)	496*	(7.1)
OECD average	**500**	**(0.6)**	**498**	**(1.5)**	**496***	**(2.0)**	**494***	**(2.0)**	**490**	**(5.6)**	**489***	**(2.8)**	**472***	**(5.6)**

Av. Average
SE Standard error
* Statistically significant differences compared with PISA 2003.
Note: The linkage error is incorporated into the standard error for 2006, 2009, 2012, 2015, 2018, and 2022. Also, for some provinces, the standard errors from 2003 to 2006 and to 2009 differ from those in the previous PISA reports on trend results. These differences are due to the change of the method used by the OECD to compute the linkage error. The composition of OECD countries varies from cycle to cycle; therefore, in trend analyses, the OECD average is adjusted to reflect changes in that composition.

Comparisons of performance, PISA 2012, 2015, 2018, and 2022: MATHEMATICS

Canada, province, or OECD average	2012		2015		2018		2022	
	Av.	SE	Av.	SE	Av.	SE	Av.	SE
Canada	**518**	**(1.8)**	**516**	**(4.2)**	**512**	**(4.1)**	**497***	**(3.9)**
Newfoundland and Labrador	490	(3.7)	486	(4.8)	488	(7.3)	459*	(6.6)
Prince Edward Island	479	(2.5)	499*	(7.3)	487	(11.6)	478	(7.5)
Nova Scotia	497	(4.1)	497	(5.8)	494	(7.2)	470*	(5.1)
New Brunswick	502	(2.6)	493	(6.2)	491	(6.6)	468*	(4.7)
Quebec	536	(3.4)	544	(5.9)	532	(4.9)	514*	(5.3)
Ontario	514	(4.1)	509	(5.5)	513	(5.6)	495*	(4.7)
Manitoba	492	(2.9)	489	(5.5)	482	(5.0)	470*	(4.5)
Saskatchewan	506	(3.0)	484*	(4.6)	485*	(6.0)	468*	(4.4)
Alberta	517	(4.6)	511	(5.9)	511	(6.1)	504	(6.7)
British Columbia	522	(4.4)	522	(6.1)	504*	(6.2)	496*	(5.7)
OECD average	**494**	**(0.5)**	**490**	**(3.6)**	**489**	**(3.4)**	**472***	**(3.6)**

Av. Average
SE Standard error
* Statistically significant differences compared with PISA 2012.
Note: The linkage error is incorporated into the standard error for 2015, 2018, and 2022. The composition of OECD countries varies from cycle to cycle; therefore, in trend analyses, the OECD average is adjusted to reflect changes in that composition.

Table B.1.15

Proportion of students who performed below Level 2 and at Levels 5 and 6, PISA 2012 and 2022: MATHEMATICS

Canada or province	Below Level 2						Levels 5 and 6					
	2012		2022		Difference 2012 - 2022		2012		2022		Difference 2012 - 2022	
	%	SE	%	SE	Dif.	SE	%	SE	%	SE	Dif.	SE
Canada	**13.8**	**(0.5)**	**21.6**	**(0.5)**	**7.8***	**(1.3)**	**16.4**	**(0.6)**	**12.5**	**(0.5)**	**-3.9***	**(1.1)**
Newfoundland and Labrador	21.3	(2.0)	33.9	(2.9)	12.6*	(3.8)	9.4	(1.0)	4.7	(1.1)	-4.7*	(1.5)
Prince Edward Island	24.7	(1.3)	27.4	(3.2)	2.7	(3.7)	6.5	(0.9)	6.5	(2.0)	0.0	(2.2)
Nova Scotia	17.7	(1.5)	31.3	(1.8)	13.6*	(2.6)	9.0	(1.3)	7.2	(0.9)	-1.8	(1.7)
New Brunswick	16.3	(1.2)	31.4	(1.5)	15.2*	(2.3)	10.1	(1.2)	6.4	(0.8)	-3.7*	(1.6)
Quebec	11.2	(1.0)	16.7	(1.1)	5.5*	(1.8)	22.4	(1.3)	16.4	(1.3)	-6.0*	(2.1)
Ontario	13.8	(1.1)	21.6	(1.0)	7.8*	(1.8)	15.1	(1.4)	11.7	(0.9)	-3.4	(1.8)
Manitoba	21.2	(1.5)	28.5	(1.3)	7.3*	(2.3)	10.3	(1.0)	5.7	(0.7)	-4.5*	(1.3)
Saskatchewan	15.3	(1.1)	30.0	(1.3)	14.7*	(2.1)	12.2	(1.2)	5.7	(0.6)	-6.5*	(1.4)
Alberta	15.1	(1.5)	21.4	(1.9)	6.3*	(2.7)	16.9	(1.5)	15.0	(1.8)	-1.9	(2.5)
British Columbia	12.3	(1.3)	21.3	(1.7)	9.1*	(2.4)	16.5	(1.6)	12.1	(1.2)	-4.4*	(2.1)

SE Standard error
Dif. Difference
* Significant difference within Canada or province.

Table B.1.16

Gender differences in student performance, PISA 2012 and 2022: MATHEMATICS

Canada or province	2012		2022	
	Gender difference (G - B)	Standard error	Gender difference (G - B)	Standard error
Canada	**-10***	**(2.0)**	**-12***	**(1.7)**
Newfoundland and Labrador	-1	(5.6)	-2	(6.4)
Prince Edward Island	-3	(4.9)	-23*	(10.2)
Nova Scotia	-11	(6.1)	-7	(5.6)
New Brunswick	-3	(5.7)	-8	(5.9)
Quebec	-10*	(4.3)	-9*	(3.7)
Ontario	-10*	(3.7)	-13*	(3.0)
Manitoba	-6	(5.7)	-7	(4.5)
Saskatchewan	-8	(4.5)	-13*	(4.5)
Alberta	-11*	(4.0)	-16*	(6.0)
British Columbia	-14*	(6.1)	-16*	(6.2)

* Significant difference within Canada or province.

Average index of economic, social, and cultural status (ESCS)

Country, province, or OECD average	All students		Bottom quarter		Second quarter		Third quarter		Top quarter	
	Score	SE	Score	SE	Score	SE	Score	SE	Score	SE
Norway	0.52	(0.02)	-0.62	(0.02)	0.39	(0.01)	0.92	(0.00)	1.40	(0.01)
Denmark	0.48	(0.02)	-0.58	(0.01)	0.38	(0.01)	0.84	(0.00)	1.26	(0.01)
British Columbia	**0.43**	**(0.04)**	**-0.60**	**(0.02)**	**0.24**	**(0.01)**	**0.81**	**(0.01)**	**1.28**	**(0.01)**
Ontario	**0.42**	**(0.03)**	**-0.61**	**(0.02)**	**0.24**	**(0.01)**	**0.77**	**(0.00)**	**1.27**	**(0.01)**
Alberta	**0.40**	**(0.04)**	**-0.64**	**(0.02)**	**0.18**	**(0.01)**	**0.78**	**(0.01)**	**1.30**	**(0.01)**
Canada	**0.38**	**(0.01)**	**-0.66**	**(0.01)**	**0.19**	**(0.00)**	**0.74**	**(0.00)**	**1.25**	**(0.00)**
Australia	0.38	(0.01)	-0.80	(0.01)	0.21	(0.00)	0.80	(0.00)	1.31	(0.00)
Iceland	0.38	(0.01)	-0.71	(0.02)	0.23	(0.01)	0.76	(0.00)	1.23	(0.01)
Quebec	**0.36**	**(0.02)**	**-0.66**	**(0.02)**	**0.21**	**(0.01)**	**0.71**	**(0.00)**	**1.19**	**(0.01)**
Ireland	0.33	(0.03)	-0.79	(0.02)	0.15	(0.01)	0.74	(0.00)	1.24	(0.01)
Prince Edward Island	**0.33**	**(0.05)**	**-0.77**	**(0.06)**	**0.15**	**(0.03)**	**0.73**	**(0.02)**	**1.23**	**(0.03)**
Sweden	0.33	(0.02)	-0.85	(0.02)	0.16	(0.01)	0.75	(0.00)	1.25	(0.01)
Singapore	0.31	(0.01)	-0.87	(0.01)	0.17	(0.01)	0.72	(0.00)	1.21	(0.01)
United Arab Emirates	0.30	(0.01)	-0.72	(0.01)	0.20	(0.00)	0.60	(0.00)	1.11	(0.01)
Israel	0.28	(0.02)	-1.01	(0.02)	0.12	(0.01)	0.73	(0.00)	1.28	(0.01)
Nova Scotia	**0.27**	**(0.03)**	**-0.78**	**(0.02)**	**0.04**	**(0.01)**	**0.64**	**(0.01)**	**1.19**	**(0.01)**
New Brunswick	**0.26**	**(0.02)**	**-0.79**	**(0.02)**	**0.03**	**(0.01)**	**0.61**	**(0.01)**	**1.20**	**(0.01)**
Finland	0.26	(0.01)	-0.85	(0.01)	0.03	(0.01)	0.66	(0.00)	1.19	(0.00)
Netherlands	0.25	(0.02)	-0.94	(0.02)	0.08	(0.01)	0.67	(0.00)	1.20	(0.01)
Newfoundland and Labrador	**0.24**	**(0.04)**	**-0.84**	**(0.03)**	**-0.03**	**(0.01)**	**0.61**	**(0.01)**	**1.23**	**(0.02)**
Slovenia	0.23	(0.01)	-0.93	(0.01)	-0.01	(0.01)	0.65	(0.01)	1.20	(0.01)
Korea	0.22	(0.03)	-0.87	(0.01)	-0.02	(0.01)	0.58	(0.00)	1.21	(0.01)
New Zealand	0.22	(0.02)	-1.06	(0.02)	0.02	(0.01)	0.66	(0.00)	1.25	(0.01)
Saskatchewan	**0.21**	**(0.02)**	**-0.84**	**(0.02)**	**-0.01**	**(0.01)**	**0.55**	**(0.01)**	**1.16**	**(0.01)**
Manitoba	**0.18**	**(0.02)**	**-0.93**	**(0.03)**	**-0.08**	**(0.01)**	**0.55**	**(0.01)**	**1.17**	**(0.01)**
Switzerland	0.17	(0.02)	-1.10	(0.02)	-0.05	(0.01)	0.62	(0.00)	1.22	(0.01)
Cyprus	0.16	(0.01)	-1.09	(0.02)	-0.05	(0.02)	0.58	(0.01)	1.21	(0.01)
Estonia	0.15	(0.02)	-0.93	(0.01)	-0.10	(0.01)	0.54	(0.00)	1.09	(0.01)
United Kingdom	0.14	(0.02)	-1.06	(0.02)	-0.14	(0.01)	0.54	(0.00)	1.20	(0.01)
Qatar	0.11	(0.01)	-1.08	(0.02)	0.01	(0.01)	0.48	(0.00)	1.02	(0.01)
Belgium	0.08	(0.02)	-1.19	(0.02)	-0.15	(0.01)	0.53	(0.00)	1.14	(0.01)
Austria	0.07	(0.02)	-1.18	(0.02)	-0.21	(0.00)	0.47	(0.01)	1.20	(0.01)
United States	0.06	(0.04)	-1.27	(0.02)	-0.22	(0.01)	0.53	(0.01)	1.19	(0.01)
Lithuania	0.05	(0.02)	-1.17	(0.01)	-0.22	(0.01)	0.50	(0.01)	1.10	(0.01)
Malta	0.02	(0.02)	-1.30	(0.02)	-0.29	(0.01)	0.48	(0.01)	1.19	(0.01)
Hungary	0.00	(0.02)	-1.28	(0.01)	-0.32	(0.01)	0.46	(0.01)	1.16	(0.01)
France	0.00	(0.02)	-1.23	(0.02)	-0.26	(0.01)	0.42	(0.00)	1.08	(0.01)
Japan	-0.01	(0.01)	-0.96	(0.01)	-0.22	(0.00)	0.29	(0.00)	0.86	(0.01)
Latvia	-0.01	(0.02)	-1.12	(0.01)	-0.28	(0.01)	0.36	(0.01)	1.00	(0.01)
Spain	-0.03	(0.02)	-1.43	(0.02)	-0.26	(0.00)	0.45	(0.00)	1.10	(0.00)
Italy	-0.10	(0.02)	-1.33	(0.02)	-0.40	(0.00)	0.27	(0.01)	1.06	(0.01)
Czech Republic	-0.10	(0.02)	-1.19	(0.01)	-0.48	(0.00)	0.21	(0.01)	1.04	(0.01)
Poland	-0.11	(0.02)	-1.21	(0.01)	-0.52	(0.01)	0.26	(0.01)	1.04	(0.01)
Germany	-0.14	(0.03)	-1.53	(0.02)	-0.44	(0.01)	0.30	(0.01)	1.13	(0.01)
Croatia	-0.15	(0.02)	-1.20	(0.01)	-0.53	(0.01)	0.19	(0.01)	0.92	(0.01)
Greece	-0.15	(0.02)	-1.40	(0.02)	-0.45	(0.01)	0.26	(0.01)	0.96	(0.01)
Chinese Taipei	-0.19	(0.03)	-1.38	(0.01)	-0.47	(0.01)	0.19	(0.01)	0.91	(0.01)
Serbia	-0.20	(0.02)	-1.28	(0.03)	-0.51	(0.00)	0.13	(0.01)	0.86	(0.01)
Montenegro	-0.21	(0.01)	-1.31	(0.01)	-0.50	(0.00)	0.12	(0.00)	0.87	(0.01)
Portugal	-0.23	(0.03)	-1.77	(0.01)	-0.60	(0.01)	0.31	(0.01)	1.16	(0.01)

Average index of economic, social, and cultural status (ESCS)

Country, province, or OECD average	All students		Bottom quarter		Second quarter		Third quarter		Top quarter	
	Score	SE	Score	SE	Score	SE	Score	SE	Score	SE
Brunei Darussalam	-0.26	(0.01)	-1.47	(0.01)	-0.61	(0.01)	0.11	(0.00)	0.95	(0.01)
Bulgaria	-0.27	(0.03)	-1.65	(0.03)	-0.61	(0.01)	0.22	(0.01)	0.96	(0.01)
North Macedonia	-0.28	(0.01)	-1.51	(0.01)	-0.59	(0.00)	0.11	(0.01)	0.87	(0.01)
Saudi Arabia	-0.29	(0.03)	-1.73	(0.02)	-0.52	(0.01)	0.21	(0.00)	0.89	(0.01)
Slovak Republic	-0.30	(0.02)	-1.51	(0.02)	-0.68	(0.01)	0.05	(0.01)	0.93	(0.01)
Kosovo	-0.34	(0.01)	-1.51	(0.02)	-0.61	(0.01)	0.00	(0.00)	0.75	(0.01)
Ukrainian regions (18 of 27)	-0.35	(0.04)	-1.47	(0.03)	-0.64	(0.01)	-0.01	(0.00)	0.73	(0.01)
Romania	-0.36	(0.04)	-1.67	(0.02)	-0.77	(0.01)	0.03	(0.01)	0.96	(0.01)
Kazakhstan	-0.37	(0.02)	-1.49	(0.01)	-0.64	(0.00)	0.00	(0.00)	0.64	(0.01)
Macao (China)	-0.45	(0.01)	-1.58	(0.01)	-0.80	(0.00)	-0.16	(0.01)	0.75	(0.01)
Hong Kong (China)	-0.46	(0.04)	-1.73	(0.02)	-0.87	(0.00)	-0.11	(0.01)	0.86	(0.01)
Georgia	-0.47	(0.02)	-1.67	(0.01)	-0.81	(0.01)	-0.11	(0.01)	0.73	(0.01)
Chile	-0.51	(0.03)	-1.71	(0.01)	-0.85	(0.00)	-0.18	(0.01)	0.70	(0.01)
Baku (Azerbaijan)	-0.51	(0.03)	-1.68	(0.01)	-0.86	(0.00)	-0.19	(0.01)	0.70	(0.01)
Moldova	-0.52	(0.02)	-1.76	(0.01)	-0.89	(0.01)	-0.15	(0.01)	0.70	(0.01)
Jamaica	-0.55	(0.03)	-1.76	(0.02)	-0.85	(0.01)	-0.22	(0.01)	0.63	(0.01)
Malaysia	-0.68	(0.03)	-1.98	(0.02)	-1.09	(0.01)	-0.33	(0.01)	0.67	(0.01)
Uzbekistan	-0.69	(0.02)	-2.02	(0.01)	-1.02	(0.01)	-0.27	(0.01)	0.55	(0.01)
Dominican Republic	-0.71	(0.02)	-2.04	(0.02)	-1.03	(0.00)	-0.31	(0.01)	0.54	(0.01)
Mongolia	-0.73	(0.03)	-2.14	(0.01)	-1.09	(0.01)	-0.28	(0.01)	0.59	(0.01)
Albania	-0.75	(0.02)	-2.15	(0.01)	-1.16	(0.01)	-0.34	(0.01)	0.65	(0.02)
Argentina	-0.80	(0.04)	-2.28	(0.02)	-1.19	(0.01)	-0.39	(0.01)	0.67	(0.01)
Jordan	-0.82	(0.02)	-2.23	(0.02)	-1.20	(0.00)	-0.38	(0.01)	0.55	(0.01)
Uruguay	-0.83	(0.02)	-2.27	(0.01)	-1.27	(0.01)	-0.45	(0.01)	0.66	(0.02)
Palestinian Authority	-0.91	(0.02)	-2.27	(0.02)	-1.29	(0.01)	-0.51	(0.01)	0.42	(0.01)
Panama	-0.95	(0.05)	-2.71	(0.03)	-1.33	(0.01)	-0.38	(0.01)	0.63	(0.03)
Mexico	-0.95	(0.03)	-2.42	(0.02)	-1.44	(0.01)	-0.54	(0.01)	0.59	(0.02)
Brazil	-0.99	(0.02)	-2.49	(0.01)	-1.32	(0.01)	-0.58	(0.00)	0.43	(0.02)
Colombia	-1.07	(0.04)	-2.62	(0.02)	-1.47	(0.01)	-0.66	(0.01)	0.49	(0.03)
Peru	-1.15	(0.04)	-2.76	(0.02)	-1.55	(0.01)	-0.75	(0.01)	0.44	(0.02)
Türkiye	-1.19	(0.04)	-2.62	(0.02)	-1.67	(0.01)	-0.87	(0.01)	0.42	(0.03)
Thailand	-1.23	(0.04)	-2.68	(0.02)	-1.64	(0.01)	-0.84	(0.01)	0.24	(0.02)
Paraguay	-1.24	(0.03)	-2.96	(0.02)	-1.75	(0.01)	-0.74	(0.01)	0.47	(0.02)
Vietnam	-1.29	(0.05)	-2.70	(0.03)	-1.71	(0.00)	-1.03	(0.01)	0.28	(0.02)
Philippines	-1.34	(0.04)	-2.78	(0.03)	-1.74	(0.00)	-0.94	(0.01)	0.11	(0.02)
El Salvador	-1.39	(0.03)	-2.92	(0.02)	-1.85	(0.01)	-1.03	(0.01)	0.24	(0.03)
Guatemala	-1.51	(0.05)	-3.24	(0.02)	-2.08	(0.01)	-1.04	(0.01)	0.32	(0.04)
Indonesia	-1.56	(0.04)	-2.86	(0.02)	-1.95	(0.01)	-1.29	(0.01)	-0.13	(0.02)
Morocco	-1.78	(0.06)	-3.49	(0.02)	-2.27	(0.01)	-1.39	(0.01)	0.01	(0.05)
Cambodia	-2.01	(0.03)	-3.55	(0.02)	-2.47	(0.01)	-1.66	(0.01)	-0.36	(0.03)
OECD average	**0.00**	**(0.00)**	**-1.22**	**(0.00)**	**-0.26**	**(0.00)**	**0.41**	**(0.00)**	**1.09**	**(0.00)**

SE Standard error
Note: Countries and provinces have been sorted in descending order by ESCS score. See OECD (2023a) for notes regarding Israeli statistical data, Cyprus, and Kosovo.

Table B.2.1b

Average scores by index of economic, social, and cultural status (ESCS): MATHEMATICS

Country, province, or OECD average	Bottom quarter		Second quarter		Third quarter		Top quarter		Difference (top quarter - bottom quarter)		Change in the average score per one (integer) unit change in the ESCS index		Explained variance in student performance (r² x 100)	
	Av.	SE	Av.	SE	Av.	SE	Av.	SE	Dif.	SE	Dif.	SE	%	SE
Cambodia	329	(2.8)	334	(2.9)	333	(2.9)	350	(7.3)	21*	(7.3)	8*	(2.2)	1.9	(1.0)
Uzbekistan	356	(2.5)	358	(2.5)	364	(2.7)	378	(3.1)	22*	(3.5)	9*	(1.2)	2.0	(0.5)
Indonesia	352	(2.8)	359	(2.5)	366	(2.8)	386	(5.0)	34*	(5.1)	14*	(1.7)	5.5	(1.3)
Philippines	339	(2.4)	354	(1.8)	351	(4.1)	375	(5.3)	36*	(5.6)	12*	(1.8)	4.8	(1.3)
Kosovo	342	(2.0)	346	(1.9)	353	(2.0)	381	(2.4)	39*	(3.1)	17*	(1.1)	5.7	(0.7)
Jordan	346	(2.3)	356	(2.1)	360	(2.8)	385	(3.4)	40*	(3.7)	13*	(1.3)	5.2	(1.0)
Kazakhstan	410	(1.9)	416	(2.0)	425	(2.4)	451	(2.9)	41*	(3.1)	19*	(1.3)	3.9	(0.5)
Morocco	351	(2.7)	357	(2.8)	358	(3.3)	394	(9.2)	43*	(9.2)	13*	(2.2)	8.5	(2.6)
Jamaica	360	(3.3)	372	(3.9)	381	(4.5)	405	(4.6)	45*	(4.3)	19*	(1.7)	6.1	(0.9)
Dominican Republic	322	(1.7)	330	(1.6)	339	(1.9)	367	(3.8)	45*	(3.8)	17*	(1.4)	10.1	(1.4)
Saudi Arabia	369	(2.4)	377	(2.5)	395	(2.8)	416	(2.7)	47*	(3.5)	16*	(1.3)	6.4	(0.9)
Albania	353	(2.9)	358	(3.0)	363	(3.2)	402	(4.1)	49*	(4.8)	17*	(1.7)	4.5	(0.9)
Palestinian Authority	343	(2.0)	360	(2.4)	368	(2.5)	393	(3.6)	50*	(3.9)	17*	(1.2)	7.4	(1.0)
Baku (Azerbaijan)	371	(3.3)	395	(2.9)	402	(2.8)	425	(4.2)	54*	(4.8)	21*	(1.8)	5.2	(0.8)
Macao (China)	526	(3.0)	547	(2.8)	554	(3.0)	581	(2.7)	55*	(4.1)	23*	(1.6)	5.0	(0.7)
El Salvador	320	(2.4)	334	(2.2)	345	(2.6)	377	(4.7)	57*	(4.8)	18*	(1.3)	14.4	(1.8)
Mexico	369	(2.4)	386	(2.5)	398	(3.9)	428	(4.2)	58*	(4.6)	19*	(1.3)	10.4	(1.3)
Guatemala	319	(2.2)	333	(2.5)	346	(3.5)	379	(5.9)	60*	(6.6)	17*	(1.7)	12.1	(2.2)
Thailand	375	(3.2)	380	(2.5)	387	(3.1)	435	(7.0)	61*	(7.6)	21*	(2.3)	10.1	(2.0)
Newfoundland and Labrador	**430**	**(9.6)**	**446**	**(7.4)**	**470**	**(7.6)**	**492**	**(7.4)**	**62***	**(10.6)**	**31***	**(4.7)**	**8.2**	**(2.6)**
Manitoba	**439**	**(5.0)**	**463**	**(4.5)**	**483**	**(4.7)**	**502**	**(4.0)**	**63***	**(6.0)**	**30***	**(2.6)**	**8.4**	**(1.3)**
Hong Kong (China)	511	(4.2)	535	(4.8)	543	(3.9)	576	(5.6)	65*	(7.1)	25*	(2.3)	5.8	(1.1)
Georgia	362	(3.0)	378	(2.9)	399	(3.3)	427	(4.6)	65*	(5.0)	25*	(2.0)	7.8	(1.0)
Saskatchewan	**441**	**(5.1)**	**457**	**(4.4)**	**472**	**(4.9)**	**506**	**(4.4)**	**65***	**(6.5)**	**32***	**(2.9)**	**8.5**	**(1.5)**
Paraguay	315	(2.6)	324	(2.7)	333	(3.4)	381	(4.7)	66*	(5.3)	20*	(1.2)	11.2	(1.4)
Montenegro	375	(2.4)	396	(2.4)	412	(2.4)	442	(2.7)	67*	(3.7)	29*	(1.4)	9.5	(0.9)
United Arab Emirates	388	(1.8)	429	(2.2)	460	(1.8)	456	(1.8)	68*	(2.6)	33*	(1.3)	5.8	(0.4)
Chile	384	(2.5)	403	(3.0)	415	(3.4)	453	(3.5)	69*	(4.2)	29*	(1.4)	12.5	(1.2)
Ontario	**463**	**(4.5)**	**487**	**(3.8)**	**507**	**(4.0)**	**534**	**(4.7)**	**71***	**(6.2)**	**36***	**(2.7)**	**8.4**	**(1.2)**
Iceland	422	(3.2)	455	(3.8)	469	(3.0)	495	(3.3)	72*	(4.8)	34*	(2.1)	9.3	(1.1)
Ireland	457	(3.2)	478	(3.0)	505	(2.7)	530	(3.0)	74*	(3.8)	35*	(1.5)	13.0	(1.2)
Denmark	451	(2.4)	480	(3.2)	507	(3.7)	525	(3.1)	74*	(3.9)	38*	(1.6)	12.2	(0.9)
Latvia	448	(2.6)	471	(3.3)	494	(3.5)	522	(3.0)	75*	(3.8)	35*	(1.6)	13.2	(1.0)
Argentina	345	(3.0)	363	(2.6)	385	(3.4)	420	(3.6)	75*	(4.3)	26*	(1.2)	15.4	(1.3)
Greece	398	(3.3)	415	(2.8)	436	(3.3)	474	(3.8)	76*	(4.6)	31*	(1.6)	11.8	(1.1)
North Macedonia	356	(2.1)	376	(2.1)	397	(2.2)	431	(2.2)	76*	(3.2)	31*	(1.2)	12.5	(0.8)
New Brunswick	**435**	**(5.6)**	**457**	**(5.3)**	**476**	**(5.0)**	**511**	**(6.4)**	**76***	**(8.0)**	**38***	**(3.4)**	**10.9**	**(1.9)**
Canada	**460**	**(2.3)**	**487**	**(2.1)**	**512**	**(2.0)**	**536**	**(2.9)**	**76***	**(3.5)**	**40***	**(1.6)**	**10.2**	**(0.8)**
Panama	325	(2.4)	341	(2.8)	359	(5.0)	402	(6.9)	77*	(7.2)	23*	(1.8)	20.0	(2.5)
Brazil	348	(1.8)	365	(2.0)	379	(2.8)	425	(3.9)	77*	(4.3)	26*	(1.2)	14.8	(1.3)
Nova Scotia	**439**	**(6.0)**	**454**	**(6.8)**	**481**	**(6.8)**	**516**	**(7.1)**	**77***	**(8.6)**	**36***	**(4.0)**	**9.0**	**(1.9)**
Vietnam	434	(5.1)	457	(4.1)	473	(5.2)	513	(6.9)	78*	(7.7)	28*	(2.2)	13.8	(2.0)
Colombia	352	(3.3)	370	(3.2)	384	(4.2)	430	(5.9)	79*	(6.5)	25*	(1.7)	16.2	(2.1)
Prince Edward Island	**440**	**(12.7)**	**474**	**(11.2)**	**505**	**(12.6)**	**518**	**(12.5)**	**79***	**(16.3)**	**38***	**(6.8)**	**11.6**	**(4.2)**

Average scores by index of economic, social, and cultural status (ESCS): MATHEMATICS

Country, province, or OECD average	Bottom quarter		Second quarter		Third quarter		Top quarter		Difference (top quarter - bottom quarter)		Change in the average score per one (integer) unit change in the ESCS index		Explained variance in student performance (r^2 x 100)	
	Av.	SE	Av.	SE	Av.	SE	Av.	SE	Dif.	SE	Dif.	SE	%	SE
British Columbia	**457**	**(5.5)**	**494**	**(5.3)**	**510**	**(4.7)**	**536**	**(5.6)**	**80***	**(7.2)**	**40***	**(3.5)**	**10.1**	**(1.8)**
Norway	431	(2.9)	460	(2.9)	482	(3.3)	512	(3.4)	81*	(3.9)	35*	(1.7)	9.6	(0.9)
Japan	494	(4.5)	526	(3.6)	549	(3.9)	575	(5.0)	81*	(6.8)	45*	(3.1)	11.9	(1.5)
Serbia	401	(4.0)	429	(3.3)	449	(3.6)	482	(6.0)	81*	(7.2)	39*	(3.1)	13.4	(1.8)
Estonia	472	(3.1)	496	(2.9)	520	(3.1)	553	(3.2)	81*	(4.6)	39*	(1.8)	13.4	(1.2)
Türkiye	420	(3.0)	438	(2.7)	453	(3.1)	502	(3.1)	82*	(4.5)	27*	(1.3)	12.6	(1.2)
Croatia	427	(3.3)	446	(3.3)	471	(3.4)	509	(3.7)	82*	(4.9)	38*	(2.1)	13.0	(1.3)
Moldova	379	(2.1)	399	(3.0)	418	(3.6)	461	(4.4)	82*	(4.9)	33*	(1.7)	15.6	(1.4)
Quebec	**473**	**(4.8)**	**503**	**(4.2)**	**531**	**(4.5)**	**555**	**(4.9)**	**82***	**(6.7)**	**44***	**(3.1)**	**11.9**	**(1.5)**
Malaysia	375	(2.3)	393	(2.4)	410	(2.9)	458	(5.9)	82*	(6.4)	31*	(2.0)	18.1	(1.7)
Finland	446	(2.4)	470	(2.4)	499	(2.9)	529	(2.5)	83*	(2.9)	38*	(1.4)	12.4	(0.8)
Malta	427	(3.4)	454	(4.1)	479	(4.0)	510	(3.8)	83*	(5.0)	32*	(1.8)	10.0	(1.0)
Qatar	372	(2.4)	400	(2.3)	438	(3.2)	455	(2.7)	84*	(3.6)	35*	(1.4)	11.7	(0.8)
Ukrainian regions (18 of 27)	398	(4.8)	423	(5.3)	451	(6.1)	482	(5.7)	84*	(6.7)	38*	(3.3)	13.8	(1.9)
Italy	430	(3.1)	463	(3.5)	480	(3.9)	515	(5.5)	85*	(5.9)	35*	(2.2)	13.5	(1.5)
Peru	351	(2.4)	379	(3.0)	400	(3.7)	437	(3.8)	86*	(4.2)	26*	(1.1)	17.3	(1.5)
United Kingdom	458	(3.3)	479	(3.5)	496	(3.3)	544	(5.0)	86*	(6.0)	36*	(2.5)	11.0	(1.3)
Spain	434	(2.0)	459	(1.9)	485	(2.3)	520	(2.1)	86*	(2.7)	32*	(0.9)	14.2	(0.8)
Brunei Darussalam	407	(2.1)	423	(2.1)	446	(2.4)	494	(2.1)	86*	(2.9)	35*	(1.0)	16.0	(0.9)
Uruguay	371	(3.1)	394	(2.4)	412	(3.2)	462	(3.6)	91*	(4.4)	31*	(1.2)	17.9	(1.3)
Slovenia	440	(2.5)	468	(2.8)	500	(3.0)	532	(2.4)	91*	(3.6)	42*	(1.5)	15.7	(1.1)
Cyprus	379	(2.3)	406	(2.7)	430	(2.3)	471	(3.0)	92*	(4.0)	36*	(1.5)	10.9	(0.8)
Lithuania	432	(2.7)	459	(2.8)	489	(3.2)	525	(3.2)	92*	(4.1)	40*	(1.7)	16.5	(1.2)
Alberta	**457**	**(6.0)**	**490**	**(7.6)**	**520**	**(7.1)**	**550**	**(9.3)**	**92***	**(9.2)**	**46***	**(4.4)**	**12.8**	**(2.3)**
Mongolia	384	(2.7)	405	(3.0)	431	(3.6)	478	(4.5)	94*	(5.1)	33*	(1.6)	18.1	(1.4)
Poland	444	(3.0)	476	(3.5)	502	(3.3)	541	(3.5)	96*	(4.5)	40*	(1.9)	16.3	(1.3)
Korea	479	(5.7)	516	(5.2)	540	(4.8)	577	(6.0)	97*	(8.0)	45*	(3.0)	12.6	(1.4)
Sweden	436	(2.8)	467	(3.5)	500	(3.1)	535	(3.1)	99*	(4.1)	43*	(1.7)	15.0	(1.0)
Portugal	429	(3.6)	453	(3.3)	480	(3.3)	529	(3.2)	101*	(4.7)	34*	(1.4)	18.2	(1.3)
Australia	439	(2.1)	471	(2.4)	506	(2.7)	540	(3.1)	101*	(3.5)	45*	(1.5)	14.6	(0.8)
New Zealand	430	(2.9)	472	(3.3)	501	(3.0)	532	(3.9)	102*	(5.2)	42*	(2.0)	15.8	(1.4)
United States	421	(4.5)	445	(4.3)	473	(5.9)	523	(6.1)	102*	(6.2)	38*	(2.3)	14.9	(1.4)
Netherlands	446	(4.9)	470	(5.6)	515	(4.8)	552	(3.8)	106*	(6.3)	47*	(2.2)	15.1	(1.3)
Austria	435	(3.3)	473	(3.5)	510	(3.2)	542	(2.8)	106*	(4.0)	43*	(1.4)	19.4	(1.1)
Bulgaria	366	(3.9)	400	(3.3)	432	(5.4)	473	(6.0)	108*	(7.1)	38*	(2.3)	17.2	(1.8)
Germany	430	(3.8)	464	(4.1)	490	(3.9)	541	(4.3)	111*	(5.1)	40*	(1.5)	18.7	(1.3)
Singapore	515	(3.2)	560	(2.7)	600	(2.6)	626	(2.5)	112*	(4.1)	51*	(1.7)	17.0	(1.0)
France	422	(3.0)	457	(3.6)	489	(3.4)	535	(3.6)	113*	(4.4)	46*	(1.5)	21.5	(1.3)
Czech Republic	429	(3.3)	476	(3.3)	500	(2.9)	545	(3.2)	116*	(4.4)	51*	(1.8)	22.0	(1.2)
Belgium	434	(3.2)	470	(2.9)	509	(3.2)	551	(3.5)	117*	(4.3)	48*	(1.5)	21.8	(1.2)
Switzerland	454	(3.3)	493	(3.8)	524	(3.3)	571	(3.0)	117*	(4.4)	47*	(1.5)	20.8	(1.2)
Chinese Taipei	490	(5.0)	533	(4.5)	559	(5.3)	609	(7.0)	119*	(8.5)	49*	(3.0)	15.7	(1.7)
Hungary	414	(3.6)	455	(3.9)	490	(3.8)	535	(4.0)	121*	(5.4)	49*	(1.8)	25.1	(1.5)
Israel	398	(3.8)	439	(4.4)	483	(5.0)	522	(5.0)	124*	(5.8)	51*	(2.2)	19.6	(1.4)
Romania	368	(3.9)	408	(4.0)	437	(6.6)	500	(6.2)	132*	(6.7)	49*	(2.0)	25.8	(1.6)

Average scores by index of economic, social, and cultural status (ESCS): MATHEMATICS

Country, province, or OECD average	Bottom quarter		Second quarter		Third quarter		Top quarter		Difference (top quarter - bottom quarter)		Change in the average score per one (integer) unit change in the ESCS index		Explained variance in student performance (r² x 100)	
	Av.	SE	Av.	SE	Av.	SE	Av.	SE	Dif.	SE	Dif.	SE	%	SE
Slovak Republic	394	(4.8)	455	(4.1)	481	(4.3)	528	(4.2)	133*	(6.6)	53*	(2.2)	25.7	(1.8)
OECD average	**431**	**(0.6)**	**462**	**(0.6)**	**488**	**(0.6)**	**525**	**(0.6)**	**93***	**(0.8)**	**39***	**(0.3)**	**15.5**	**(0.2)**

Av. Average
SE Standard error
Dif. Difference
* Denotes significant difference.
Note: Countries and provinces have been sorted in ascending order by the difference in score points between the bottom and top quarters. See OECD (2023a) for notes regarding Israeli statistical data, Cyprus, and Kosovo.

Table B.2.2

Average scores by index of economic, social, and cultural status (ESCS): MATHEMATICS BY MATHEMATICAL PROCESS SUBSCALES

Subscale	Canada or province	Bottom quarter		Second quarter		Third quarter		Top quarter		Difference (top quarter - bottom quarter)		Change in the average score per one (integer) unit change in the ESCS index		Explained variance in student performance (r² x 100)	
		Avg.	SE	Avg.	SE	Avg.	SE	Avg.	SE	Dif.	SE	Dif.	SE	%	SE
Formulating	**Canada**	**454**	**(3.6)**	**483**	**(2.8)**	**508**	**(3.0)**	**535**	**(4.5)**	**81***	**(5.6)**	**42***	**(2.7)**	**8.0**	**(0.9)**
	Newfoundland and Labrador	413	(11.9)	435	(9.9)	461	(10.1)	487	(13.0)	73*	(13.8)	35*	(6.2)	7.8	(2.6)
	Prince Edward Island	426	(13.1)	464	(17.8)	496	(17.0)	513	(18.7)	87*	(22.1)	42*	(9.6)	11.4	(5.0)
	Nova Scotia	433	(10.0)	449	(10.5)	477	(10.8)	515	(12.4)	82*	(13.2)	38*	(5.4)	7.5	(2.0)
	New Brunswick	424	(8.0)	450	(9.7)	470	(11.4)	510	(13.3)	86*	(13.5)	43*	(6.1)	9.5	(2.5)
	Quebec	472	(7.1)	501	(6.3)	530	(6.0)	557	(5.9)	86*	(8.4)	46*	(4.1)	8.4	(1.4)
	Ontario	455	(6.3)	479	(5.4)	501	(5.9)	533	(6.5)	78*	(9.1)	40*	(4.2)	7.0	(1.4)
	Manitoba	430	(10.0)	456	(7.4)	476	(7.1)	495	(8.1)	66*	(11.1)	31*	(4.4)	6.5	(1.6)
	Saskatchewan	429	(8.9)	446	(9.3)	461	(8.0)	501	(8.7)	72*	(8.4)	35*	(3.7)	7.3	(1.5)
	Alberta	452	(9.6)	486	(9.3)	517	(9.8)	547	(11.9)	95*	(13.2)	48*	(6.6)	9.8	(2.5)
	British Columbia	455	(8.1)	496	(8.6)	508	(7.7)	536	(8.5)	81*	(12.1)	41*	(5.7)	7.3	(1.9)
Employing	**Canada**	**457**	**(3.3)**	**485**	**(2.8)**	**511**	**(2.7)**	**534**	**(3.7)**	**77***	**(4.4)**	**40***	**(1.9)**	**7.9**	**(0.7)**
	Newfoundland and Labrador	424	(10.3)	440	(8.0)	464	(10.0)	485	(10.7)	60*	(12.1)	30*	(5.4)	6.4	(2.3)
	Prince Edward Island	435	(21.5)	473	(18.6)	506	(23.1)	520	(22.7)	85*	(20.7)	42*	(8.7)	11.3	(4.9)
	Nova Scotia	434	(9.5)	448	(8.5)	477	(9.9)	515	(9.2)	81*	(9.6)	38*	(4.7)	8.2	(1.9)
	New Brunswick	435	(8.0)	455	(7.3)	477	(9.0)	514	(9.1)	79*	(9.6)	40*	(4.1)	9.2	(1.8)
	Quebec	473	(5.9)	504	(5.6)	534	(6.6)	560	(6.4)	87*	(7.7)	46*	(3.8)	9.7	(1.4)
	Ontario	460	(6.2)	482	(4.8)	502	(4.8)	529	(5.5)	68*	(7.9)	35*	(3.5)	6.1	(1.2)
	Manitoba	441	(6.3)	462	(7.1)	482	(7.2)	497	(7.5)	56*	(8.2)	27*	(3.4)	5.7	(1.3)
	Saskatchewan	441	(6.6)	455	(5.6)	470	(6.0)	506	(6.3)	65*	(8.1)	32*	(3.7)	6.7	(1.5)
	Alberta	455	(7.3)	489	(8.5)	522	(8.6)	549	(11.5)	94*	(11.0)	47*	(5.3)	10.5	(2.2)
	British Columbia	448	(6.8)	489	(6.8)	505	(6.8)	532	(8.3)	83*	(8.4)	41*	(4.1)	8.1	(1.5)
Interpreting	**Canada**	**465**	**(3.6)**	**493**	**(2.8)**	**520**	**(2.6)**	**543**	**(3.6)**	**77***	**(4.9)**	**41***	**(2.3)**	**7.9**	**(0.8)**
	Newfoundland and Labrador	444	(12.5)	456	(10.5)	480	(12.1)	502	(12.8)	58*	(13.5)	28*	(6.2)	5.6	(2.4)
	Prince Edward Island	443	(17.4)	484	(13.4)	518	(19.4)	527	(19.6)	85*	(22.4)	42*	(10.0)	10.2	(4.6)
	Nova Scotia	445	(7.8)	458	(7.7)	488	(7.8)	520	(8.8)	75*	(11.1)	35*	(5.1)	7.0	(1.8)
	New Brunswick	442	(9.1)	463	(7.1)	483	(9.2)	513	(9.6)	71*	(11.5)	36*	(5.2)	7.9	(2.1)
	Quebec	476	(6.5)	507	(5.8)	536	(6.0)	556	(6.1)	80*	(8.9)	44*	(4.6)	8.2	(1.6)
	Ontario	472	(7.4)	492	(6.4)	515	(5.0)	541	(5.4)	68*	(8.9)	35*	(3.7)	6.1	(1.3)
	Manitoba	443	(6.2)	470	(5.6)	491	(5.7)	507	(5.7)	63*	(7.5)	30*	(3.4)	6.5	(1.4)
	Saskatchewan	444	(8.1)	457	(7.1)	476	(6.6)	510	(6.7)	66*	(7.6)	34*	(3.6)	7.2	(1.5)
	Alberta	461	(7.5)	499	(8.2)	532	(8.3)	561	(11.3)	100*	(11.8)	50*	(5.3)	11.2	(2.2)
	British Columbia	458	(6.9)	500	(8.2)	521	(6.7)	546	(6.9)	87*	(8.5)	44*	(4.2)	8.9	(1.7)

Average scores by index of economic, social, and cultural status (ESCS): MATHEMATICS BY MATHEMATICAL PROCESS SUBSCALES

Subscale	Canada or province	Bottom quarter		Second quarter		Third quarter		Top quarter		Difference (top quarter - bottom quarter)		Change in the average score per one (integer) unit change in the ESCS index		Explained variance in student performance (r² x 100)	
		Avg.	SE	Avg.	SE	Avg.	SE	Avg.	SE	Dif.	SE	Dif.	SE	%	SE
Mathematical reasoning	**Canada**	**462**	**(2.6)**	**488**	**(2.8)**	**514**	**(2.6)**	**538**	**(3.4)**	**76***	**(3.9)**	**40***	**(1.8)**	**8.7**	**(0.8)**
	Newfoundland and Labrador	433	(11.6)	447	(9.9)	470	(12.2)	492	(11.1)	58*	(10.9)	29*	(4.7)	6.4	(2.1)
	Prince Edward Island	440	(21.8)	476	(20.0)	497	(23.8)	512	(25.7)	71*	(21.3)	34*	(9.4)	8.8	(4.8)
	Nova Scotia	447	(8.8)	461	(8.4)	489	(10.2)	524	(9.6)	77*	(9.9)	36*	(4.8)	8.0	(2.0)
	New Brunswick	437	(8.1)	458	(8.6)	477	(7.4)	508	(9.3)	71*	(9.0)	36*	(3.9)	8.4	(1.8)
	Quebec	471	(6.4)	498	(5.2)	527	(5.8)	551	(6.4)	80*	(9.6)	43*	(4.7)	9.5	(1.9)
	Ontario	465	(5.1)	490	(5.1)	511	(4.9)	538	(5.5)	73*	(6.4)	37*	(2.9)	7.5	(1.2)
	Manitoba	443	(6.3)	463	(5.9)	482	(5.7)	502	(5.1)	58*	(6.8)	28*	(3.2)	6.3	(1.4)
	Saskatchewan	447	(5.0)	461	(5.0)	476	(5.7)	510	(6.2)	64*	(8.6)	31*	(4.1)	7.0	(1.8)
	Alberta	463	(7.4)	490	(7.8)	527	(7.6)	552	(10.2)	89*	(10.5)	45*	(5.0)	10.9	(2.3)
	British Columbia	463	(6.5)	497	(7.2)	515	(6.8)	541	(6.5)	78*	(8.0)	39*	(3.9)	8.3	(1.6)

Avg. Average
SE Standard error
Dif. Difference
* Significant difference within Canada or province.

Average scores by index of economic, social, and cultural status (ESCS): MATHEMATICS BY MATHEMATICAL CONTENT KNOWLEDGE SUBSCALES

Subscale	Canada or province	Bottom quarter		Second quarter		Third quarter		Top quarter		Difference (top quarter - bottom quarter)		Change in the average score per one (integer) unit change in the ESCS index		Explained variance in student performance (r² x 100)	
		Avg.	SE	Avg.	SE	Avg.	SE	Avg.	SE	Dif.	SE	Dif.	SE	%	SE
Change and relationships	**Canada**	**465**	**(2.7)**	**493**	**(2.6)**	**518**	**(2.4)**	**542**	**(3.7)**	**77***	**(4.2)**	**40***	**(2.0)**	**8.2**	**(0.7)**
	Newfoundland and Labrador	436	(10.5)	452	(8.0)	475	(9.3)	500	(9.8)	64*	(12.0)	31*	(5.3)	6.5	(2.3)
	Prince Edward Island	442	(15.9)	475	(17.1)	504	(20.3)	511	(16.0)	69*	(20.1)	34*	(9.1)	7.9	(4.2)
	Nova Scotia	449	(8.4)	462	(8.6)	490	(9.0)	524	(10.2)	75*	(11.8)	35*	(6.0)	7.2	(2.3)
	New Brunswick	437	(9.1)	459	(9.8)	474	(8.3)	511	(8.5)	74*	(10.4)	37*	(4.5)	8.3	(1.9)
	Quebec	472	(5.6)	500	(5.9)	532	(5.8)	554	(6.8)	82*	(7.8)	45*	(3.9)	8.8	(1.4)
	Ontario	469	(5.2)	493	(4.9)	512	(4.9)	541	(6.4)	71*	(7.4)	36*	(3.6)	6.8	(1.2)
	Manitoba	443	(7.6)	469	(6.3)	487	(6.8)	504	(5.8)	61*	(7.7)	30*	(3.3)	6.7	(1.4)
	Saskatchewan	442	(5.8)	460	(6.4)	473	(7.1)	506	(8.1)	65*	(8.4)	31*	(3.9)	6.7	(1.6)
	Alberta	469	(7.2)	506	(9.3)	537	(8.3)	564	(11.2)	95*	(10.6)	48*	(5.2)	10.5	(2.3)
	British Columbia	460	(7.3)	500	(6.3)	519	(6.0)	541	(6.1)	81*	(8.7)	41*	(4.1)	8.3	(1.6)
Quantity	**Canada**	**456**	**(2.8)**	**484**	**(2.5)**	**510**	**(2.3)**	**533**	**(3.4)**	**77***	**(3.9)**	**40***	**(1.8)**	**8.4**	**(0.7)**
	Newfoundland and Labrador	422	(10.8)	438	(8.3)	466	(10.2)	488	(11.0)	65*	(13.0)	32*	(5.7)	7.4	(2.6)
	Prince Edward Island	438	(18.3)	473	(15.2)	504	(17.5)	522	(17.5)	85*	(18.8)	41*	(8.4)	10.8	(4.5)
	Nova Scotia	433	(9.0)	446	(9.1)	473	(10.4)	511	(10.6)	78*	(9.7)	37*	(4.4)	7.7	(1.7)
	New Brunswick	434	(7.7)	455	(10.5)	477	(8.1)	510	(9.9)	76*	(9.6)	39*	(4.1)	8.9	(1.8)
	Quebec	473	(5.6)	503	(4.6)	530	(5.1)	556	(6.0)	83*	(7.0)	44*	(3.2)	9.6	(1.2)
	Ontario	457	(5.6)	483	(5.2)	503	(4.6)	528	(6.0)	71*	(7.5)	36*	(3.4)	6.8	(1.3)
	Manitoba	437	(7.2)	461	(6.3)	482	(5.8)	500	(5.3)	63*	(7.5)	30*	(3.3)	7.0	(1.5)
	Saskatchewan	437	(7.2)	453	(6.1)	467	(6.0)	506	(5.9)	69*	(7.7)	34*	(3.4)	7.6	(1.4)
	Alberta	451	(7.8)	484	(8.4)	518	(8.3)	546	(10.6)	95*	(10.7)	48*	(5.4)	11.1	(2.4)
	British Columbia	455	(7.1)	492	(6.6)	508	(5.8)	536	(6.7)	82*	(7.9)	40*	(3.9)	8.1	(1.6)
Space and shape	**Canada**	**453**	**(2.7)**	**481**	**(2.7)**	**505**	**(2.6)**	**530**	**(3.8)**	**77***	**(4.3)**	**40***	**(1.9)**	**7.6**	**(0.7)**
	Newfoundland and Labrador	425	(15.4)	434	(11.7)	458	(12.9)	479	(12.5)	53*	(12.8)	27*	(5.6)	5.3	(2.2)
	Prince Edward Island	427	(22.8)	457	(19.8)	486	(18.7)	496	(20.8)	68*	(22.0)	34*	(9.4)	8.2	(4.4)
	Nova Scotia	431	(10.1)	452	(10.9)	482	(9.8)	513	(10.6)	82*	(13.3)	39*	(6.2)	8.3	(2.5)
	New Brunswick	444	(6.7)	461	(8.2)	474	(8.9)	512	(9.9)	68*	(12.5)	33*	(5.4)	6.5	(2.0)
	Quebec	473	(7.4)	499	(6.7)	526	(6.7)	550	(7.0)	77*	(8.8)	41*	(4.5)	7.7	(1.7)
	Ontario	455	(6.0)	482	(5.1)	500	(5.2)	531	(5.6)	76*	(7.8)	38*	(3.6)	6.9	(1.3)
	Manitoba	437	(9.1)	458	(8.6)	475	(8.9)	495	(8.0)	58*	(8.8)	28*	(3.6)	5.6	(1.3)
	Saskatchewan	435	(8.4)	452	(9.0)	465	(9.5)	502	(8.3)	68*	(8.5)	33*	(4.0)	6.9	(1.5)
	Alberta	443	(8.1)	475	(8.9)	513	(9.4)	541	(10.5)	98*	(11.6)	49*	(5.4)	10.8	(2.2)
	British Columbia	446	(8.5)	482	(9.2)	496	(8.4)	524	(9.0)	78*	(9.5)	38*	(4.2)	6.7	(1.5)

Average scores by index of economic, social, and cultural status (ESCS): MATHEMATICS BY MATHEMATICAL CONTENT KNOWLEDGE SUBSCALES

Subscale	Canada or province	Bottom quarter		Second quarter		Third quarter		Top quarter		Difference (top quarter - bottom quarter)		Change in the average score per one (integer) unit change in the ESCS index		Explained variance in student performance (r² x 100)	
		Avg.	SE	Avg.	SE	Avg.	SE	Avg.	SE	Dif.	SE	Dif.	SE	%	SE
Uncertainty and data	**Canada**	**460**	**(2.8)**	**489**	**(3.0)**	**518**	**(2.7)**	**542**	**(3.4)**	**83***	**(4.1)**	**43***	**(1.9)**	**8.5**	**(0.7)**
	Newfoundland and Labrador	437	(11.7)	454	(10.8)	476	(12.7)	505	(12.3)	68*	(11.6)	32*	(5.2)	6.5	(2.0)
	Prince Edward Island	435	(18.9)	469	(22.4)	500	(19.9)	516	(21.2)	81*	(21.8)	40*	(9.4)	9.8	(4.3)
	Nova Scotia	439	(10.2)	457	(8.1)	490	(10.7)	520	(10.5)	81*	(11.1)	37*	(5.1)	7.3	(1.9)
	New Brunswick	434	(9.3)	459	(9.4)	482	(8.6)	515	(9.4)	81*	(9.4)	41*	(4.4)	9.4	(1.9)
	Quebec	467	(6.0)	502	(5.9)	537	(6.3)	560	(5.8)	94*	(8.0)	51*	(4.0)	10.7	(1.5)
	Ontario	465	(6.1)	488	(6.7)	512	(5.2)	541	(5.5)	76*	(7.9)	39*	(3.6)	6.8	(1.2)
	Manitoba	439	(6.3)	463	(7.1)	486	(5.7)	506	(5.9)	68*	(7.6)	31*	(3.3)	6.8	(1.4)
	Saskatchewan	448	(7.4)	460	(6.5)	476	(8.1)	511	(8.7)	63*	(8.3)	32*	(3.7)	6.1	(1.4)
	Alberta	460	(8.6)	489	(8.1)	525	(8.6)	555	(11.0)	95*	(11.6)	48*	(5.4)	10.2	(2.2)
	British Columbia	458	(8.2)	499	(7.4)	518	(7.1)	545	(9.0)	87*	(10.2)	44*	(4.9)	8.5	(1.9)

Avg. Average
SE Standard error
Dif. Difference
* Significant difference within Canada or province.

Percentage of students by immigrant status

Canada, province, or OECD average	Non-immigrant students		Immigrant students		Second-generation immigrant students		First-generation immigrant students	
	%	Standard error	%	Standard error	%	Standard error	%	Standard error
Canada	**65.6**	**(1.1)**	**34.4**	**(1.1)**	**18.3**	**(0.8)**	**16.1**	**(0.6)**
Newfoundland and Labrador	95.5	(0.8)	4.5	(0.8)	U‡	(0.3)	3.9	(0.7)
Prince Edward Island	88.2	(2.0)	11.8‡	(2.0)	U‡	(0.7)	10.8‡	(1.9)
Nova Scotia	91.0	(1.1)	9.0	(1.1)	3.1	(0.6)	6.0	(0.9)
New Brunswick	91.2	(0.8)	8.8	(0.8)	1.0‡	(0.3)	7.8	(0.7)
Quebec	72.2	(2.5)	27.8	(2.5)	14.0	(1.5)	13.8	(1.3)
Ontario	58.0	(2.2)	42.0	(2.2)	26.2	(1.8)	15.8	(1.0)
Manitoba	72.2	(1.4)	27.8	(1.4)	7.8	(0.6)	20.0	(1.2)
Saskatchewan	78.4	(1.0)	21.6	(1.0)	5.1	(0.6)	16.5	(0.9)
Alberta	60.4	(3.7)	39.6	(3.7)	18.6	(2.0)	21.0	(2.1)
British Columbia	63.6	(2.3)	36.4	(2.3)	17.2	(1.5)	19.1	(1.3)
OECD average	**87.1**	**(0.1)**	**12.9**	**(0.1)**	**7.6**	**(0.1)**	**5.4**	**(0.1)**

‡ There are fewer than 30 observations.
U Too unreliable to be published.

Table B.2.4b

Average scores by immigrant status: MATHEMATICS

Canada, province, or OECD average	Non-immigrant students		Immigrant students		Second-generation immigrant students		First-generation immigrant students		Difference (immigrant students - non-immigrant students)		Difference (second-generation students - non-immigrant students)		Difference (first-generation students - non-immigrant students)		Difference (first-generation students - second-generation students)	
	Av.	SE	Av.	SE	Av.	SE	Av.	SE	Dif.	SE	Dif.	SE	Dif.	SE	Dif.	SE
Canada	**497**	**(1.8)**	**508**	**(2.9)**	**517**	**(3.4)**	**499**	**(3.7)**	**12***	**(3.2)**	**20***	**(3.6)**	**2**	**(4.0)**	**-18***	**(4.2)**
Newfoundland and Labrador	460**	(5.6)	462**	(20.8)	489‡	(59.3)	458	(21.7)	2	(20.1)	28	(59.5)	-3	(20.9)	-31	(63.1)
Prince Edward Island	482	(7.9)	514‡	(18.6)	471‡	(64.0)	518‡	(18.7)	32	(20.2)	-10	(63.9)	36	(20.4)	46	(65.8)
Nova Scotia	471**	(3.9)	506	(13.0)	510	(18.8)	504	(17.1)	35*	(12.9)	39*	(18.4)	33	(17.1)	-6	(25.1)
New Brunswick	469**	(3.4)	498	(12.6)	507‡	(33.1)	497	(13.7)	29*	(13.2)	38	(33.1)	28*	(14.3)	-10	(36.1)
Quebec	524**	(3.8)	500	(5.7)	507	(7.1)	493	(6.8)	-24*	(5.5)	-18*	(7.0)	-31*	(6.6)	-13	(8.1)
Ontario	492	(3.2)	511	(4.6)	519	(5.0)	498	(6.5)	19*	(5.0)	27*	(5.4)	6	(6.7)	-21*	(6.3)
Manitoba	472**	(3.5)	477**	(4.6)	473**	(8.4)	478**	(5.9)	5	(5.9)	1	(9.1)	6	(6.9)	5	(10.7)
Saskatchewan	470**	(3.0)	475**	(5.1)	501	(12.7)	467**	(5.7)	5	(5.6)	31*	(12.6)	-3	(6.3)	-34*	(14.2)
Alberta	500	(5.4)	513	(10.8)	527	(13.2)	501	(11.1)	13	(10.8)	26*	(13.2)	0	(11.1)	-26*	(11.9)
British Columbia	491	(5.1)	519	(5.6)	520	(8.0)	519**	(6.6)	28*	(6.1)	29*	(8.3)	28*	(7.0)	-1	(9.2)
OECD average	**479****	**(0.4)**	**448****	**(1.4)**	**461****	**(2.1)**	**437****	**(1.9)**	**-30***	**(1.4)**	**-18***	**(2.1)**	**-41***	**(1.9)**	**-24***	**(2.7)**

Av. Average
SE Standard error
Dif. Difference
‡ There are fewer than 30 observations.
* Significant difference within Canada, province, or OECD.
** Significant difference compared to Canada.

Proportion of students by immigrant status who performed below Level 2, at Level 2 or above, and at Levels 5 and 6: MATHEMATICS

Canada or province	Non-immigrant students		Immigrant students		Second-generation immigrant students		First-generation immigrant students		Difference (immigrant students - non-immigrant students)		Difference (second-generation students - non-immigrant students)		Difference (first-generation students - non-immigrant students)		Difference (first-generation students - second-generation students)	
	%	SE	%	SE	%	SE	%	SE	Dif.	SE	Dif.	SE	Dif.	SE	Dif.	SE
Canada	**20.9**	**(0.7)**	**19.0**	**(1.1)**	**15.9**	**(1.5)**	**22.5**	**(1.4)**	**-1.9**	**(1.4)**	**-5.0***	**(1.7)**	**1.6**	**(1.6)**	**6.6***	**(2.0)**
Newfoundland and Labrador	32.7**	(3.0)	36.7	(10.2)	U‡	(28.6)	36.5	(11.5)	4.0	(9.6)	--	--	3.8	(11.0)	--	--
Prince Edward Island	25.7	(3.8)	U‡	(8.8)	U‡	(41.7)	U‡	(8.2)	--	--	--	--	--	--	--	--
Nova Scotia	31.1**	(1.9)	18.0	(5.7)	U	(7.4)	22.1	(7.2)	-13.0*	(5.7)	--	--	-8.9	(7.2)	--	--
New Brunswick	30.7**	(1.7)	22.2	(6.1)	U‡	(15.4)	22.5	(6.3)	-8.5	(6.5)	--	--	-8.2	(6.8)	--	--
Quebec	13.4**	(1.2)	21.1	(2.2)	18.1	(2.4)	24.2	(3.3)	7.7*	(2.3)	4.7	(2.5)	10.8*	(3.4)	6.1	(3.8)
Ontario	21.2	(1.3)	17.9	(1.8)	14.7	(2.5)	23.0	(2.2)	-3.4	(2.3)	-6.5*	(3.0)	1.8	(2.4)	8.3*	(3.4)
Manitoba	27.6**	(1.8)	26.7**	(3.0)	27.8**	(4.7)	26.3	(3.7)	-0.9	(3.7)	0.1	(5.1)	-1.4	(4.3)	-1.5	(5.8)
Saskatchewan	29.2**	(1.6)	26.6**	(2.5)	19.7	(5.0)	28.8	(3.0)	-2.5	(2.9)	-9.5	(5.1)	-0.4	(3.3)	9.1	(5.9)
Alberta	21.3	(2.2)	20.3	(3.5)	17.3	(4.4)	23.0	(3.9)	-1.0	(3.9)	-4.0	(4.8)	1.7	(4.1)	5.7	(4.4)
British Columbia	22.0	(2.2)	15.3	(1.8)	14.7	(2.2)	15.8**	(2.6)	-6.7*	(2.5)	-7.3*	(2.9)	-6.2*	(3.0)	1.1	(3.3)

Below Level 2

Table B.2.4c (cont'd)

Proportion of students by immigrant status who performed below Level 2, at Level 2 or above, and at Levels 5 and 6: MATHEMATICS

Level 2 or above

Canada or province	Non-immigrant students		Immigrant students		Second-generation immigrant students		First-generation immigrant students		Difference (immigrant students - non-immigrant students)		Difference (second-generation students - non-immigrant students)		Difference (first-generation students - non-immigrant students)		Difference (first-generation students - second-generation students)	
	%	SE	%	SE	%	SE	%	SE	Dif.	SE	Dif.	SE	Dif.	SE	Dif.	SE
Canada	**79.1**	**(0.7)**	**81.0**	**(1.1)**	**84.1**	**(1.5)**	**77.5**	**(1.4)**	**1.9**	**(1.4)**	**5.0***	**(1.7)**	**-1.6**	**(1.6)**	**-6.6***	**(2.0)**
Newfoundland and Labrador	67.3**	(3.0)	63.3	(10.2)	U‡	(28.6)	63.5	(11.5)	-4.0	(9.6)	--	--	-3.8	(11.0)	--	--
Prince Edward Island	74.3	(3.8)	81.1‡	(8.8)	U‡	(41.7)	82.9‡	(8.2)	6.8	(9.1)	--	--	8.6	(8.6)	--	--
Nova Scotia	68.9**	(1.9)	82.0	(5.7)	90.1	(7.4)	77.9	(7.2)	13.0*	(5.7)	21.1*	(7.3)	8.9	(7.2)	-12.2	(9.7)
New Brunswick	69.3**	(1.7)	77.8	(6.1)	79.5‡	(15.4)	77.5	(6.3)	8.5	(6.5)	10.2	(15.4)	8.2	(6.8)	-2.0	(15.9)
Quebec	86.6**	(1.2)	78.9	(2.2)	81.9	(2.4)	75.8	(3.3)	-7.7*	(2.3)	-4.7	(2.5)	-10.8*	(3.4)	-6.1	(3.8)
Ontario	78.8	(1.3)	82.1	(1.8)	85.3	(2.5)	77.0	(2.2)	3.4	(2.3)	6.5*	(3.0)	-1.8	(2.4)	-8.3*	(3.4)
Manitoba	72.4**	(1.8)	73.3**	(3.0)	72.2**	(4.7)	73.7	(3.7)	0.9	(3.7)	-0.1	(5.1)	1.4	(4.3)	1.5	(5.8)
Saskatchewan	70.8**	(1.6)	73.4**	(2.5)	80.3	(5.0)	71.2	(3.0)	2.5	(2.9)	9.5	(5.1)	0.4	(3.3)	-9.1	(5.9)
Alberta	78.7	(2.2)	79.7	(3.5)	82.7	(4.4)	77.0	(3.9)	1.0	(3.9)	4.0	(4.8)	-1.7	(4.1)	-5.7	(4.4)
British Columbia	78.0	(2.2)	84.7	(1.8)	85.3	(2.2)	84.2**	(2.6)	6.7*	(2.5)	7.3*	(2.9)	6.2*	(3.0)	-1.1	(3.3)

Table B.2.4c (cont'd)

Proportion of students by immigrant status who performed below Level 2, at Level 2 or above, and at Levels 5 and 6: MATHEMATICS

Levels 5 and 6

Canada or province	Non-immigrant students		Immigrant students		Second-generation immigrant students		First-generation immigrant students		Difference (immigrant students - non-immigrant students)		Difference (second-generation students - non-immigrant students)		Difference (first-generation students - non-immigrant students)		Difference (first-generation students - second-generation students)	
	%	SE	%	SE	%	SE	%	SE	Dif.	SE	Dif.	SE	Dif.	SE	Dif.	SE
Canada	**11.6**	**(0.6)**	**16.4**	**(1.0)**	**17.7**	**(1.4)**	**14.8**	**(1.2)**	**4.7***	**(1.1)**	**6.1***	**(1.5)**	**3.2***	**(1.3)**	**-2.9**	**(1.8)**
Newfoundland and Labrador	4.6**	(1.1)	U	(7.4)	U‡	(28.3)	U	(6.0)	--		--		--		--	
Prince Edward Island	7.0**	(2.3)	U‡	(9.2)	U‡	(24.8)	U‡	(10.1)	--		--		--		--	
Nova Scotia	7.1**	(1.1)	15.3	(4.9)	U	(9.6)	U	(6.4)	8.3	(5.0)	--		--		--	
New Brunswick	6.0**	(0.9)	15.6	(4.7)	U‡	(13.9)	14.8	(4.8)	9.7*	(4.8)	--		8.9	(5.0)	--	
Quebec	18.6**	(1.4)	13.6	(1.8)	14.4	(2.8)	12.8	(2.1)	-5.0*	(1.8)	-4.2	(2.7)	-5.8*	(2.2)	-1.6	(3.3)
Ontario	9.5**	(0.9)	16.8	(1.7)	17.9	(2.0)	15.0	(2.3)	7.3*	(1.7)	8.4*	(2.0)	5.5*	(2.2)	-2.9	(2.5)
Manitoba	6.0**	(0.8)	7.0**	(1.5)	U	(2.6)	7.5**	(1.8)	0.9	(1.8)	--		1.5	(2.0)	--	
Saskatchewan	5.8**	(0.7)	6.7**	(1.7)	13.1	(4.4)	U	(1.6)	0.9	(1.8)	7.3	(4.4)	--		--	
Alberta	12.6	(2.0)	19.8	(3.3)	23.2	(4.7)	16.7	(3.4)	7.1*	(3.6)	10.6*	(4.9)	4.0	(3.8)	-6.6	(5.1)
British Columbia	10.2	(1.4)	18.1	(1.9)	16.7	(3.1)	19.3	(2.5)	7.8*	(2.1)	6.5*	(3.2)	9.0*	(2.8)	2.5	(4.1)

SE Standard error
Dif. Difference
-- Not available.
U Too unreliable to be published.
‡ There are fewer than 30 observations.
* Significant difference within Canada or province.
** Significant difference compared to Canada.

Average scores by immigrant status: MATHEMATICS BY MATHEMATICAL PROCESS SUBSCALES

Subscale	Canada or province	Non-immigrant students		Immigrant students		Second-generation immigrant students		First-generation immigrant students		Difference (immigrant students - non-immigrant students)		Difference (second-generation students - non-immigrant students)		Difference (first-generation students - non-immigrant students)		Difference (first-generation students - second-generation students)	
		Av.	SE	Av.	SE	Av.	SE	Av.	SE	Dif.	SE	Dif.	SE	Dif.	SE	Dif.	SE
Formulating	**Canada**	**492**	**(2.5)**	**507**	**(4.4)**	**515**	**(5.0)**	**498**	**(5.6)**	**15***	**(4.6)**	**23***	**(5.0)**	**6**	**(5.9)**	**-17***	**(6.0)**
	Newfoundland and Labrador	450**	(8.4)	445**	(23.8)	481‡	(67.8)	439**	(23.4)	-5	(21.8)	32	(66.3)	-11	(21.8)	-42	(69.1)
	Prince Edward Island	472	(12.1)	504‡	(27.1)	446‡	(85.6)	510‡	(26.6)	33	(30.7)	-25	(86.7)	38	(30.2)	64	(85.1)
	Nova Scotia	466**	(8.1)	511	(19.4)	511	(26.3)	511	(23.3)	46*	(17.9)	45	(25.5)	46*	(21.8)	0	(30.8)
	New Brunswick	462**	(8.5)	497	(19.0)	509‡	(39.0)	496	(21.5)	35	(18.3)	47	(38.9)	34	(20.8)	-14	(46.7)
	Quebec	523**	(5.1)	501	(9.2)	508	(11.8)	495	(10.0)	-21*	(9.7)	-15	(12.5)	-28*	(10.0)	-13	(11.9)
	Ontario	485	(4.9)	507	(6.7)	515	(7.1)	494	(8.7)	22*	(7.4)	30*	(7.6)	9	(9.4)	-21*	(7.8)
	Manitoba	462**	(7.0)	475**	(8.4)	470**	(13.3)	478**	(9.3)	14	(8.9)	8	(13.0)	16	(10.1)	8	(14.3)
	Saskatchewan	459**	(7.5)	466**	(8.7)	490	(16.4)	458**	(9.6)	7	(8.2)	31*	(15.6)	-1	(9.5)	-32	(18.1)
	Alberta	495	(7.8)	512	(12.3)	524	(15.2)	501	(14.2)	17	(12.6)	30	(15.7)	6	(14.2)	-23	(16.5)
	British Columbia	488	(6.3)	523	(9.0)	522	(10.7)	524**	(10.9)	35*	(8.7)	34*	(10.3)	36*	(10.7)	2	(12.0)
Employing	**Canada**	**493**	**(2.5)**	**509**	**(3.5)**	**518**	**(4.0)**	**500**	**(5.1)**	**16***	**(3.6)**	**25***	**(4.2)**	**6**	**(5.0)**	**-18***	**(6.0)**
	Newfoundland and Labrador	454**	(7.4)	449**	(20.3)	464‡	(59.1)	446**	(21.4)	-5	(19.5)	10	(58.8)	-8	(20.8)	-18	(63.1)
	Prince Edward Island	479	(16.5)	525‡	(33.9)	464‡	(63.9)	531‡	(36.6)	46	(27.5)	-15	(65.7)	51	(29.7)	66	(75.5)
	Nova Scotia	466**	(6.7)	506	(16.2)	516	(25.4)	502	(19.3)	40*	(15.5)	50*	(24.4)	35	(19.0)	-15	(30.0)
	New Brunswick	469**	(6.4)	503	(17.5)	506‡	(36.7)	503	(18.4)	34*	(16.2)	37	(36.1)	34*	(17.1)	-3	(37.9)
	Quebec	526**	(5.1)	505	(7.9)	509	(9.5)	500	(10.8)	-21*	(7.5)	-16	(9.1)	-26*	(10.5)	-9	(12.9)
	Ontario	485**	(4.0)	511	(5.1)	520	(5.4)	496	(7.9)	25*	(5.6)	34*	(6.1)	10	(7.8)	-24*	(8.2)
	Manitoba	470**	(5.6)	479**	(8.6)	475**	(13.0)	480**	(9.6)	9	(7.9)	6	(12.3)	11	(9.2)	5	(14.1)
	Saskatchewan	468**	(4.0)	477**	(7.3)	506	(13.9)	468**	(8.4)	9	(6.6)	38*	(14.1)	0	(7.6)	-38*	(16.1)
	Alberta	498	(6.6)	515	(11.6)	528	(15.1)	504	(11.6)	17	(11.8)	30*	(15.0)	5	(12.0)	-25	(13.8)
	British Columbia	483	(6.6)	518	(7.9)	518	(11.1)	518**	(8.5)	35*	(7.9)	35*	(10.8)	35*	(8.8)	0	(11.6)

Average scores by immigrant status: MATHEMATICS BY MATHEMATICAL PROCESS SUBSCALES

Subscale	Canada or province	Non-immigrant students		Immigrant students		Second-generation immigrant students		First-generation immigrant students		Difference (immigrant students - non-immigrant students)		Difference (second-generation students - non-immigrant students)		Difference (first-generation students - non-immigrant students)		Difference (first-generation students - second-generation students)	
		Av.	SE	Av.	SE	Av.	SE	Av.	SE	Dif.	SE	Dif.	SE	Dif.	SE	Dif.	SE
Interpreting	**Canada**	**505**	**(2.2)**	**513**	**(3.5)**	**523**	**(4.2)**	**502**	**(4.5)**	**8***	**(3.8)**	**18***	**(4.3)**	**-2**	**(4.8)**	**-20***	**(5.1)**
	Newfoundland and Labrador	472**	(9.4)	469	(23.2)	488‡	(69.5)	465	(24.7)	-3	(21.0)	17	(68.9)	-6	(22.6)	-23	(75.0)
	Prince Edward Island	492	(12.7)	516‡	(25.1)	516‡	(59.3)	516‡	(25.8)	24	(25.3)	24	(57.4)	24	(26.4)	1	(60.2)
	Nova Scotia	477**	(4.7)	505	(14.7)	505	(23.5)	504	(19.0)	27	(15.1)	28	(24.2)	27	(19.1)	-1	(30.5)
	New Brunswick	475**	(6.5)	498	(16.8)	509‡	(39.2)	497	(18.2)	23	(16.6)	34	(38.9)	22	(18.0)	-12	(42.7)
	Quebec	529**	(4.8)	500	(7.7)	510	(9.4)	490	(9.3)	-29*	(8.1)	-19	(9.6)	-39*	(9.8)	-20	(10.7)
	Ontario	502	(4.2)	516	(5.5)	524	(5.7)	503	(7.7)	14*	(6.1)	23*	(6.4)	1	(7.9)	-21*	(7.2)
	Manitoba	478**	(4.3)	486**	(6.1)	481**	(10.0)	488	(7.2)	8	(7.3)	3	(10.2)	9	(8.5)	7	(11.7)
	Saskatchewan	473**	(5.6)	477**	(9.5)	506	(16.9)	467**	(10.1)	4	(8.1)	33*	(16.4)	-5	(8.6)	-38*	(17.6)
	Alberta	510	(6.8)	521	(11.3)	535	(14.6)	508	(12.1)	11	(12.1)	25	(15.1)	-2	(13.0)	-28	(14.8)
	British Columbia	500	(6.6)	524	(7.8)	526	(10.7)	523**	(9.2)	25*	(7.6)	27*	(10.2)	23*	(9.4)	-3	(12.4)
Mathematical reasoning	**Canada**	**500**	**(2.3)**	**507**	**(4.1)**	**516**	**(4.5)**	**498**	**(5.4)**	**7**	**(4.4)**	**16***	**(4.8)**	**-2**	**(5.5)**	**-18***	**(5.4)**
	Newfoundland and Labrador	461**	(9.5)	461**	(20.5)	497‡	(65.6)	455	(22.1)	0	(19.5)	35	(64.6)	-6	(21.5)	-41	(72.3)
	Prince Edward Island	479	(20.0)	502‡	(27.9)	488‡	(73.6)	503‡	(27.9)	23	(23.5)	9	(68.7)	24	(24.5)	15	(71.5)
	Nova Scotia	478**	(6.5)	515	(18.8)	526	(26.6)	510	(21.8)	37*	(17.0)	47	(25.3)	31	(20.3)	-16	(30.1)
	New Brunswick	469**	(6.2)	496	(17.3)	492‡	(40.1)	496	(17.7)	27	(15.9)	24	(38.9)	28	(16.5)	4	(39.8)
	Quebec	521**	(4.5)	493**	(6.8)	501	(8.4)	485	(8.6)	-28*	(6.5)	-20*	(8.1)	-36*	(8.6)	-16	(10.4)
	Ontario	498	(4.3)	510	(6.2)	517	(6.9)	499	(8.3)	13*	(6.5)	20*	(7.1)	1	(8.5)	-18*	(8.3)
	Manitoba	474**	(4.9)	473**	(6.7)	469**	(11.9)	475**	(7.2)	-1	(7.4)	-5	(11.4)	0	(8.3)	5	(12.5)
	Saskatchewan	475**	(3.2)	476**	(6.6)	503	(14.7)	468**	(8.0)	1	(7.3)	28	(14.4)	-7	(8.9)	-35*	(17.8)
	Alberta	505	(6.1)	514	(11.7)	526	(14.7)	504	(12.4)	10	(11.9)	21	(14.7)	-1	(12.6)	-22	(14.2)
	British Columbia	497	(6.4)	521**	(7.7)	524	(9.3)	519**	(9.9)	24*	(8.2)	27*	(10.0)	22*	(10.0)	-5	(11.7)

Av. Average
SE Standard error
Dif. Difference
‡ There are fewer than 30 observations.
* Significant difference within Canada or province.
** Significant difference compared to Canada.

Table B.2.6

Average scores by immigrant status: MATHEMATICS BY MATHEMATICAL CONTENT KNOWLEDGE SUBSCALES

Subscale	Canada or province	Non-immigrant students		Immigrant students		Second-generation immigrant students		First-generation immigrant students		Difference (immigrant students - non-immigrant students)		Difference (second-generation students - non-immigrant students)		Difference (first-generation students - non-immigrant students)		Difference (first-generation students - second-generation students)	
		Av.	SE	Av.	SE	Av.	SE	Av.	SE	Dif.	SE	Dif.	SE	Dif.	SE	Dif.	SE
Change and relationships	**Canada**	**502**	**(2.1)**	**515**	**(3.8)**	**522**	**(5.3)**	**507**	**(4.9)**	**13***	**(4.1)**	**20***	**(5.6)**	**5**	**(5.0)**	**-15***	**(6.9)**
	Newfoundland and Labrador	466**	(6.7)	472	(23.6)	497‡	(73.7)	468	(23.1)	6	(23.1)	31	(73.2)	2	(22.8)	-29	(74.9)
	Prince Edward Island	479	(12.6)	526‡	(29.0)	452‡	(58.9)	533‡	(31.2)	47	(27.7)	-27	(60.6)	54	(29.5)	80	(69.1)
	Nova Scotia	480**	(6.0)	514	(15.9)	516	(20.9)	513	(21.0)	34*	(15.7)	36	(21.2)	33	(20.6)	-3	(28.8)
	New Brunswick	469**	(7.2)	501	(14.9)	507‡	(35.4)	500	(15.9)	32*	(15.2)	38	(35.4)	31	(16.2)	-7	(37.8)
	Quebec	522**	(5.3)	501	(6.7)	507	(8.7)	495	(9.4)	-21*	(6.8)	-15	(9.4)	-27*	(8.9)	-12	(12.3)
	Ontario	500	(4.0)	516	(5.7)	522	(7.0)	505	(7.8)	16*	(5.5)	23*	(6.6)	5	(7.8)	-17	(9.1)
	Manitoba	476**	(5.7)	483**	(8.5)	479**	(12.3)	485**	(10.2)	7	(8.8)	3	(12.6)	9	(10.4)	6	(14.8)
	Saskatchewan	471**	(5.0)	475**	(8.1)	498	(16.3)	468**	(8.8)	4	(6.8)	26	(15.1)	-3	(8.1)	-29	(17.8)
	Alberta	515**	(6.9)	529	(12.0)	540	(16.3)	519	(12.2)	14	(12.3)	25	(16.4)	4	(12.7)	-21	(16.0)
	British Columbia	496	(6.1)	526	(6.9)	526	(9.8)	526**	(8.3)	30*	(8.4)	30*	(11.4)	30*	(9.1)	0	(11.8)
Quantity	**Canada**	**492**	**(2.1)**	**508**	**(3.4)**	**516**	**(4.2)**	**497**	**(4.1)**	**15***	**(3.5)**	**24***	**(4.2)**	**5**	**(4.3)**	**-19***	**(4.9)**
	Newfoundland and Labrador	454**	(7.4)	453**	(22.9)	487‡	(67.1)	447**	(23.1)	-1	(21.9)	32	(66.5)	-7	(22.3)	-39	(69.7)
	Prince Edward Island	481	(12.2)	518‡	(30.4)	451‡	(64.3)	525‡	(32.0)	37	(27.6)	-30	(64.7)	44	(29.0)	74	(71.4)
	Nova Scotia	463**	(7.5)	502	(17.6)	513	(23.9)	497	(20.5)	39*	(16.6)	50*	(22.9)	34	(19.8)	-16	(26.8)
	New Brunswick	468**	(7.8)	498	(15.3)	501‡	(37.2)	498	(16.8)	30	(15.8)	33	(39.3)	30	(16.7)	-3	(41.4)
	Quebec	523**	(4.5)	502	(7.3)	509	(9.1)	496	(8.1)	-21*	(7.7)	-14	(9.2)	-28*	(8.7)	-13	(9.4)
	Ontario	485**	(4.0)	509	(5.6)	517	(6.2)	495	(7.5)	24*	(5.8)	32*	(6.1)	10	(7.7)	-23*	(7.4)
	Manitoba	469**	(5.2)	479**	(6.4)	473**	(10.8)	481**	(7.3)	9	(7.7)	4	(11.8)	11	(8.3)	7	(12.1)
	Saskatchewan	466**	(4.3)	472**	(7.7)	502	(14.0)	463**	(8.9)	6	(7.1)	36*	(13.5)	-3	(8.4)	-38*	(16.2)
	Alberta	494	(6.2)	511	(11.7)	525	(14.5)	499	(12.1)	17	(11.6)	31*	(14.1)	5	(12.4)	-26*	(13.4)
	British Columbia	488	(6.4)	520	(6.6)	521	(9.0)	519**	(8.2)	32*	(7.0)	33*	(9.2)	31*	(8.6)	-3	(11.0)

Table B.2.6 (cont'd)

Average scores by immigrant status: MATHEMATICS BY MATHEMATICAL CONTENT KNOWLEDGE SUBSCALES

Subscale	Canada or province	Non-immigrant students		Immigrant students		Second-generation immigrant students		First-generation immigrant students		Difference (immigrant students - non-immigrant students)		Difference (second-generation students - non-immigrant students)		Difference (first-generation students - non-immigrant students)		Difference (first-generation students - second-generation students)	
		Av.	SE	Av.	SE	Av.	SE	Av.	SE	Dif.	SE	Dif.	SE	Dif.	SE	Dif.	SE
Space and shape	Canada	492	(2.6)	499	(3.8)	508	(5.4)	487	(5.6)	7	(4.7)	17*	(5.7)	-4	(6.5)	-21*	(8.0)
	Newfoundland and Labrador	450**	(10.9)	452	(27.0)	459‡	(60.0)	450	(29.2)	2	(22.1)	9	(58.0)	1	(24.8)	-9	(64.8)
	Prince Edward Island	463	(15.6)	488‡	(34.5)	430‡	(72.7)	494‡	(35.3)	25	(29.5)	-33	(71.6)	31	(30.1)	64	(73.8)
	Nova Scotia	468**	(7.0)	493	(20.9)	502	(29.3)	489	(23.0)	25	(21.2)	34	(29.6)	21	(23.3)	-13	(30.2)
	New Brunswick	472**	(5.8)	498	(15.6)	506‡	(37.3)	497	(17.1)	26	(17.6)	35	(37.2)	25	(19.2)	-10	(41.4)
	Quebec	520**	(5.8)	495	(8.0)	505	(11.9)	485	(9.9)	-25*	(7.5)	-16	(11.3)	-35*	(10.0)	-19	(15.3)
	Ontario	488	(4.3)	502	(6.2)	511	(7.2)	488	(9.9)	14*	(6.5)	23*	(7.3)	0	(10.2)	-23*	(11.5)
	Manitoba	468**	(8.7)	467**	(8.2)	463**	(13.5)	468	(8.8)	-1	(9.2)	-5	(14.4)	0	(9.6)	5	(14.1)
	Saskatchewan	466**	(7.1)	461**	(11.0)	497	(16.6)	450**	(11.8)	-5	(8.5)	31*	(14.7)	-16	(9.7)	-47*	(17.0)
	Alberta	492	(6.7)	499	(12.3)	510	(15.4)	489	(12.8)	7	(13.3)	19	(16.0)	-3	(14.1)	-22	(14.5)
	British Columbia	480	(7.9)	503	(9.7)	505	(14.0)	502	(10.2)	23*	(8.7)	25*	(11.9)	21*	(10.9)	-4	(14.8)
Uncertainty and data	Canada	501	(2.3)	511	(3.7)	520	(5.2)	502	(4.1)	10*	(4.3)	19*	(5.6)	1	(4.8)	-18*	(6.0)
	Newfoundland and Labrador	469**	(9.4)	471	(23.3)	503‡	(57.5)	466	(24.2)	2	(21.9)	34	(55.7)	-3	(23.4)	-37	(60.4)
	Prince Edward Island	478	(15.7)	506‡	(31.1)	506‡	(45.3)	506‡	(33.4)	28	(26.3)	28	(47.2)	28	(28.3)	1	(54.1)
	Nova Scotia	475**	(6.9)	513	(20.9)	513	(32.1)	513	(22.7)	39*	(19.3)	39	(30.4)	39	(21.8)	0	(33.6)
	New Brunswick	472**	(7.7)	495	(16.9)	514‡	(38.4)	493	(19.6)	24	(16.3)	43	(42.0)	21	(17.9)	-21	(47.0)
	Quebec	528**	(4.9)	495**	(8.7)	502	(12.2)	488	(10.2)	-32*	(8.6)	-25*	(12.1)	-39*	(10.2)	-14	(14.5)
	Ontario	498	(4.7)	514	(5.9)	520	(7.3)	503	(7.8)	16*	(6.7)	23*	(7.8)	5	(8.6)	-18	(9.1)
	Manitoba	474**	(5.0)	480**	(6.8)	475**	(11.3)	482**	(8.2)	6	(7.1)	2	(12.1)	8	(8.1)	6	(13.8)
	Saskatchewan	474**	(6.6)	481**	(7.9)	507	(16.6)	473**	(8.1)	7	(7.0)	32*	(15.3)	-1	(7.9)	-33	(17.4)
	Alberta	500	(7.3)	521	(11.4)	536	(14.7)	508	(12.0)	21	(12.7)	36*	(15.2)	8	(13.8)	-28	(14.6)
	British Columbia	498	(6.7)	524	(8.9)	529	(13.0)	520**	(8.1)	27*	(8.4)	31*	(12.4)	23*	(8.2)	-8	(12.2)

Av. Average
SE Standard error
Dif. Difference
‡ There are fewer than 30 observations.
* Significant difference within Canada or province.
** Significant difference compared to Canada.

Table B.2.7a

Percentage of students by language spoken at home

Canada or province	English		French		Other	
	Average	Standard error	Average	Standard error	Average	Standard error
Canada	**63.8**	**(0.7)**	**17.3**	**(0.6)**	**18.8**	**(0.7)**
Newfoundland and Labrador	96.8	(0.7)	U‡	(0.2)	2.8	(0.6)
Prince Edward Island	90.7	(1.7)	U‡	(1.5)	7.3‡	(1.3)
Nova Scotia	92.7	(0.9)	1.2	(0.2)	6.1	(0.9)
New Brunswick	70.3	(1.0)	23.1	(0.9)	6.6	(0.7)
Quebec	13.2	(0.8)	71.8	(2.0)	15.0	(1.5)
Ontario	76.8	(1.2)	2.5	(0.2)	20.7	(1.2)
Manitoba	82.0	(1.1)	1.8	(0.2)	16.2	(1.1)
Saskatchewan	86.9	(0.8)	1.0‡	(0.3)	12.1	(0.8)
Alberta	75.6	(2.1)	1.1	(0.3)	23.3	(2.1)
British Columbia	75.5	(1.7)	0.6‡	(0.2)	23.9	(1.6)

‡ There are fewer than 30 observations.
U Too unreliable to be published.

Table B.2.7b

Average scores by language spoken at home: MATHEMATICS

Canada or province	English		French		Other		Difference (English - French)		Difference (English - Other)		Difference (French - Other)	
	Av.	SE	Av.	SE	Av.	SE	Dif.	SE	Dif.	SE	Dif.	SE
Canada	**492**	**(1.8)**	**516**	**(3.7)**	**507**	**(3.4)**	**-24***	**(4.3)**	**-15***	**(3.4)**	**9**	**(5.0)**
Newfoundland and Labrador	460**	(5.6)	390‡**	(39.0)	451**	(22.6)	70	(39.1)	9	(21.4)	-61	(41.9)
Prince Edward Island	482	(7.8)	466‡	(32.1)	506‡	(22.1)	16	(34.4)	-24	(23.2)	-40	(37.8)
Nova Scotia	470**	(3.9)	482**	(12.0)	500	(14.8)	-12	(12.2)	-30*	(14.6)	-18	(19.9)
New Brunswick	464**	(4.0)	475**	(6.2)	490	(14.5)	-11	(7.7)	-26	(15.1)	-15	(15.9)
Quebec	499	(5.6)	520**	(4.0)	506	(6.6)	-21*	(6.1)	-7	(7.9)	14*	(6.0)
Ontario	495	(3.0)	474**	(8.0)	508	(5.7)	21*	(8.6)	-13*	(5.3)	-34*	(9.3)
Manitoba	471**	(3.1)	456**	(9.9)	470**	(6.6)	16	(9.8)	1	(7.5)	-15	(10.4)
Saskatchewan	470**	(2.9)	429‡**	(22.6)	464**	(6.3)	42	(22.8)	7	(6.6)	-35	(21.9)
Alberta	502**	(5.3)	502	(26.4)	509	(12.9)	0	(26.2)	-7	(11.6)	-8	(30.3)
British Columbia	494	(4.9)	477‡	(26.2)	515	(5.9)	17	(26.8)	-21*	(6.4)	-38	(26.5)

Av. Average
SE Standard error
Dif. Difference
‡ There are fewer than 30 observations.
* Significant difference within Canada or province.
** Significant difference compared to Canada.

Proportion of students by language spoken at home who performed below Level 2, at Level 2 or above, and at Levels 5 and 6: MATHEMATICS

	Below Level 2											
Canada or province	**English**		**French**		**Other**		**Difference (English - French)**		**Difference (English - Other)**		**Difference (French - Other)**	
	%	SE	%	SE	%	SE	Dif.	SE	Dif.	SE	Dif.	SE
Canada	**22.7**	**(0.7)**	**16.3**	**(1.1)**	**20.6**	**(1.3)**	**6.4***	**(1.3)**	**2.1**	**(1.5)**	**-4.3***	**(1.7)**
Newfoundland and Labrador	33.1**	(2.9)	U‡	(36.1)	39.0	(12.8)	--	--	-6.0	(12.1)	--	--
Prince Edward Island	25.3	(3.8)	U‡	(16.5)	U‡	(9.7)	--	--	--	--	--	--
Nova Scotia	31.2**	(1.9)	22.8	(7.2)	22.8	(6.6)	8.5	(7.0)	8.4	(6.7)	0.0	(10.1)
New Brunswick	32.3**	(1.9)	29.5**	(2.8)	24.2	(6.4)	2.7	(3.2)	8.1	(7.0)	5.3	(7.2)
Quebec	21.2	(2.4)	14.6**	(1.3)	20.1	(2.6)	6.6*	(2.4)	1.2	(3.2)	-5.4*	(2.7)
Ontario	21.1**	(1.1)	30.1**	(4.5)	18.9	(2.0)	-9.0*	(4.5)	2.2	(2.2)	11.2*	(5.1)
Manitoba	28.3**	(1.5)	39.1**	(7.7)	29.6**	(3.8)	-10.8	(7.8)	-1.3	(4.2)	9.4	(8.7)
Saskatchewan	28.7**	(1.4)	52.1‡**	(11.9)	32.2**	(3.7)	-23.5*	(11.9)	-3.6	(3.9)	19.9	(12.3)
Alberta	20.9	(2.0)	U	(12.1)	23.3	(4.5)	--	--	-2.4	(4.4)	--	--
British Columbia	21.3	(2.0)	U‡	(18.9)	18.6	(2.4)	--	--	2.7	(3.0)	--	--

	Level 2 or above											
Canada or province	**English**		**French**		**Other**		**Difference (English - French)**		**Difference (English - Other)**		**Difference (French - Other)**	
	%	SE	%	SE	%	SE	Dif.	SE	Dif.	SE	Dif.	SE
Canada	**77.3**	**(0.7)**	**83.7**	**(1.1)**	**79.4**	**(1.3)**	**-6.4***	**(1.3)**	**-2.1**	**(1.5)**	**4.3***	**(1.7)**
Newfoundland and Labrador	66.9**	(2.9)	U‡	(36.1)	61.0	(12.8)	--	--	6.0	(12.1)	--	--
Prince Edward Island	74.7	(3.8)	64.8‡	(16.5)	76.6‡	(9.7)	9.8	(17.2)	-1.9	(10.5)	-11.7	(18.3)
Nova Scotia	68.8**	(1.9)	77.2	(7.2)	77.2	(6.6)	-8.5	(7.0)	-8.4	(6.7)	0.0	(10.1)
New Brunswick	67.7**	(1.9)	70.5**	(2.8)	75.8	(6.4)	-2.7	(3.2)	-8.1	(7.0)	-5.3	(7.2)
Quebec	78.8	(2.4)	85.4**	(1.3)	79.9	(2.6)	-6.6*	(2.4)	-1.2	(3.2)	5.4*	(2.7)
Ontario	78.9**	(1.1)	69.9**	(4.5)	81.1	(2.0)	9.0*	(4.5)	-2.2	(2.2)	-11.2*	(5.1)
Manitoba	71.7**	(1.5)	60.9**	(7.7)	70.4**	(3.8)	10.8	(7.8)	1.3	(4.2)	-9.4	(8.7)
Saskatchewan	71.3**	(1.4)	47.9‡**	(11.9)	67.8**	(3.7)	23.5*	(11.9)	3.6	(3.9)	-19.9	(12.3)
Alberta	79.1	(2.0)	72.7	(12.1)	76.7	(4.5)	6.4	(12.0)	2.4	(4.4)	-4.0	(12.9)
British Columbia	78.7	(2.0)	75.0‡	(18.9)	81.4	(2.4)	3.8	(19.3)	-2.7	(3.0)	-6.4	(18.9)

	Levels 5 and 6											
Canada or province	**English**		**French**		**Other**		**Difference (English - French)**		**Difference (English - Other)**		**Difference (French - Other)**	
	%	SE	%	SE	%	SE	Dif.	SE	Dif.	SE	Dif.	SE
Canada	**10.8**	**(0.6)**	**17.0**	**(1.3)**	**16.4**	**(1.1)**	**-6.3***	**(1.5)**	**-5.7***	**(1.2)**	**0.6**	**(1.7)**
Newfoundland and Labrador	4.7**	(1.1)	0.0‡**	(0.0)	U	(6.0)	4.7*	(1.1)	--	--	--	--
Prince Edward Island	6.9	(2.3)	U‡	(6.7)	U‡	(10.8)	--	--	--	--	--	--
Nova Scotia	7.3**	(1.0)	U	(3.5)	U	(5.3)	--	--	--	--	--	--
New Brunswick	6.1**	(1.0)	6.1**	(1.7)	U	(4.6)	0.1	(1.9)	--	--	--	--
Quebec	13.0	(1.7)	18.1**	(1.4)	14.4	(2.3)	-5.1*	(2.1)	-1.4	(2.5)	3.6	(2.3)
Ontario	11.4	(0.9)	8.6**	(2.0)	15.9	(2.1)	2.8	(2.2)	-4.5*	(2.1)	-7.2*	(2.9)
Manitoba	6.0**	(0.8)	U	(2.5)	6.7**	(1.8)	--	--	-0.7	(2.0)	--	--
Saskatchewan	5.6**	(0.7)	U‡	(7.2)	7.3**	(1.9)	--	--	-1.6	(2.0)	--	--
Alberta	13.5	(1.8)	U	(9.7)	21.1	(3.9)	--	--	-7.5	(3.9)	--	--
British Columbia	10.8	(1.3)	U‡	(9.3)	18.5	(1.9)	--	--	-7.7*	(2.1)	--	--

SE Standard error
Dif. Difference
-- Not available.
U Too unreliable to be published.
‡ There are fewer than 30 observations.
* Significant difference within Canada or province.
** Significant difference compared to Canada.

Average scores by language spoken at home: MATHEMATICS BY MATHEMATICAL PROCESS SUBSCALES

Subscale	Canada or province	English		French		Other		Difference (English - French)		Difference (English - Other)		Difference (French - Other)	
		Av.	SE	Av.	SE	Av.	SE	Dif.	SE	Dif.	SE	Dif.	SE
Formulating	**Canada**	**486**	**(2.8)**	**514**	**(5.3)**	**507**	**(5.2)**	**-28***	**(6.3)**	**-21***	**(5.0)**	**7**	**(7.2)**
	Newfoundland and Labrador	449**	(8.6)	408‡	(61.1)	436**	(25.6)	41	(57.2)	13	(23.5)	-28	(60.5)
	Prince Edward Island	472	(12.2)	457‡	(42.6)	498‡	(32.9)	15	(45.6)	-26	(39.1)	-40	(54.4)
	Nova Scotia	466**	(8.2)	488	(19.0)	499	(21.2)	-22	(18.5)	-34	(20.3)	-11	(26.2)
	New Brunswick	457**	(9.3)	469**	(15.2)	494	(22.9)	-12	(16.6)	-36	(21.8)	-25	(29.9)
	Quebec	498	(7.2)	519**	(5.7)	510	(11.2)	-22*	(8.9)	-12	(11.1)	9	(11.7)
	Ontario	489	(4.3)	464**	(11.2)	506	(8.1)	24*	(11.7)	-17*	(7.8)	-41*	(13.3)
	Manitoba	463**	(6.4)	452**	(18.2)	468**	(10.1)	11	(17.0)	-6	(9.6)	-16	(20.1)
	Saskatchewan	460**	(7.4)	414‡**	(33.6)	458**	(9.7)	46	(35.2)	1	(10.1)	-44	(34.1)
	Alberta	497	(7.4)	506	(30.4)	510	(15.0)	-9	(30.1)	-13	(14.1)	-4	(33.3)
	British Columbia	492	(6.2)	459‡	(40.4)	521	(9.9)	33	(40.8)	-29*	(9.5)	-62	(41.0)
Employing	**Canada**	**487**	**(2.4)**	**518**	**(4.8)**	**508**	**(4.8)**	**-31***	**(5.2)**	**-21***	**(4.6)**	**10**	**(6.4)**
	Newfoundland and Labrador	453**	(7.4)	389‡**	(37.8)	445**	(25.2)	65	(39.1)	9	(23.9)	-56	(47.5)
	Prince Edward Island	480	(17.3)	466‡	(37.6)	520‡	(41.9)	14	(41.2)	-40	(34.9)	-54	(56.2)
	Nova Scotia	466**	(6.7)	477**	(16.0)	497	(17.8)	-11	(15.9)	-31	(17.2)	-19	(23.3)
	New Brunswick	465**	(8.0)	476**	(9.2)	491	(19.2)	-11	(12.7)	-26	(17.4)	-15	(21.6)
	Quebec	497	(7.8)	523**	(5.2)	510	(8.4)	-26*	(7.7)	-13	(9.7)	13	(7.2)
	Ontario	490	(3.6)	472**	(9.0)	509	(7.8)	18	(9.2)	-19*	(7.6)	-37*	(11.6)
	Manitoba	469**	(5.8)	452**	(14.8)	472**	(9.3)	18	(14.1)	-3	(9.5)	-21	(14.8)
	Saskatchewan	468**	(4.2)	430‡**	(28.6)	469**	(8.2)	38	(28.9)	-1	(7.8)	-39	(28.4)
	Alberta	501**	(6.2)	506	(32.0)	510	(14.1)	-5	(32.1)	-9	(12.8)	-4	(36.4)
	British Columbia	487	(6.6)	469‡	(30.9)	514	(8.1)	18	(31.3)	-28*	(8.6)	-45	(31.9)
Interpreting	**Canada**	**499**	**(2.4)**	**519**	**(4.7)**	**512**	**(4.5)**	**-20***	**(5.3)**	**-13***	**(4.7)**	**8**	**(6.7)**
	Newfoundland and Labrador	471**	(9.4)	390‡**	(53.3)	457	(28.9)	81	(51.9)	14	(25.7)	-67	(57.2)
	Prince Edward Island	492	(12.5)	476‡	(39.7)	496‡	(29.1)	17	(39.4)	-3	(31.3)	-20	(49.1)
	Nova Scotia	476**	(4.6)	481**	(14.6)	498	(18.7)	-6	(14.6)	-22	(18.5)	-17	(25.2)
	New Brunswick	472**	(7.1)	477**	(9.4)	488	(18.9)	-5	(10.9)	-16	(18.8)	-11	(19.5)
	Quebec	503	(7.6)	524**	(5.0)	507	(8.2)	-22*	(8.1)	-5	(11.4)	17*	(8.2)
	Ontario	503	(4.0)	476**	(11.0)	516	(8.3)	26*	(11.6)	-13	(8.8)	-40*	(13.1)
	Manitoba	478**	(4.3)	451**	(12.5)	477**	(8.8)	27*	(13.0)	1	(10.1)	-26	(14.2)
	Saskatchewan	473**	(5.8)	417‡**	(30.8)	465**	(9.1)	56	(31.8)	8	(8.2)	-48	(32.2)
	Alberta	512**	(6.0)	512	(40.4)	515	(13.7)	0	(40.1)	-3	(12.9)	-3	(44.9)
	British Columbia	502	(6.4)	471‡	(36.0)	518	(7.9)	31	(36.0)	-16*	(7.5)	-47	(37.3)

Average scores by language spoken at home: MATHEMATICS BY MATHEMATICAL PROCESS SUBSCALES

Subscale	Canada or province	English		French		Other		Difference (English - French)		Difference (English - Other)		Difference (French - Other)	
		Av.	SE	Av.	SE	Av.	SE	Dif.	SE	Dif.	SE	Dif.	SE
Mathematical reasoning	**Canada**	**495**	**(2.4)**	**513**	**(4.1)**	**507**	**(4.8)**	**-18***	**(4.8)**	**-12***	**(4.3)**	**6**	**(6.3)**
	Newfoundland and Labrador	461**	(9.3)	398‡**	(47.5)	444**	(27.8)	63	(51.6)	17	(25.2)	-46	(57.9)
	Prince Edward Island	479	(20.2)	469‡	(34.3)	499‡	(30.7)	10	(32.9)	-19	(28.7)	-29	(43.8)
	Nova Scotia	478**	(6.8)	486	(17.0)	508	(19.0)	-8	(16.1)	-30	(18.1)	-22	(24.5)
	New Brunswick	465**	(7.4)	475**	(9.1)	489	(17.9)	-9	(10.9)	-23	(17.5)	-14	(18.0)
	Quebec	495	(6.3)	517**	(4.6)	500	(7.6)	-22*	(6.4)	-5	(8.9)	17*	(6.7)
	Ontario	499	(4.0)	482**	(9.1)	509	(7.3)	18	(10.0)	-10	(6.1)	-27*	(11.6)
	Manitoba	473**	(4.5)	460**	(13.8)	468**	(9.3)	13	(14.4)	5	(9.5)	-8	(15.4)
	Saskatchewan	475**	(3.1)	428‡**	(27.5)	464**	(8.9)	47	(28.4)	11	(9.6)	-36	(27.0)
	Alberta	506**	(6.1)	496	(30.4)	513	(13.1)	10	(30.2)	-7	(11.8)	-17	(34.5)
	British Columbia	499	(5.7)	489‡	(31.0)	519	(8.6)	10	(30.2)	-20*	(8.2)	-30	(31.5)

Av. Average
SE Standard error
Dif. Difference
‡ There are fewer than 30 observations.
* Significant difference within Canada or province.
** Significant difference compared to Canada.

Average scores by language spoken at home: MATHEMATICS BY MATHEMATICAL CONTENT KNOWLEDGE SUBSCALES

Subscale	Canada or province	English		French		Other		Difference (English - French)		Difference (English - Other)		Difference (French - Other)	
		Av.	SE	Av.	SE	Av.	SE	Dif.	SE	Dif.	SE	Dif.	SE
Change and relationships	Canada	499	(2.4)	513	(5.1)	515	(4.2)	-15*	(6.0)	-16*	(3.9)	-2	(6.9)
	Newfoundland and Labrador	466**	(6.5)	380‡**	(47.9)	457**	(25.0)	86	(48.2)	9	(23.5)	-77	(55.8)
	Prince Edward Island	479	(12.4)	456‡	(39.5)	528‡	(34.1)	23	(41.4)	-49	(31.4)	-72	(48.8)
	Nova Scotia	479**	(5.8)	484	(16.3)	507	(17.7)	-5	(15.7)	-28	(17.0)	-23	(23.7)
	New Brunswick	467**	(6.6)	472**	(12.7)	493	(17.1)	-5	(11.1)	-26	(17.2)	-21	(20.8)
	Quebec	499	(7.4)	517**	(5.5)	513	(7.4)	-18*	(7.4)	-14	(9.2)	4	(7.3)
	Ontario	502	(4.0)	478**	(10.0)	514	(6.5)	24*	(10.4)	-12*	(5.9)	-36*	(11.7)
	Manitoba	476**	(5.4)	461**	(14.3)	472**	(10.4)	14	(15.4)	4	(10.5)	-11	(17.2)
	Saskatchewan	472**	(5.0)	411‡**	(29.8)	466**	(9.2)	61*	(29.7)	6	(7.6)	-55	(30.2)
	Alberta	516**	(6.2)	520	(37.7)	528	(14.8)	-4	(37.7)	-12	(13.3)	-8	(41.4)
	British Columbia	499	(5.7)	473‡	(33.5)	521	(7.3)	27	(33.8)	-22*	(8.1)	-48	(34.5)
Quantity	Canada	487	(2.4)	515	(4.3)	506	(4.0)	-28*	(5.1)	-19*	(3.8)	8	(5.7)
	Newfoundland and Labrador	454**	(7.3)	378‡**	(40.3)	442**	(24.7)	76	(40.2)	12	(23.2)	-64	(45.0)
	Prince Edward Island	481	(12.4)	483‡	(44.9)	508‡	(36.6)	-1	(45.9)	-27	(33.2)	-26	(55.6)
	Nova Scotia	463**	(7.5)	483**	(15.6)	493	(20.8)	-20	(17.4)	-30	(18.9)	-10	(26.2)
	New Brunswick	464**	(8.2)	473**	(13.0)	491	(17.4)	-9	(13.7)	-27	(17.9)	-18	(20.6)
	Quebec	498	(6.9)	520**	(4.7)	508	(8.3)	-22*	(7.7)	-10	(9.7)	12	(7.4)
	Ontario	490	(3.8)	465**	(10.3)	506	(6.7)	25*	(11.2)	-16*	(6.1)	-41*	(12.4)
	Manitoba	469**	(4.8)	454**	(13.2)	473**	(9.2)	14	(13.0)	-5	(10.0)	-19	(13.6)
	Saskatchewan	467**	(4.3)	430‡**	(29.3)	461**	(9.0)	37	(29.3)	6	(8.0)	-31	(27.7)
	Alberta	497	(6.1)	498	(25.7)	506	(14.2)	-1	(25.9)	-9	(12.9)	-9	(29.7)
	British Columbia	491	(6.0)	450‡**	(30.7)	519	(7.6)	41	(30.6)	-28*	(7.7)	-68*	(30.8)
Space and shape	Canada	485	(2.8)	513	(5.8)	497	(4.3)	-28*	(7.0)	-12*	(4.8)	16*	(6.9)
	Newfoundland and Labrador	449**	(10.9)	431‡	(72.3)	444	(32.2)	19	(71.3)	6	(28.6)	-13	(75.3)
	Prince Edward Island	464	(15.8)	469‡	(39.0)	484‡	(40.1)	-5	(39.8)	-20	(34.4)	-15	(51.9)
	Nova Scotia	467**	(7.1)	482**	(15.5)	489	(21.6)	-15	(16.7)	-21	(22.0)	-7	(25.9)
	New Brunswick	466**	(7.0)	486	(16.3)	489	(18.6)	-20	(19.4)	-23	(19.7)	-3	(28.7)
	Quebec	493	(7.9)	517**	(6.4)	503	(8.8)	-23*	(7.9)	-10	(11.7)	13	(8.9)
	Ontario	491	(4.1)	484**	(13.4)	498	(7.4)	7	(13.8)	-8	(6.7)	-14	(16.1)
	Manitoba	466**	(7.8)	459**	(14.6)	465**	(10.5)	7	(17.7)	1	(9.4)	-5	(16.1)
	Saskatchewan	465**	(6.8)	433‡**	(32.9)	453**	(11.6)	32	(30.7)	12	(8.8)	-20	(30.2)
	Alberta	492	(6.5)	504	(31.6)	496	(14.0)	-13	(30.7)	-4	(13.5)	8	(36.1)
	British Columbia	482	(8.0)	480‡	(36.1)	501	(9.3)	2	(38.0)	-19*	(8.6)	-21	(38.3)

Average scores by language spoken at home: MATHEMATICS BY MATHEMATICAL CONTENT KNOWLEDGE SUBSCALES

Subscale	Canada or province	English		French		Other		Difference (English - French)		Difference (English - Other)		Difference (French - Other)	
		Av.	SE	Av.	SE	Av.	SE	Dif.	SE	Dif.	SE	Dif.	SE
Uncertainty and data	**Canada**	**496**	**(2.6)**	**518**	**(4.5)**	**509**	**(4.2)**	**-22***	**(5.7)**	**-14***	**(4.7)**	**9**	**(5.6)**
	Newfoundland and Labrador	468**	(9.3)	429‡	(69.3)	464	(28.6)	39	(68.2)	5	(27.5)	-34	(72.6)
	Prince Edward Island	479	(16.4)	487‡	(46.7)	485‡	(32.8)	-8	(50.4)	-6	(28.7)	2	(56.7)
	Nova Scotia	473**	(7.0)	483	(20.9)	510	(24.8)	-10	(21.7)	-37	(22.8)	-27	(32.6)
	New Brunswick	467**	(8.8)	479**	(11.4)	485	(20.3)	-12	(13.7)	-18	(19.0)	-6	(22.3)
	Quebec	502	(6.8)	523**	(5.0)	499	(9.1)	-20*	(7.0)	4	(9.9)	24*	(8.2)
	Ontario	500	(4.5)	479**	(11.0)	512	(6.7)	20	(11.8)	-12	(7.3)	-33*	(11.7)
	Manitoba	473**	(4.6)	449**	(11.7)	472**	(8.8)	24	(12.8)	1	(9.0)	-23	(12.4)
	Saskatchewan	475**	(6.3)	424‡**	(30.2)	468**	(9.2)	51	(29.9)	7	(8.9)	-44	(30.1)
	Alberta	503	(6.5)	500	(32.2)	519	(14.0)	3	(31.4)	-16	(13.6)	-19	(36.9)
	British Columbia	501	(6.8)	487‡	(35.8)	517	(8.3)	13	(35.8)	-16*	(7.8)	-30	(36.6)

Av. Average
SE Standard Error
Dif. Difference
‡ There are fewer than 30 observations.
* Significant difference within Canada or province.
** Significant difference compared to Canada.

Table B.2.10a

Percentage and average scores of students by attitude toward subject: MATHEMATICS

Mathematics is one of my favourite subjects

Canada, province, or OECD average	Strongly disagree				Disagree				Agree				Strongly agree			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	**25.3**	**(0.5)**	**461***	**(2.1)**	**27.9**	**(0.5)**	**491***	**(2.4)**	**30.3**	**(0.5)**	**523**	**(2.3)**	**16.5**	**(0.4)**	**560***	**(2.8)**
Newfoundland and Labrador	31.8	(2.2)	437*	(6.3)	27.6	(1.8)	456*	(7.0)	25.7	(1.8)	478	(10.6)	14.9	(1.4)	533*	(10.2)
Prince Edward Island	25.7	(3.0)	455*	(14.7)	29.8	(3.5)	480	(12.3)	25.8	(3.6)	498	(10.0)	18.7	(2.5)	549*	(17.3)
Nova Scotia	30.6	(1.9)	441*	(4.7)	30.1	(1.5)	463*	(6.3)	27.4	(1.6)	508	(7.4)	11.9	(1.0)	546*	(11.3)
New Brunswick	23.2	(1.4)	438*	(5.3)	27.6	(1.4)	459*	(6.0)	30.1	(1.5)	487	(5.1)	19.1	(1.2)	527*	(6.7)
Quebec	23.8	(0.9)	477*	(4.5)	28.1	(1.0)	518*	(5.3)	32.4	(1.0)	537	(4.6)	15.6	(0.8)	560*	(5.5)
Ontario	27.4	(1.0)	463*	(3.4)	27.6	(0.8)	490*	(4.2)	27.5	(0.8)	522	(4.4)	17.5	(0.7)	567*	(4.5)
Manitoba	23.7	(1.2)	440*	(4.3)	28.8	(1.1)	461*	(4.8)	31.7	(1.3)	491	(5.4)	15.8	(0.8)	530*	(5.8)
Saskatchewan	22.9	(1.1)	438*	(4.8)	30.2	(1.1)	463*	(4.2)	32.1	(1.1)	487	(4.6)	14.8	(0.7)	522*	(5.8)
Alberta	21.7	(2.0)	463*	(7.8)	28.2	(1.4)	483*	(6.3)	33.7	(1.4)	529	(7.4)	16.5	(1.6)	569*	(9.9)
British Columbia	26.0	(1.3)	453*	(5.7)	27.0	(1.3)	487*	(6.0)	30.6	(1.0)	526	(5.1)	16.4	(1.0)	560*	(6.2)
OECD average	**29.2**	**(0.1)**	**446***	**(0.5)**	**31.5**	**(0.1)**	**471***	**(0.5)**	**26.8**	**(0.1)**	**499**	**(0.6)**	**12.5**	**(0.1)**	**526***	**(0.8)**

SE Standard error
Av. Average
* Significant difference compared to the average score in the "Agree" category.

Table B.2.10b

Percentage and average scores of students by attitude toward subject: MATHEMATICS

Mathematics is easy for me

Canada, province, or OECD average	Strongly disagree				Disagree				Agree				Strongly agree			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	**19.0**	**(0.5)**	**451***	**(2.1)**	**26.6**	**(0.5)**	**478***	**(2.2)**	**36.7**	**(0.6)**	**522**	**(2.1)**	**17.7**	**(0.5)**	**566***	**(2.6)**
Newfoundland and Labrador	23.9	(1.7)	422*	(7.4)	29.0	(1.7)	449*	(8.3)	32.4	(1.9)	482	(8.4)	14.7	(1.2)	540*	(9.1)
Prince Edward Island	21.3	(3.1)	446*	(12.9)	24.0	(3.2)	457*	(11.0)	35.3	(3.4)	503	(10.5)	19.3	(2.6)	562*	(14.3)
Nova Scotia	20.7	(1.5)	424*	(5.8)	30.1	(1.6)	456*	(6.0)	33.2	(1.6)	495	(6.3)	16.0	(1.2)	555*	(8.2)
New Brunswick	15.4	(1.2)	425*	(6.5)	20.9	(1.4)	442*	(6.7)	41.0	(1.6)	479	(4.6)	22.7	(1.4)	533*	(6.1)
Quebec	15.5	(0.7)	464*	(4.8)	22.0	(1.0)	494*	(4.8)	39.1	(1.1)	533	(4.3)	23.5	(1.1)	565*	(5.4)
Ontario	21.1	(0.9)	458*	(3.9)	28.2	(0.9)	477*	(3.1)	34.5	(0.9)	526	(3.9)	16.2	(0.8)	572*	(5.1)
Manitoba	16.4	(0.9)	422*	(4.6)	28.6	(1.3)	452*	(4.9)	39.3	(1.2)	493	(4.4)	15.7	(0.9)	540*	(6.3)
Saskatchewan	15.2	(0.8)	424*	(5.3)	25.7	(0.9)	448*	(4.6)	42.8	(1.2)	483	(3.9)	16.3	(0.8)	534*	(5.1)
Alberta	18.7	(1.9)	449*	(7.4)	29.3	(1.5)	486*	(8.0)	36.9	(1.7)	525	(7.0)	15.2	(1.3)	586*	(9.1)
British Columbia	20.6	(1.3)	439*	(5.3)	26.8	(1.1)	482*	(5.3)	36.9	(1.4)	527	(5.1)	15.8	(1.0)	560*	(6.4)
OECD average	**22.5**	**(0.1)**	**438***	**(0.5)**	**33.7**	**(0.1)**	**465***	**(0.5)**	**32.6**	**(0.1)**	**501**	**(0.5)**	**11.1**	**(0.1)**	**530***	**(0.9)**

SE Standard error
Av. Average
* Significant difference compared to the average score in the "Agree" category.

Table B.2.10c

Percentage and average scores of students by attitude toward subject: MATHEMATICS

I want to do well in my mathematics class

Canada, province, or OECD average	Strongly disagree				Disagree				Agree				Strongly agree			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	3.3	(0.2)	438*	(5.0)	4.2	(0.2)	447*	(4.7)	32.8	(0.6)	484	(1.9)	59.7	(0.7)	524*	(2.0)
Newfoundland and Labrador	4.1	(0.7)	402*	(14.1)	3.5	(0.6)	414*	(15.5)	31.5	(1.5)	448	(6.9)	60.9	(1.8)	484*	(6.5)
Prince Edward Island	U‡	(1.4)	415*	(31.1)	4.6‡	(1.4)	434	(27.5)	39.2	(2.9)	489	(9.7)	52.4	(3.0)	504	(11.1)
Nova Scotia	2.6	(0.5)	448	(15.6)	4.6	(0.8)	429*	(13.3)	37.2	(1.6)	464	(6.1)	55.5	(1.7)	493*	(4.5)
New Brunswick	3.6	(0.6)	408*	(14.5)	4.6	(0.7)	433	(12.0)	35.7	(1.6)	455	(4.8)	56.0	(1.6)	496*	(4.5)
Quebec	3.3	(0.4)	432*	(11.1)	3.8	(0.4)	445*	(9.0)	28.4	(0.9)	509	(4.6)	64.4	(1.1)	536*	(4.1)
Ontario	3.3	(0.3)	447*	(7.7)	4.9	(0.4)	450*	(6.8)	32.0	(1.3)	478	(3.3)	59.9	(1.4)	528*	(3.4)
Manitoba	3.1	(0.4)	407*	(14.2)	4.4	(0.5)	434*	(9.9)	37.1	(1.2)	461	(4.3)	55.5	(1.4)	494*	(3.1)
Saskatchewan	3.5	(0.5)	421*	(10.0)	5.8	(0.6)	439*	(9.3)	43.2	(1.1)	460	(4.4)	47.5	(1.2)	494*	(3.2)
Alberta	2.9	(0.6)	454	(19.0)	3.1	(0.5)	452	(18.4)	32.7	(1.7)	485	(6.2)	61.3	(2.1)	527*	(6.4)
British Columbia	3.5	(0.4)	430*	(11.0)	3.9	(0.5)	452*	(12.8)	37.5	(1.6)	488	(5.1)	55.1	(1.6)	520*	(5.4)
OECD average	4.3	(0.1)	414*	(1.2)	6.4	(0.1)	432*	(1.0)	41.4	(0.1)	466	(0.5)	47.9	(0.1)	500*	(0.5)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
U Too unreliable to be published.
* Significant difference compared to the average score in the "Agree" category.

Table B.2.11a

Percentage and average scores of students by student effort: MATHEMATICS

I actively participated in group discussions during mathematics class

Canada, province, or OECD average	Never or almost never				Less than half of the time				About half of the time				More than half of the time				All or almost all of the time			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	18.5	(0.5)	503*	(3.5)	20.7	(0.6)	497*	(2.8)	25.4	(0.7)	491*	(3.0)	20.4	(0.6)	517	(3.2)	15.0	(0.5)	531*	(3.7)
Newfoundland and Labrador	26.1	(2.4)	451	(8.9)	18.5	(1.9)	470	(9.7)	25.1	(2.3)	464	(9.5)	16.4	(2.5)	445	(10.6)	13.9	(1.7)	494*	(13.2)
Prince Edward Island	24.5‡	(3.9)	494	(19.6)	22.6	(3.9)	460	(22.2)	24.2	(3.7)	467	(15.2)	14.3‡	(3.5)	516	(24.2)	14.5‡	(2.9)	499	(20.5)
Nova Scotia	21.7	(2.0)	466*	(10.8)	22.0	(2.1)	482	(10.4)	25.4	(2.1)	465*	(8.6)	17.6	(1.9)	500	(11.8)	13.3	(1.5)	508	(16.5)
New Brunswick	21.4	(1.4)	476	(9.3)	20.8	(1.8)	471*	(8.8)	23.5	(1.8)	469*	(7.7)	18.1	(1.4)	497	(8.3)	16.2	(1.5)	489	(8.8)
Quebec	27.2	(1.1)	528	(5.6)	22.0	(1.0)	522	(7.1)	22.9	(1.1)	510	(6.0)	15.1	(1.0)	525	(7.3)	12.8	(0.8)	525	(7.4)
Ontario	14.7	(0.8)	493*	(7.1)	21.0	(1.2)	493*	(4.2)	25.7	(1.2)	494*	(4.8)	22.2	(1.0)	524	(5.0)	16.4	(0.8)	535	(6.2)
Manitoba	15.6	(1.2)	453*	(8.0)	19.4	(1.5)	464*	(6.8)	25.3	(1.5)	466*	(6.8)	20.3	(1.4)	496	(6.3)	19.4	(1.3)	506	(8.0)
Saskatchewan	16.8	(1.2)	465*	(8.0)	17.5	(1.1)	472	(7.9)	28.5	(1.5)	465*	(6.0)	21.2	(1.6)	489	(6.6)	16.0	(1.1)	499	(7.9)
Alberta	18.6	(2.0)	508	(11.0)	21.4	(1.6)	493*	(9.7)	25.4	(2.0)	484*	(11.4)	22.4	(1.9)	520	(10.9)	12.2	(1.2)	552	(13.7)
British Columbia	13.1	(0.8)	495	(10.2)	18.3	(1.6)	497	(8.8)	28.2	(1.7)	489*	(6.6)	23.5	(1.5)	513	(7.3)	16.9	(1.3)	540*	(8.9)
OECD average	21.7	(0.1)	464*	(0.8)	21.8	(0.1)	478*	(0.7)	23.9	(0.1)	475*	(0.7)	18.9	(0.1)	492	(0.8)	13.7	(0.1)	497*	(1.0)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
* Significant difference compared to the average score in the "More than half of the time" category.

Table B.2.11b

Percentage and average scores of students by student effort: MATHEMATICS

I paid attention when my mathematics teacher was speaking

Canada, province, or OECD average	Never or almost never				Less than half of the time				About half of the time				More than half of the time				All or almost all of the time			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	2.7	(0.3)	463*	(8.5)	5.3	(0.3)	471*	(6.4)	14.7	(0.5)	481*	(4.2)	32.4	(0.6)	508	(2.7)	44.9	(0.8)	524*	(2.2)
Newfoundland and Labrador	2.9‡	(0.9)	396*	(22.4)	6.5	(1.2)	454	(18.5)	14.6	(1.7)	433*	(10.6)	30.5	(2.2)	468	(9.3)	45.5	(2.4)	487*	(8.2)
Prince Edward Island	U‡	(2.1)	475	(72.7)	7.2‡	(2.4)	430	(32.3)	11.5‡	(2.5)	467	(28.0)	32.9	(3.8)	504	(19.8)	43.5	(4.4)	499	(13.5)
Nova Scotia	2.1‡	(0.6)	437	(24.6)	4.0‡	(0.9)	452	(21.7)	15.7	(1.7)	454*	(11.5)	34.9	(2.0)	486	(7.8)	43.3	(2.0)	495	(6.1)
New Brunswick	2.6‡	(0.8)	456	(21.0)	5.3	(1.0)	455	(17.9)	16.4	(1.5)	443*	(10.1)	31.5	(1.9)	480	(7.0)	44.2	(2.2)	492	(5.7)
Quebec	3.3	(0.5)	453*	(15.1)	7.6	(0.6)	496*	(10.1)	18.3	(1.2)	507*	(6.8)	32.9	(1.2)	530	(5.5)	37.8	(1.3)	541	(4.9)
Ontario	3.2	(0.4)	470*	(12.4)	5.0	(0.5)	467*	(12.2)	13.3	(0.9)	480*	(8.8)	30.5	(1.2)	509	(5.3)	48.0	(1.4)	526*	(4.1)
Manitoba	2.1‡	(0.5)	385*	(16.0)	3.9	(0.6)	418*	(18.4)	12.6	(1.0)	450*	(8.2)	30.6	(1.4)	476	(5.2)	50.8	(1.5)	496*	(4.6)
Saskatchewan	2.2‡	(0.5)	432	(26.3)	3.0	(0.6)	429*	(16.8)	15.4	(1.4)	441*	(8.3)	33.8	(1.3)	476	(5.9)	45.5	(1.6)	494*	(4.1)
Alberta	U‡	(0.7)	514	(40.9)	4.5‡	(1.1)	479	(18.6)	12.6	(1.5)	472*	(12.8)	36.9	(2.2)	507	(8.6)	44.2	(2.4)	529*	(7.3)
British Columbia	1.9‡	(0.5)	461	(27.0)	4.0	(1.0)	429*	(17.4)	15.2	(1.4)	475*	(9.9)	31.3	(1.2)	496	(5.8)	47.6	(1.6)	519*	(5.7)
OECD average	3.8	(0.1)	414*	(1.6)	6.6	(0.1)	439*	(1.3)	16.7	(0.1)	455*	(0.8)	33.3	(0.2)	486	(0.6)	39.6	(0.2)	499*	(0.6)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
U Too unreliable to be published.
* Significant difference compared to the average score in the "More than half of the time" category.

Table B.2.11c

Percentage and average scores of students by student effort: MATHEMATICS

I put effort into my assignments for mathematics class

Canada, province, or OECD average	Never or almost never				Less than half of the time				About half of the time				More than half of the time				All or almost all of the time			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	2.9	(0.2)	459*	(8.1)	6.2	(0.3)	483*	(5.4)	18.3	(0.6)	476*	(3.6)	33.0	(0.9)	506	(2.6)	39.6	(0.8)	528*	(2.2)
Newfoundland and Labrador	2.6‡	(0.8)	404*	(28.0)	7.9	(1.4)	426*	(17.2)	13.6	(2.1)	444	(14.3)	33.6	(2.3)	463	(9.7)	42.4	(2.3)	478	(7.8)
Prince Edward Island	U‡	(2.8)	498	(54.2)	U‡	(2.3)	455	(33.2)	15.6‡	(3.7)	451	(22.5)	26.6	(4.3)	501	(13.7)	44.7	(4.4)	505	(14.1)
Nova Scotia	2.1‡	(0.5)	504	(52.9)	6.0	(1.1)	475	(19.4)	20.0	(1.9)	457*	(9.0)	32.8	(2.2)	485	(7.5)	39.0	(2.5)	498	(9.0)
New Brunswick	3.8‡	(0.8)	454	(33.3)	3.6‡	(0.7)	449	(18.8)	19.9	(1.9)	456	(8.5)	32.9	(1.9)	471	(7.4)	39.8	(2.2)	492*	(6.4)
Quebec	3.8	(0.5)	476*	(18.1)	8.1	(0.9)	501*	(7.4)	19.4	(1.0)	499*	(7.1)	35.8	(1.4)	530	(5.6)	33.0	(1.1)	538	(5.1)
Ontario	3.1	(0.4)	446*	(12.5)	5.6	(0.5)	475*	(8.6)	16.8	(1.2)	471*	(6.5)	31.5	(2.1)	503	(4.6)	42.9	(1.7)	533*	(4.5)
Manitoba	2.4	(0.5)	387*	(16.4)	5.4	(0.8)	444*	(13.7)	18.8	(1.3)	447*	(8.7)	33.3	(1.7)	477	(4.3)	40.1	(1.7)	502*	(4.8)
Saskatchewan	2.7	(0.4)	427*	(16.6)	5.2	(0.8)	442*	(18.0)	19.0	(1.2)	446*	(7.7)	34.7	(1.6)	481	(5.0)	38.4	(1.6)	496*	(5.2)
Alberta	1.8‡	(0.6)	449	(47.8)	7.0	(0.9)	495	(20.3)	20.1	(1.6)	480*	(11.8)	31.0	(2.1)	505	(8.0)	40.1	(2.1)	529*	(6.4)
British Columbia	2.2‡	(0.5)	503	(19.8)	4.3	(0.6)	479	(15.1)	18.1	(1.5)	470*	(8.2)	34.5	(1.6)	503	(7.1)	40.9	(1.8)	531*	(5.7)
OECD average	5.5	(0.1)	432*	(1.4)	10.1	(0.1)	451*	(1.1)	21.2	(0.1)	462*	(0.7)	32.0	(0.2)	488	(0.6)	31.2	(0.2)	500*	(0.6)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
U Too unreliable to be published.
* Significant difference compared to the average score in the "More than half of the time" category.

Table B.2.11d

Percentage and average scores of students by student effort: MATHEMATICS

I made time to learn the material for mathematics class

Canada, province, or OECD average	Never or almost never				Less than half of the time				About half of the time				More than half of the time				All or almost all of the time			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	5.3	(0.3)	486*	(6.5)	10.0	(0.4)	497*	(4.5)	22.2	(0.5)	488*	(2.8)	31.7	(0.6)	509	(2.8)	30.8	(0.6)	531*	(3.0)
Newfoundland and Labrador	7.7	(1.3)	470	(18.7)	14.6	(1.4)	459	(13.9)	23.0	(2.0)	457	(11.7)	29.1	(2.3)	464	(9.4)	25.6	(2.0)	485	(9.5)
Prince Edward Island	U‡	(2.5)	521	(41.2)	14.0‡	(3.1)	500	(17.2)	23.9	(3.5)	465*	(12.4)	27.9	(3.9)	512	(15.2)	27.1	(3.7)	498	(14.6)
Nova Scotia	7.0	(1.0)	463	(22.7)	10.7	(1.5)	472	(12.6)	27.8	(2.1)	472	(7.9)	31.2	(2.0)	488	(8.5)	23.3	(1.8)	512	(11.7)
New Brunswick	6.5	(0.9)	482	(16.0)	8.7	(1.0)	456	(12.3)	23.4	(1.8)	469	(7.9)	30.1	(2.0)	481	(7.3)	31.3	(2.1)	501*	(7.8)
Quebec	5.2	(0.6)	500*	(13.3)	9.5	(0.9)	522	(9.0)	21.3	(1.2)	504*	(7.3)	33.2	(1.3)	534	(5.3)	30.7	(1.2)	539	(5.4)
Ontario	5.1	(0.5)	472*	(13.2)	9.5	(0.7)	489	(8.5)	22.0	(1.1)	487*	(4.9)	31.0	(1.2)	506	(6.0)	32.4	(1.3)	534*	(4.6)
Manitoba	5.0	(0.8)	444*	(16.4)	12.0	(1.2)	465	(9.5)	21.6	(1.3)	460*	(8.4)	32.0	(1.5)	480	(5.5)	29.4	(1.5)	505*	(6.0)
Saskatchewan	4.9	(0.6)	455	(16.6)	10.0	(0.9)	465	(10.2)	23.4	(1.3)	447*	(7.4)	34.3	(1.6)	484	(5.4)	27.3	(1.4)	500*	(6.1)
Alberta	5.3	(1.0)	508	(19.6)	11.4	(1.6)	514	(12.9)	20.4	(1.7)	490	(9.8)	31.0	(1.8)	512	(8.5)	31.9	(2.1)	544*	(8.4)
British Columbia	5.1	(1.1)	502	(24.3)	9.3	(0.9)	493	(12.1)	24.8	(1.6)	492	(7.4)	32.2	(1.6)	503	(6.3)	28.5	(1.5)	521*	(7.6)
OECD average	9.0	(0.1)	459*	(1.1)	16.1	(0.1)	471*	(0.8)	26.0	(0.1)	469*	(0.7)	28.1	(0.1)	488	(0.6)	20.8	(0.1)	496*	(0.8)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
U Too unreliable to be published.
* Significant difference compared to the average score in the "More than half of the time" category.

Table B.2.11e

Percentage and average scores of students by student effort: MATHEMATICS

I asked questions when I did not understand the mathematics material that was being taught

Canada, province, or OECD average	Never or almost never				Less than half of the time				About half of the time				More than half of the time				All or almost all of the time			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	8.9	(0.4)	498	(5.0)	14.2	(0.5)	499	(3.8)	22.2	(0.6)	488*	(3.2)	25.4	(0.7)	503	(3.3)	29.3	(0.6)	527*	(2.3)
Newfoundland and Labrador	11.6	(1.6)	468	(12.4)	12.6	(1.7)	468	(13.2)	20.6	(2.0)	447	(10.0)	27.6	(2.4)	468	(8.6)	27.6	(2.5)	489	(10.2)
Prince Edward Island	14.9‡	(4.1)	470	(25.0)	U‡	(2.7)	442*	(27.8)	23.3‡	(5.3)	464*	(21.0)	26.9	(4.4)	521	(16.7)	26.8	(4.1)	515	(13.5)
Nova Scotia	13.5	(1.9)	469	(13.1)	13.6	(1.7)	478	(13.5)	23.3	(1.9)	459	(9.6)	25.9	(2.6)	475	(8.1)	23.6	(2.5)	494	(11.0)
New Brunswick	8.8	(1.3)	487	(15.9)	12.3	(1.5)	458	(13.7)	22.4	(1.6)	463	(7.8)	26.6	(2.0)	472	(7.6)	30.0	(2.0)	493*	(7.0)
Quebec	12.4	(0.9)	520	(8.4)	17.3	(1.1)	517	(7.2)	23.4	(1.4)	519	(6.8)	22.3	(1.2)	530	(7.0)	24.7	(1.1)	532	(6.0)
Ontario	7.0	(0.6)	490	(9.1)	13.1	(0.9)	498	(7.0)	20.3	(1.0)	485	(4.4)	26.6	(1.5)	500	(6.6)	32.9	(1.2)	528*	(4.7)
Manitoba	7.8	(1.0)	460	(10.7)	15.0	(1.4)	457	(11.3)	20.6	(1.2)	453	(7.6)	26.4	(1.3)	474	(7.3)	30.2	(1.6)	505*	(5.6)
Saskatchewan	7.5	(0.8)	477	(14.6)	10.6	(1.0)	448*	(11.3)	25.5	(1.5)	460	(7.8)	27.4	(1.3)	476	(6.2)	28.9	(1.4)	495*	(5.2)
Alberta	9.5	(1.2)	500	(14.2)	14.4	(1.5)	502	(11.6)	24.3	(1.7)	486	(8.9)	24.1	(1.7)	502	(11.3)	27.6	(1.9)	542*	(9.1)
British Columbia	7.1	(0.9)	493	(16.4)	13.2	(1.2)	500	(10.4)	22.6	(1.3)	479*	(7.7)	27.2	(1.5)	505	(7.7)	29.8	(1.4)	528*	(6.8)
OECD average	12.9	(0.1)	467 *	(1.0)	17.5	(0.1)	475*	(0.8)	22.9	(0.1)	466*	(0.7)	24.4	(0.1)	486	(0.7)	22.4	(0.1)	497*	(0.7)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
U Too unreliable to be published.
* Significant difference compared to the average score in the "More than half of the time" category.

Percentage and average scores of students by student effort: MATHEMATICS

I tried to connect new material to what I have learned in previous mathematics lessons

Canada, province, or OECD average	Never or almost never				Less than half of the time				About half of the time				More than half of the time				All or almost all of the time			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	7.3	(0.4)	484*	(5.1)	13.3	(0.5)	499*	(4.2)	25.7	(0.7)	493*	(2.7)	30.2	(0.9)	512	(3.0)	23.5	(0.6)	528*	(3.2)
Newfoundland and Labrador	9.7	(1.3)	434*	(13.0)	19.7	(2.0)	450	(11.2)	24.5	(2.1)	461	(10.9)	24.6	(2.2)	479	(11.0)	21.4	(2.1)	498	(9.9)
Prince Edward Island	11.3‡	(3.6)	427*	(29.7)	17.1‡	(3.9)	533	(21.1)	24.9	(4.6)	463	(15.2)	29.8	(4.8)	495	(17.2)	16.9‡	(3.1)	505	(30.4)
Nova Scotia	8.1	(1.4)	442*	(16.7)	14.0	(1.7)	460*	(11.6)	23.7	(1.7)	458*	(8.8)	33.8	(2.2)	497	(7.6)	20.4	(1.9)	507	(13.7)
New Brunswick	7.7	(1.0)	456*	(12.1)	10.6	(1.3)	479	(11.0)	25.9	(1.9)	462*	(7.3)	29.5	(1.8)	488	(7.3)	26.3	(2.1)	503	(8.8)
Quebec	9.1	(0.7)	484*	(10.6)	14.0	(0.9)	520	(6.0)	26.6	(1.0)	520	(5.8)	26.7	(1.0)	530	(5.9)	23.7	(1.2)	537	(6.0)
Ontario	6.8	(0.7)	489*	(9.8)	13.0	(0.9)	497	(7.0)	23.9	(1.3)	491*	(5.8)	32.3	(2.2)	511	(5.4)	24.0	(1.3)	531*	(5.2)
Manitoba	6.5	(0.7)	449*	(11.1)	11.3	(1.2)	467	(9.4)	26.3	(1.4)	462*	(7.1)	30.8	(1.5)	485	(5.1)	25.1	(1.4)	499	(6.3)
Saskatchewan	8.5	(1.1)	464	(11.8)	10.0	(1.0)	472	(10.3)	27.8	(1.4)	455*	(6.5)	31.6	(1.7)	477	(5.4)	22.0	(1.5)	496*	(6.1)
Alberta	7.2	(1.2)	496	(14.8)	14.1	(1.4)	503	(13.3)	26.3	(2.0)	492*	(8.6)	28.4	(2.0)	520	(9.5)	24.1	(2.2)	530	(12.1)
British Columbia	4.9	(0.6)	502	(13.8)	12.7	(1.3)	492	(10.1)	28.5	(1.5)	488*	(7.6)	32.1	(1.6)	507	(6.2)	21.8	(1.5)	530*	(8.1)
OECD average	11.4	(0.1)	457*	(1.0)	16.3	(0.1)	472*	(0.8)	26.7	(0.1)	472*	(0.6)	27.2	(0.1)	491	(0.6)	18.3	(0.1)	496*	(0.9)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
* Significant difference compared to the average score in the "More than half of the time" category.

Percentage and average scores of students by student effort: MATHEMATICS

I started my work on mathematics assignments right away

Canada, province, or OECD average	Never or almost never				Less than half of the time				About half of the time				More than half of the time				All or almost all of the time			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	7.5	(0.4)	496*	(4.9)	13.5	(0.5)	509	(4.0)	26.4	(0.5)	498*	(3.2)	26.8	(0.5)	511	(2.6)	25.9	(0.6)	523*	(3.0)
Newfoundland and Labrador	6.5	(1.5)	432*	(16.2)	10.8	(1.8)	479	(17.1)	24.9	(2.2)	453*	(9.4)	28.4	(2.2)	479	(9.5)	29.3	(2.5)	473	(9.2)
Prince Edward Island	U‡	(2.8)	446	(31.8)	13.1 ‡	(3.4)	502	(23.9)	23.7	(3.5)	481	(16.5)	25.7	(4.8)	501	(18.7)	30.1	(5.0)	507	(16.7)
Nova Scotia	6.7	(1.2)	452	(17.4)	11.0	(1.3)	472	(16.3)	27.2	(2.4)	475	(9.7)	30.2	(2.2)	483	(7.9)	24.9	(2.1)	496	(12.5)
New Brunswick	7.1	(1.0)	474	(16.1)	11.2	(1.5)	463	(11.3)	22.4	(2.0)	446*	(8.9)	29.6	(2.1)	481	(8.3)	29.6	(1.8)	503*	(6.5)
Quebec	9.5	(0.7)	504*	(8.1)	16.7	(0.9)	520	(8.1)	24.8	(1.1)	513*	(5.1)	25.3	(0.9)	528	(5.9)	23.7	(1.0)	530	(5.8)
Ontario	7.8	(0.6)	486*	(9.1)	14.8	(0.9)	516	(6.9)	26.6	(1.1)	499	(5.1)	25.5	(1.0)	510	(5.1)	25.4	(0.9)	528*	(5.7)
Manitoba	4.6	(0.8)	437*	(15.3)	12.2	(1.3)	469	(12.4)	25.6	(1.6)	467	(7.8)	26.1	(1.5)	478	(5.9)	31.4	(1.5)	500*	(5.1)
Saskatchewan	4.9	(0.6)	441*	(16.2)	10.0	(1.0)	457	(10.7)	25.2	(1.2)	453*	(7.4)	31.4	(1.6)	482	(5.3)	28.6	(1.4)	497	(6.1)
Alberta	7.6	(1.0)	528	(16.5)	10.1	(1.1)	515	(16.2)	30.1	(1.8)	510	(9.7)	26.0	(1.9)	520	(8.5)	26.2	(1.9)	527	(10.1)
British Columbia	5.1	(0.9)	513	(14.9)	11.1	(1.3)	497	(11.6)	25.5	(1.4)	492*	(7.9)	31.1	(1.5)	508	(6.6)	27.1	(1.7)	526*	(6.1)
OECD average	11.1	(0.1)	456*	(1.1)	17.7	(0.1)	474*	(0.8)	25.5	(0.1)	472*	(0.7)	25.0	(0.1)	489	(0.7)	20.6	(0.1)	493*	(0.8)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
U Too unreliable to be published.
* Significant difference compared to the average score in the "More than half of the time" category.

Table B.2.11h

Percentage and average scores of students by student effort: MATHEMATICS

I gave up when I did not understand the mathematics material that was being taught

Canada, province, or OECD average	All or almost all of the time				More than half of the time				About half of the time				Less than half of the time				Never or almost never			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	5.9	(0.3)	471*	(5.4)	9.6	(0.4)	467*	(3.9)	18.5	(0.6)	466*	(3.9)	31.5	(0.6)	507	(3.0)	34.4	(0.8)	544*	(2.5)
Newfoundland and Labrador	6.8	(1.4)	421*	(15.0)	10.1	(1.9)	429*	(13.8)	17.3	(1.7)	443*	(12.0)	33.6	(2.1)	477	(9.6)	32.1	(2.4)	502*	(8.4)
Prince Edward Island	U‡	(2.6)	466	(40.7)	U‡	(2.5)	468	(36.5)	14.5 ‡	(3.3)	463	(17.0)	29.9	(4.2)	491	(15.8)	40.8	(4.8)	515	(13.0)
Nova Scotia	7.1	(1.2)	442	(20.0)	10.7	(1.3)	446*	(9.9)	21.4	(2.1)	438*	(9.9)	31.3	(2.2)	477	(7.3)	29.5	(2.1)	514*	(11.0)
New Brunswick	6.8	(1.2)	441	(13.3)	8.2	(1.1)	454	(14.1)	17.9	(1.4)	435*	(6.3)	28.0	(2.0)	470	(8.4)	39.2	(1.9)	516*	(6.2)
Quebec	5.9	(0.7)	476*	(11.7)	7.2	(0.7)	480*	(10.3)	16.2	(0.9)	485*	(7.0)	28.2	(1.3)	521	(6.0)	42.4	(1.8)	552*	(5.7)
Ontario	5.8	(0.6)	476*	(8.8)	10.7	(0.8)	469*	(6.8)	20.7	(1.2)	470*	(7.0)	32.2	(1.2)	510	(6.4)	30.6	(1.5)	550*	(5.1)
Manitoba	7.5	(0.9)	460	(12.1)	12.2	(1.2)	449*	(7.6)	16.7	(1.3)	434*	(7.8)	30.9	(1.4)	487	(6.1)	32.7	(1.6)	513*	(5.5)
Saskatchewan	6.9	(0.9)	460	(12.2)	11.7	(1.2)	442*	(9.6)	18.6	(1.6)	444*	(7.1)	30.2	(1.6)	474	(5.8)	32.5	(1.7)	509*	(6.2)
Alberta	5.4	(1.0)	465*	(17.4)	9.7	(1.1)	463*	(11.6)	17.7	(1.5)	462*	(10.8)	33.0	(1.7)	508	(7.5)	34.3	(2.0)	550*	(9.2)
British Columbia	5.1	(0.6)	480	(15.1)	9.5	(1.0)	471*	(7.1)	17.7	(1.3)	454*	(7.0)	34.4	(1.8)	506	(6.3)	33.2	(1.6)	540*	(6.4)
OECD average	8.0	(0.1)	442*	(1.1)	12.7	(0.1)	453*	(0.8)	19.8	(0.1)	453*	(0.7)	29.8	(0.1)	488	(0.6)	29.7	(0.2)	510*	(0.7)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
U Too unreliable to be published.
* Significant difference compared to the average score in the "Less than half of the time" category.

Table B.2.11i

Percentage and average scores of students by student effort: MATHEMATICS

I lost interest during mathematics lessons

Canada, province, or OECD average	All or almost all of the time				More than half of the time				About half of the time				Less than half of the time				Never or almost never			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	14.7	(0.5)	490*	(3.6)	17.7	(0.5)	495*	(3.4)	22.8	(0.6)	487*	(2.7)	28.6	(0.6)	526	(2.9)	16.1	(0.5)	528	(3.5)
Newfoundland and Labrador	16.0	(2.1)	452*	(12.0)	17.1	(1.9)	462	(12.3)	24.0	(2.2)	466	(9.2)	28.9	(3.1)	482	(8.8)	13.9	(2.0)	481	(16.1)
Prince Edward Island	20.2‡	(4.0)	471	(21.8)	18.3‡	(3.6)	502	(22.6)	21.1	(3.9)	478	(25.5)	25.9	(4.1)	510	(14.4)	14.4‡	(3.2)	485	(23.5)
Nova Scotia	17.9	(1.5)	471	(9.5)	20.2	(1.8)	456*	(8.0)	25.5	(2.1)	490	(9.7)	25.5	(2.0)	498	(11.6)	10.8	(1.7)	486	(14.5)
New Brunswick	16.9	(1.8)	449*	(9.8)	17.8	(1.6)	466*	(9.2)	22.5	(1.9)	443*	(9.4)	26.9	(2.0)	494	(8.1)	15.9	(1.5)	504	(10.2)
Quebec	14.5	(0.9)	506*	(7.1)	15.5	(0.9)	516*	(7.4)	22.6	(1.0)	508*	(6.1)	26.9	(0.9)	533	(6.3)	20.5	(1.1)	540	(6.2)
Ontario	16.6	(0.9)	488*	(5.6)	18.6	(1.0)	492*	(5.3)	21.2	(1.1)	485*	(4.9)	29.3	(1.1)	531	(5.5)	14.3	(0.9)	525	(6.6)
Manitoba	13.9	(1.1)	465*	(8.6)	18.3	(1.5)	453*	(7.9)	22.0	(1.3)	456*	(5.5)	30.4	(1.4)	495	(6.8)	15.5	(1.3)	500	(9.0)
Saskatchewan	13.5	(1.1)	471*	(7.3)	16.6	(1.2)	465*	(7.7)	25.5	(1.4)	457*	(5.9)	26.1	(1.7)	490	(5.5)	18.4	(1.3)	486	(7.7)
Alberta	11.5	(1.6)	501	(15.3)	17.4	(1.6)	505	(12.1)	24.5	(2.0)	488*	(9.7)	32.2	(2.1)	532	(9.0)	14.4	(1.6)	540	(13.7)
British Columbia	13.4	(1.4)	482*	(10.3)	19.2	(1.4)	496*	(7.8)	24.7	(1.6)	482*	(7.0)	26.8	(1.5)	526	(7.4)	15.9	(1.2)	529	(8.7)
OECD average	13.1	(0.1)	459*	(0.9)	17.1	(0.1)	468*	(0.8)	22.2	(0.1)	469*	(0.7)	27.8	(0.1)	496	(0.7)	19.8	(0.1)	492*	(0.9)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
* Significant difference compared to the average score in the "Less than half of the time" category.

Table B.2.12a

Percentage and average scores of students by confidence in performing mathematics tasks: MATHEMATICS

Working out from a train or bus timetable how long it would take to get from one place to another

Canada, province, or OECD average	Not at all confident				Not very confident				Confident				Very confident			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	**8.2**	**(0.3)**	**435***	**(3.3)**	**19.5**	**(0.6)**	**463***	**(2.9)**	**46.6**	**(0.8)**	**507**	**(2.5)**	**25.7**	**(0.6)**	**560***	**(2.9)**
Newfoundland and Labrador	12.8	(1.9)	412*	(11.7)	24.4	(2.2)	431*	(8.8)	43.9	(3.0)	481	(8.2)	18.9	(2.1)	521*	(10.6)
Prince Edward Island	14.6‡	(3.4)	466	(29.1)	28.5	(3.9)	461*	(13.8)	39.9	(4.8)	503	(13.1)	17.0‡	(4.0)	559*	(23.0)
Nova Scotia	9.1	(1.1)	424*	(10.8)	24.8	(2.1)	438*	(8.8)	50.0	(2.4)	484	(7.8)	16.0	(1.7)	551*	(10.1)
New Brunswick	11.4	(1.3)	417*	(10.8)	20.2	(1.8)	442*	(8.1)	43.0	(2.0)	482	(5.4)	25.4	(1.9)	536*	(7.3)
Quebec	5.2	(0.6)	428*	(12.5)	10.7	(0.8)	460*	(7.6)	43.4	(1.5)	514	(4.8)	40.6	(1.5)	558*	(4.5)
Ontario	9.8	(0.8)	443*	(5.6)	20.8	(1.0)	467*	(4.6)	47.4	(1.4)	508	(4.9)	21.9	(1.1)	565*	(5.5)
Manitoba	10.2	(1.2)	435*	(9.5)	22.5	(1.4)	445*	(6.3)	47.7	(1.7)	485	(4.7)	19.6	(1.5)	530*	(7.7)
Saskatchewan	10.8	(0.9)	418*	(9.1)	26.4	(1.7)	448*	(6.2)	45.8	(2.0)	485	(4.7)	17.0	(1.4)	530*	(8.8)
Alberta	6.7	(1.0)	419*	(11.6)	22.7	(2.4)	473*	(10.9)	48.0	(2.9)	511	(6.9)	22.6	(1.8)	577*	(12.6)
British Columbia	7.9	(1.1)	451*	(8.8)	22.6	(1.3)	464*	(7.4)	48.2	(1.6)	513	(5.4)	21.4	(1.4)	556*	(9.8)
OECD average	**10.2**	**(0.1)**	**417***	**(0.9)**	**22.4**	**(0.1)**	**443***	**(0.6)**	**43.0**	**(0.2)**	**483**	**(0.5)**	**24.3**	**(0.1)**	**530***	**(0.7)**

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
* Significant difference compared to the average score in the "Confident" category.

Table B.2.12b

Percentage and average scores of students by confidence in performing mathematics tasks: MATHEMATICS

Calculating how much more expensive a computer would be after adding tax

Canada, province, or OECD average	Not at all confident				Not very confident				Confident				Very confident			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	**7.5**	**(0.4)**	**441***	**(4.3)**	**17.6**	**(0.6)**	**458***	**(2.9)**	**41.0**	**(0.8)**	**499**	**(2.3)**	**33.9**	**(0.8)**	**559***	**(2.5)**
Newfoundland and Labrador	8.1	(1.3)	404*	(12.1)	18.3	(2.2)	442	(9.1)	42.4	(2.5)	458	(8.1)	31.2	(2.2)	512*	(9.3)
Prince Edward Island	9.7‡	(2.9)	433*	(30.9)	21.1	(3.8)	435*	(15.9)	42.5	(5.1)	505	(15.2)	26.8	(4.0)	533	(17.1)
Nova Scotia	7.9	(1.2)	439*	(13.8)	17.4	(1.8)	437*	(9.6)	41.8	(2.3)	472	(6.5)	32.9	(2.3)	524*	(8.8)
New Brunswick	8.8	(1.2)	428*	(10.5)	13.6	(1.4)	420*	(12.2)	35.5	(2.2)	466	(6.0)	42.0	(2.3)	525*	(5.7)
Quebec	4.6	(0.5)	447*	(11.4)	10.6	(0.9)	455*	(9.8)	37.9	(1.4)	503	(5.1)	46.9	(1.6)	562*	(4.9)
Ontario	8.9	(0.8)	448*	(6.5)	19.9	(1.0)	463*	(4.8)	39.8	(1.6)	506	(3.6)	31.3	(1.4)	563*	(5.1)
Manitoba	9.4	(1.1)	437*	(11.5)	20.7	(1.4)	444*	(7.4)	42.3	(1.7)	475	(4.7)	27.6	(1.7)	532*	(6.0)
Saskatchewan	9.7	(0.9)	429*	(10.1)	22.1	(1.4)	440*	(5.9)	45.2	(1.5)	477	(4.5)	22.9	(1.5)	532*	(6.2)
Alberta	6.8	(1.1)	440*	(13.3)	18.5	(1.9)	457*	(8.9)	44.8	(2.2)	492	(6.7)	29.8	(2.4)	577*	(8.4)
British Columbia	7.4	(0.8)	429*	(11.2)	20.0	(1.6)	465*	(7.0)	43.9	(1.6)	507	(4.9)	28.7	(1.9)	556*	(7.6)
OECD average	**12.3**	**(0.1)**	**430***	**(0.9)**	**27.9**	**(0.1)**	**450***	**(0.6)**	**38.7**	**(0.2)**	**484**	**(0.5)**	**21.1**	**(0.1)**	**535***	**(0.8)**

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
* Significant difference compared to the average score in the "Confident" category.

Percentage and average scores of students by confidence in performing mathematics tasks: MATHEMATICS

Calculating how many square metres of tiles you need to cover a floor

Canada, province, or OECD average	Not at all confident				Not very confident				Confident				Very confident			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	7.2	(0.4)	432*	(3.8)	19.9	(0.6)	448*	(2.7)	40.7	(0.7)	498	(2.6)	32.2	(0.7)	566*	(2.4)
Newfoundland and Labrador	8.2	(1.4)	413*	(11.4)	28.0	(2.1)	439*	(8.0)	40.2	(2.2)	464	(8.0)	23.6	(2.3)	528*	(9.7)
Prince Edward Island	13.4‡	(3.5)	434*	(23.9)	26.1	(4.9)	450*	(19.2)	38.8	(5.5)	503	(10.7)	21.7	(4.4)	542	(18.3)
Nova Scotia	8.4	(1.2)	414*	(13.0)	21.2	(1.7)	441*	(8.8)	42.7	(2.2)	477	(7.4)	27.6	(1.9)	546*	(8.6)
New Brunswick	7.8	(1.2)	428*	(10.8)	20.3	(1.7)	423*	(7.4)	39.0	(1.9)	476	(5.9)	32.8	(2.0)	532*	(6.9)
Quebec	3.8	(0.5)	428*	(10.6)	9.1	(0.8)	426*	(7.8)	37.6	(1.3)	499	(4.7)	49.5	(1.4)	559*	(4.7)
Ontario	8.8	(0.8)	439*	(5.9)	21.7	(1.0)	453*	(4.2)	42.2	(1.4)	503	(4.8)	27.3	(1.3)	574*	(5.2)
Manitoba	8.5	(1.0)	430*	(9.1)	22.1	(1.6)	442*	(5.9)	44.6	(1.7)	479	(5.3)	24.9	(1.4)	528*	(6.6)
Saskatchewan	8.4	(1.0)	414*	(9.7)	23.5	(1.7)	432*	(5.8)	47.7	(1.9)	476	(5.1)	20.4	(1.3)	534*	(6.8)
Alberta	5.3	(0.9)	419*	(16.4)	23.3	(2.4)	444*	(7.1)	39.7	(2.7)	495	(8.1)	31.7	(2.3)	589*	(8.1)
British Columbia	9.1	(1.0)	433*	(9.3)	26.3	(1.5)	460*	(6.2)	40.3	(1.2)	510	(6.0)	24.2	(1.4)	568*	(7.2)
OECD average	11.2	(0.1)	422*	(0.8)	27.5	(0.1)	444*	(0.6)	39.3	(0.2)	485	(0.5)	22.0	(0.1)	543*	(0.7)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
* Significant difference compared to the average score in the "Confident" category.

Percentage and average scores of students by confidence in performing mathematics tasks: MATHEMATICS

Understanding scientific tables presented in an article

Canada, province, or OECD average	Not at all confident				Not very confident				Confident				Very confident			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	8.5	(0.3)	450*	(3.7)	27.1	(0.8)	479*	(2.4)	44.3	(0.9)	514	(2.5)	20.0	(0.7)	562*	(3.1)
Newfoundland and Labrador	11.2	(2.0)	421*	(10.9)	32.5	(2.0)	451*	(7.8)	41.2	(2.7)	476	(8.8)	15.1	(1.7)	531*	(9.7)
Prince Edward Island	12.3‡	(3.1)	459*	(22.5)	30.2	(3.5)	471*	(16.4)	43.4	(4.9)	510	(14.3)	14.2‡	(3.4)	560*	(22.7)
Nova Scotia	14.1	(1.6)	427*	(10.1)	28.9	(2.0)	451*	(8.6)	43.0	(2.3)	492	(8.6)	14.0	(1.7)	553*	(10.9)
New Brunswick	9.0	(1.2)	442*	(12.4)	31.4	(1.9)	451*	(6.7)	39.1	(2.0)	476	(6.1)	20.5	(1.7)	526*	(8.7)
Quebec	5.4	(0.7)	460*	(10.7)	21.9	(1.2)	483*	(5.9)	45.0	(1.3)	526	(5.0)	27.7	(1.3)	566*	(5.5)
Ontario	10.4	(0.8)	459*	(6.0)	27.8	(1.3)	487*	(4.0)	43.8	(1.9)	513	(4.4)	17.9	(1.2)	561*	(6.2)
Manitoba	10.5	(1.1)	442*	(9.1)	32.6	(1.5)	465	(6.4)	40.6	(1.8)	479	(6.4)	16.3	(1.4)	515*	(8.7)
Saskatchewan	10.1	(1.2)	422*	(13.0)	33.4	(1.7)	465*	(4.6)	45.0	(1.7)	485	(4.4)	11.6	(1.1)	525*	(10.0)
Alberta	6.9	(1.1)	437*	(13.2)	26.5	(2.8)	475*	(8.9)	46.8	(2.4)	517	(7.4)	19.8	(2.1)	578*	(11.8)
British Columbia	8.1	(1.0)	441*	(10.2)	29.8	(1.5)	479*	(5.8)	43.9	(1.8)	522	(6.4)	18.3	(1.1)	562*	(7.5)
OECD average	12.5	(0.1)	432*	(0.8)	33.3	(0.2)	460*	(0.6)	39.5	(0.2)	492	(0.6)	14.7	(0.1)	531*	(0.9)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
* Significant difference compared to the average score in the "Confident" category.

Table B.2.12e

Percentage and average scores of students by confidence in performing mathematics tasks: MATHEMATICS

Solving an equation like 6x²+5 = 29

Canada, province, or OECD average	Not at all confident				Not very confident				Confident				Very confident			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	6.7	(0.4)	422*	(4.0)	14.0	(0.5)	445*	(3.0)	38.7	(0.7)	491	(2.2)	40.5	(0.7)	556*	(2.3)
Newfoundland and Labrador	10.5	(1.7)	403*	(11.6)	18.2	(1.9)	427*	(10.3)	38.8	(2.7)	466	(7.0)	32.6	(2.5)	523*	(8.0)
Prince Edward Island	U‡	(2.1)	438*	(27.8)	14.5‡	(3.1)	442*	(24.4)	46.3	(4.3)	498	(10.9)	33.0	(3.9)	536*	(12.3)
Nova Scotia	9.2	(1.3)	407*	(12.9)	19.3	(1.9)	416*	(8.6)	40.9	(2.1)	469	(7.9)	30.6	(2.4)	538*	(8.0)
New Brunswick	5.7	(0.9)	416*	(13.3)	15.1	(1.5)	435*	(9.5)	39.5	(2.0)	460	(5.4)	39.7	(2.1)	533*	(5.6)
Quebec	3.6	(0.5)	418*	(12.7)	8.5	(0.9)	441*	(9.8)	34.1	(1.2)	498	(4.3)	53.8	(1.6)	556*	(4.1)
Ontario	7.7	(0.8)	434*	(7.6)	15.2	(0.9)	457*	(4.9)	39.1	(1.4)	491	(4.1)	38.0	(1.4)	556*	(4.5)
Manitoba	7.9	(0.9)	390*	(8.7)	18.6	(1.6)	440*	(6.6)	40.6	(1.9)	474	(5.0)	32.9	(1.7)	526*	(4.8)
Saskatchewan	8.0	(1.0)	391*	(10.0)	19.5	(1.5)	436*	(6.8)	42.5	(1.8)	474	(4.1)	29.9	(1.7)	529*	(6.5)
Alberta	6.5	(1.4)	416*	(14.0)	12.6	(1.4)	439*	(8.9)	40.3	(2.2)	496	(8.2)	40.6	(2.7)	573*	(7.8)
British Columbia	8.3	(1.1)	421*	(11.5)	17.3	(1.6)	440*	(7.0)	41.6	(1.4)	494	(4.9)	32.8	(1.5)	563*	(7.3)
OECD average	9.4	(0.1)	415*	(0.9)	19.8	(0.1)	436*	(0.7)	38.7	(0.2)	474	(0.5)	32.1	(0.2)	531*	(0.6)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
U Too unreliable to be published.
* Significant difference compared to the average score in the "Confident" category.

Table B.2.12f

Percentage and average scores of students by confidence in performing mathematics tasks: MATHEMATICS

Finding the actual distance between two places on a map with a 1:10,000 scale

Canada, province, or OECD average	Not at all confident				Not very confident				Confident				Very confident			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	14.2	(0.6)	462*	(2.9)	33.1	(0.6)	488*	(2.4)	34.2	(0.8)	514	(2.3)	18.5	(0.6)	567*	(3.8)
Newfoundland and Labrador	24.7	(2.1)	441*	(10.4)	40.7	(2.2)	464	(10.1)	24.8	(2.6)	466	(9.4)	9.8	(1.6)	526*	(13.8)
Prince Edward Island	20.9	(4.1)	457	(15.6)	29.1	(3.9)	473	(14.4)	34.9	(5.6)	494	(11.9)	15.1‡	(3.6)	555*	(21.1)
Nova Scotia	20.7	(1.8)	445*	(8.3)	35.0	(2.2)	465	(8.2)	31.4	(2.3)	478	(9.4)	12.9	(1.3)	563*	(12.7)
New Brunswick	17.1	(1.5)	463	(7.6)	29.4	(2.2)	452*	(7.8)	34.0	(2.1)	475	(6.7)	19.5	(1.5)	522*	(10.8)
Quebec	7.1	(0.7)	460*	(8.6)	23.0	(1.2)	495*	(6.4)	40.8	(1.3)	524	(4.6)	29.1	(1.2)	569*	(5.3)
Ontario	16.7	(1.1)	467*	(5.3)	35.3	(1.1)	495*	(4.1)	33.3	(1.5)	516	(4.5)	14.7	(1.0)	572*	(8.2)
Manitoba	14.2	(1.1)	425*	(8.4)	35.1	(1.6)	472	(4.8)	35.2	(1.8)	486	(6.3)	15.5	(1.1)	530*	(6.8)
Saskatchewan	16.2	(1.2)	447*	(8.4)	34.5	(1.4)	463*	(5.8)	35.5	(1.6)	480	(5.2)	13.8	(1.2)	530*	(8.2)
Alberta	15.4	(2.0)	473*	(8.8)	35.2	(2.1)	483*	(7.3)	31.4	(1.6)	522	(7.8)	18.0	(2.1)	581*	(10.3)
British Columbia	14.7	(1.2)	457*	(7.0)	40.5	(1.6)	490*	(6.2)	29.3	(1.5)	518	(6.1)	15.5	(1.4)	562*	(9.2)
OECD average	15.3	(0.1)	442*	(0.8)	35.4	(0.2)	464*	(0.5)	33.4	(0.2)	487	(0.6)	16.0	(0.1)	533*	(0.9)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
* Significant difference compared to the average score in the "Confident" category.

Table B.2.12g

Percentage and average scores of students by confidence in performing mathematics tasks: MATHEMATICS

Solving an equation like 2(x+3) = (x+3)(x-3)

Canada, province, or OECD average	Not at all confident				Not very confident				Confident				Very confident			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	6.7	(0.4)	427*	(4.4)	14.8	(0.5)	452*	(3.1)	39.2	(0.8)	494	(2.2)	39.2	(0.8)	552*	(2.2)
Newfoundland and Labrador	12.4	(1.8)	422*	(12.3)	17.8	(1.8)	444	(11.1)	39.7	(2.5)	458	(8.3)	30.1	(2.1)	519*	(8.5)
Prince Edward Island	7.6‡	(2.4)	430	(28.1)	20.9‡	(4.2)	455	(20.6)	41.2	(5.2)	473	(16.0)	30.2	(5.0)	547*	(16.1)
Nova Scotia	11.3	(1.5)	420*	(10.4)	19.9	(2.0)	445*	(9.3)	36.9	(2.4)	472	(7.0)	32.0	(2.5)	540*	(9.0)
New Brunswick	7.9	(1.3)	437	(13.3)	16.6	(1.6)	431*	(9.3)	35.6	(1.8)	456	(6.5)	39.9	(2.2)	517*	(5.8)
Quebec	4.1	(0.5)	423*	(13.4)	9.1	(0.8)	458*	(8.2)	36.8	(1.5)	503	(4.3)	50.0	(1.6)	556*	(4.7)
Ontario	7.6	(0.7)	437*	(7.2)	15.5	(0.8)	460*	(5.1)	38.7	(1.2)	500	(3.8)	38.1	(1.4)	551*	(4.5)
Manitoba	7.4	(0.9)	415*	(9.7)	17.1	(1.2)	438*	(6.7)	39.6	(1.4)	466	(5.3)	35.9	(1.5)	526*	(5.0)
Saskatchewan	7.4	(1.0)	403*	(12.0)	20.4	(1.4)	442*	(6.9)	44.1	(1.8)	474	(5.2)	28.0	(1.7)	526*	(6.0)
Alberta	5.5	(1.0)	423*	(19.2)	15.9	(1.8)	443*	(9.2)	43.3	(2.3)	495	(7.9)	35.3	(2.2)	560*	(8.4)
British Columbia	8.1	(1.1)	417*	(9.0)	17.7	(1.4)	447*	(6.9)	39.3	(1.6)	493	(5.5)	34.9	(1.8)	560*	(5.5)
OECD average	9.6	(0.1)	417*	(0.9)	20.6	(0.1)	440*	(0.7)	38.0	(0.2)	476	(0.5)	31.8	(0.2)	527*	(0.6)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
* Significant difference compared to the average score in the "Confident" category.

Table B.2.12h

Percentage and average scores of students by confidence in performing mathematics tasks: MATHEMATICS

Calculating the power consumption of an electronic appliance per week

Canada, province, or OECD average	Not at all confident				Not very confident				Confident				Very confident			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	14.5	(0.4)	465*	(2.8)	32.7	(0.7)	485*	(2.3)	35.3	(0.7)	514	(3.3)	17.5	(0.5)	564*	(3.9)
Newfoundland and Labrador	26.5	(3.1)	442*	(10.4)	34.1	(3.2)	457	(7.8)	28.2	(2.2)	479	(10.9)	11.1	(1.8)	522*	(14.5)
Prince Edward Island	18.3‡	(3.8)	485	(21.1)	39.0	(4.5)	476	(14.8)	25.7	(4.6)	491	(19.3)	17.0‡	(3.7)	537	(23.8)
Nova Scotia	19.6	(2.1)	451*	(9.5)	34.2	(2.2)	469	(8.0)	33.3	(2.1)	483	(8.6)	12.8	(1.5)	534*	(12.7)
New Brunswick	19.3	(1.7)	461	(9.0)	33.2	(2.0)	468	(7.1)	33.4	(2.1)	476	(8.0)	14.1	(1.3)	512*	(12.2)
Quebec	10.1	(0.8)	471*	(7.6)	23.6	(1.2)	481*	(6.7)	38.5	(1.2)	527	(5.3)	27.8	(1.4)	567*	(5.5)
Ontario	17.2	(0.9)	470*	(4.6)	34.3	(1.3)	493*	(4.4)	34.4	(1.5)	514	(6.1)	14.1	(0.9)	569*	(6.6)
Manitoba	18.5	(1.5)	450*	(7.4)	36.8	(1.8)	475	(5.1)	32.0	(1.5)	487	(6.5)	12.7	(1.1)	523*	(9.3)
Saskatchewan	15.4	(1.1)	447*	(8.6)	36.4	(1.6)	467	(5.2)	37.5	(1.7)	481	(6.0)	10.7	(1.2)	519*	(10.4)
Alberta	11.2	(1.2)	467*	(12.8)	36.9	(2.0)	486*	(6.8)	33.9	(2.5)	516	(9.5)	17.9	(1.5)	578*	(14.5)
British Columbia	13.3	(1.1)	461*	(9.3)	35.4	(1.6)	485*	(6.2)	36.5	(2.0)	515	(6.1)	14.8	(1.2)	557*	(10.3)
OECD average	16.5	(0.1)	447*	(0.7)	35.3	(0.2)	467*	(0.6)	34.2	(0.2)	489	(0.6)	14.0	(0.1)	525*	(1.0)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
* Significant difference compared to the average score in the "Confident" category.

Table B.2.12i

Percentage and average scores of students by confidence in performing mathematics tasks: MATHEMATICS

Solving an equation like 3x+5 = 17

Canada, province, or OECD average	Not at all confident				Not very confident				Confident				Very confident			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	5.1	(0.3)	417*	(4.5)	9.4	(0.4)	436*	(3.6)	35.5	(1.0)	481	(2.3)	49.9	(0.9)	547*	(2.0)
Newfoundland and Labrador	9.0	(1.7)	395*	(13.6)	10.9	(2.0)	431	(14.6)	39.3	(2.8)	457	(8.4)	40.7	(3.1)	508*	(7.8)
Prince Edward Island	U‡	(1.7)	396*	(34.3)	10.5‡	(2.8)	399*	(20.8)	41.0	(4.3)	471	(12.9)	44.0	(4.5)	526*	(14.2)
Nova Scotia	7.9	(1.3)	410*	(13.2)	10.8	(1.4)	421*	(11.6)	38.3	(1.9)	460	(7.3)	43.0	(2.3)	527*	(7.0)
New Brunswick	6.4	(1.0)	406*	(15.2)	9.3	(1.2)	418*	(10.2)	35.5	(2.3)	453	(5.6)	48.7	(2.4)	513*	(5.4)
Quebec	3.3	(0.5)	417*	(12.8)	5.2	(0.6)	433*	(9.6)	29.3	(1.4)	494	(5.2)	62.2	(1.7)	552*	(4.3)
Ontario	6.4	(0.6)	423*	(7.1)	10.2	(0.7)	445*	(5.6)	37.2	(2.0)	483	(3.7)	46.3	(1.8)	546*	(3.8)
Manitoba	6.7	(0.8)	409*	(10.2)	11.2	(1.1)	423*	(7.9)	39.0	(1.7)	467	(5.7)	43.1	(1.8)	517*	(4.6)
Saskatchewan	5.9	(0.7)	411*	(9.0)	14.2	(1.1)	418*	(7.0)	43.2	(1.7)	467	(4.2)	36.7	(1.7)	520*	(5.1)
Alberta	3.0‡	(0.7)	410*	(20.1)	8.9	(1.3)	428*	(10.8)	37.0	(2.3)	474	(8.0)	51.2	(2.7)	558*	(6.7)
British Columbia	5.7	(0.8)	411*	(10.9)	12.9	(1.1)	439*	(9.3)	35.9	(1.9)	485	(6.0)	45.5	(1.9)	547*	(5.9)
OECD average	7.6	(0.1)	408*	(1.0)	14.0	(0.1)	424*	(0.8)	36.2	(0.2)	464	(0.5)	42.2	(0.2)	522*	(0.5)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
U Too unreliable to be published.
* Significant difference compared to the average score in the "Confident" category.

Table B.2.13a

Percentage and average scores of students by confidence in performing mathematics tasks: MATHEMATICS

Extracting mathematical information from diagrams, graphs, or simulations

Canada, province, or OECD average	Not at all confident				Not very confident				Confident				Very confident			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	6.5	(0.3)	435*	(4.4)	20.1	(0.6)	461*	(2.8)	50.6	(0.7)	512	(2.3)	22.7	(0.7)	558*	(3.1)
Newfoundland and Labrador	10.2	(1.6)	406*	(13.3)	24.7	(2.6)	447*	(9.3)	51.2	(3.1)	479	(9.1)	13.9	(1.8)	522*	(11.4)
Prince Edward Island	10.7‡	(3.1)	407*	(19.4)	27.3	(5.1)	469	(15.3)	44.0	(4.9)	496	(14.0)	18.0‡	(3.5)	534	(21.3)
Nova Scotia	8.5	(1.3)	394*	(15.1)	22.6	(2.3)	430*	(9.2)	48.5	(2.9)	480	(7.4)	20.3	(2.1)	545*	(11.2)
New Brunswick	7.0	(1.2)	414*	(12.7)	21.9	(1.8)	439*	(7.7)	48.8	(1.8)	483	(5.9)	22.4	(2.1)	521*	(8.3)
Quebec	4.3	(0.6)	429*	(12.9)	14.2	(0.9)	470*	(7.5)	50.5	(1.4)	514	(4.7)	31.0	(1.4)	561*	(5.8)
Ontario	8.0	(0.8)	444*	(7.4)	20.4	(1.1)	463*	(4.5)	50.9	(1.2)	517	(4.0)	20.7	(1.2)	551*	(6.0)
Manitoba	8.8	(1.2)	422*	(8.3)	27.1	(1.9)	446*	(8.0)	47.4	(2.1)	490	(5.6)	16.7	(1.4)	531*	(5.9)
Saskatchewan	7.7	(0.9)	422*	(13.3)	25.7	(1.6)	452*	(5.4)	52.9	(1.7)	489	(4.7)	13.7	(1.2)	528*	(11.1)
Alberta	4.1‡	(0.9)	438*	(19.3)	21.3	(2.2)	465*	(8.8)	50.2	(2.5)	523	(7.7)	24.4	(2.1)	581*	(9.4)
British Columbia	7.2	(1.2)	434*	(10.4)	22.8	(1.4)	461*	(7.0)	52.0	(1.6)	508	(5.2)	17.9	(1.1)	561*	(8.6)
OECD average	10.5	(0.1)	416*	(0.9)	25.0	(0.1)	448*	(0.6)	46.0	(0.2)	492	(0.5)	18.5	(0.1)	529*	(0.9)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
* Significant difference compared to the average score in the "Confident" category.

Percentage and average scores of students by confidence in performing mathematics tasks: MATHEMATICS

Interpreting mathematical solutions in the context of a real-life challenge

Canada, province, or OECD average	Not at all confident				Not very confident				Confident				Very confident			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	8.2	(0.5)	445*	(4.1)	26.7	(0.6)	476*	(2.4)	48.8	(0.9)	516	(2.3)	16.2	(0.6)	564*	(3.8)
Newfoundland and Labrador	12.6	(1.8)	412*	(12.1)	27.8	(2.2)	451*	(7.9)	48.2	(2.8)	492	(8.6)	11.5	(2.0)	503	(16.3)
Prince Edward Island	15.4‡	(3.6)	442*	(23.5)	27.3	(4.8)	444*	(17.5)	42.8	(5.4)	508	(13.0)	14.5‡	(3.0)	520	(26.8)
Nova Scotia	11.4	(1.5)	434*	(11.0)	28.7	(2.6)	460*	(9.3)	46.2	(2.6)	488	(7.7)	13.7	(1.9)	537*	(13.2)
New Brunswick	7.1	(1.1)	431*	(12.8)	24.4	(2.3)	439*	(8.1)	49.7	(2.5)	483	(6.0)	18.8	(1.7)	522*	(9.7)
Quebec	5.8	(0.7)	436*	(10.7)	14.9	(1.0)	484*	(6.7)	53.4	(1.6)	525	(4.1)	26.0	(1.3)	569*	(5.9)
Ontario	9.9	(0.9)	453*	(6.0)	29.5	(1.4)	480*	(4.3)	46.8	(2.2)	517	(4.6)	13.8	(1.1)	571*	(7.6)
Manitoba	8.2	(1.2)	437*	(12.1)	30.9	(1.5)	452*	(6.1)	49.5	(1.9)	496	(4.4)	11.4	(1.1)	517	(9.9)
Saskatchewan	9.8	(1.1)	423*	(11.0)	29.0	(1.4)	447*	(4.9)	51.4	(1.8)	483	(4.5)	9.8	(1.1)	526*	(11.6)
Alberta	6.4	(1.2)	430*	(13.6)	30.4	(1.9)	488*	(8.0)	48.4	(2.0)	520	(7.5)	14.8	(1.6)	571*	(12.4)
British Columbia	8.2	(1.2)	460*	(12.3)	31.7	(1.3)	468*	(5.7)	47.4	(1.4)	521	(5.9)	12.7	(0.9)	561*	(10.1)
OECD average	12.6	(0.1)	433*	(0.9)	34.9	(0.2)	467*	(0.6)	42.0	(0.2)	494	(0.6)	10.5	(0.1)	524*	(1.1)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
* Significant difference compared to the average score in the "Confident" category.

Percentage and average scores of students by confidence in performing mathematics tasks: MATHEMATICS

Using the concept of statistical variation to make a decision

Canada, province, or OECD average	Not at all confident				Not very confident				Confident				Very confident			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	12.8	(0.5)	470*	(4.0)	35.7	(0.7)	491*	(2.7)	39.4	(0.7)	519	(2.5)	12.2	(0.5)	557*	(4.2)
Newfoundland and Labrador	23.1	(1.8)	440*	(11.2)	38.7	(2.4)	458	(9.0)	31.1	(2.1)	473	(10.8)	7.1	(1.2)	505	(20.8)
Prince Edward Island	15.1‡	(3.5)	460*	(15.8)	36.7	(5.0)	457*	(16.3)	34.0	(4.8)	511	(15.0)	14.1‡	(3.7)	519	(27.4)
Nova Scotia	19.5	(2.2)	453*	(9.0)	38.7	(2.4)	466	(8.0)	32.9	(2.5)	482	(11.1)	8.8	(1.5)	541*	(15.4)
New Brunswick	13.8	(1.3)	453*	(10.6)	34.1	(2.0)	460*	(7.5)	41.3	(1.9)	483	(6.3)	10.8	(1.1)	517*	(10.8)
Quebec	8.4	(0.7)	476*	(9.9)	27.8	(1.4)	505*	(6.3)	45.1	(1.5)	531	(4.7)	18.7	(1.2)	561*	(6.5)
Ontario	16.0	(1.0)	469*	(6.0)	37.3	(1.6)	495*	(5.8)	35.8	(1.2)	527	(5.2)	10.8	(0.8)	554*	(8.0)
Manitoba	10.1	(0.9)	453*	(11.9)	40.4	(1.8)	469*	(5.6)	39.2	(1.8)	492	(6.0)	10.4	(1.2)	516	(12.4)
Saskatchewan	12.1	(1.2)	450*	(12.5)	34.8	(2.0)	465*	(5.5)	44.3	(2.0)	487	(5.0)	8.8	(1.3)	515	(13.2)
Alberta	10.7	(1.7)	493	(13.7)	35.9	(2.0)	493	(8.4)	43.0	(2.2)	512	(7.5)	10.4	(1.5)	580*	(13.8)
British Columbia	12.0	(1.2)	470*	(7.3)	42.4	(1.8)	490*	(5.9)	36.0	(1.8)	520	(7.5)	9.6	(1.0)	558*	(11.4)
OECD average	18.3	(0.1)	463*	(0.8)	40.1	(0.2)	476*	(0.6)	33.2	(0.2)	486	(0.6)	8.3	(0.1)	511*	(1.3)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
* Significant difference compared to the average score in the "Confident" category.

Table B.2.13d

Percentage and average scores of students by confidence in performing mathematics tasks: MATHEMATICS

Identifying mathematical aspects of a real-world problem

Canada, province, or OECD average	Not at all confident				Not very confident				Confident				Very confident			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	7.3	(0.4)	449*	(4.1)	27.2	(0.7)	477*	(2.3)	49.0	(0.8)	517	(2.4)	16.5	(0.6)	560*	(4.1)
Newfoundland and Labrador	9.0	(1.6)	407*	(13.4)	32.3	(2.7)	450*	(8.4)	48.3	(2.3)	484	(7.5)	10.5	(1.8)	541*	(12.3)
Prince Edward Island	11.6‡	(3.1)	407*	(17.8)	26.8	(4.7)	473*	(14.4)	50.8	(4.7)	511	(12.5)	10.8‡	(2.5)	555	(27.5)
Nova Scotia	9.6	(1.7)	436*	(12.8)	27.0	(2.4)	441*	(8.8)	51.1	(2.5)	484	(7.0)	12.3	(1.5)	548*	(14.7)
New Brunswick	5.1	(0.7)	426*	(16.0)	21.8	(2.0)	443*	(8.2)	55.4	(2.4)	487	(5.6)	17.7	(1.7)	526*	(9.5)
Quebec	4.6	(0.6)	453*	(10.0)	17.4	(1.2)	480*	(6.1)	51.7	(1.4)	527	(4.4)	26.3	(1.3)	565*	(6.1)
Ontario	9.4	(0.8)	453*	(6.9)	29.9	(1.2)	480*	(4.2)	46.9	(1.5)	519	(4.2)	13.8	(0.9)	563*	(7.0)
Manitoba	8.4	(1.0)	432*	(10.3)	30.8	(2.1)	463*	(6.9)	47.2	(2.4)	486	(5.6)	13.6	(1.3)	529*	(7.9)
Saskatchewan	7.5	(1.0)	422*	(17.1)	27.0	(1.7)	451*	(5.9)	54.3	(1.9)	491	(4.6)	11.2	(1.3)	524*	(9.8)
Alberta	5.8	(1.0)	459*	(15.5)	29.9	(2.1)	489*	(8.6)	48.8	(2.2)	527	(9.0)	15.5	(1.8)	558*	(14.7)
British Columbia	6.7	(0.9)	446*	(9.2)	32.2	(2.1)	476*	(6.8)	48.6	(2.3)	515	(5.9)	12.5	(1.3)	570*	(9.0)
OECD average	12.7	(0.1)	439*	(0.9)	36.1	(0.2)	467*	(0.6)	41.2	(0.2)	494	(0.6)	10.0	(0.1)	524*	(1.2)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
* Significant difference compared to the average score in the "Confident" category.

Table B.2.13e

Percentage and average scores of students by confidence in performing mathematics tasks: MATHEMATICS

Identifying constraints and assumptions behind mathematical modelling

Canada, province, or OECD average	Not at all confident				Not very confident				Confident				Very confident			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	11.7	(0.5)	471*	(4.2)	37.5	(0.9)	493*	(2.6)	38.4	(0.9)	519	(2.8)	12.4	(0.5)	564*	(4.0)
Newfoundland and Labrador	20.0	(2.3)	449	(10.6)	40.9	(2.6)	462	(7.9)	30.3	(2.4)	469	(10.4)	8.8‡	(1.5)	528*	(14.7)
Prince Edward Island	18.8‡	(4.0)	459*	(20.2)	39.4	(5.0)	486	(15.3)	35.1	(5.1)	517	(17.8)	U‡	(2.3)	596*	(25.5)
Nova Scotia	16.5	(1.7)	469	(10.6)	44.4	(2.4)	484	(7.1)	31.7	(2.2)	493	(8.5)	7.4	(1.1)	540*	(18.8)
New Brunswick	9.8	(1.1)	461	(14.5)	35.4	(2.2)	457*	(7.1)	42.7	(2.5)	490	(6.6)	12.1	(1.6)	504	(12.6)
Quebec	6.0	(0.8)	476*	(9.7)	26.4	(1.4)	498*	(6.1)	50.2	(1.4)	531	(4.5)	17.5	(1.0)	563*	(8.0)
Ontario	14.9	(1.1)	468*	(6.1)	40.4	(1.7)	500*	(5.7)	33.2	(1.6)	518	(4.8)	11.6	(0.9)	571*	(8.0)
Manitoba	13.3	(1.2)	457*	(10.2)	41.1	(2.1)	475*	(5.7)	34.9	(1.7)	494	(5.5)	10.7	(1.1)	509	(9.3)
Saskatchewan	13.2	(1.1)	442*	(10.6)	38.3	(2.0)	466*	(5.7)	40.3	(2.0)	489	(6.0)	8.2	(1.1)	533*	(13.1)
Alberta	10.7	(1.6)	490	(14.3)	40.6	(2.6)	492*	(8.0)	38.4	(2.8)	522	(10.6)	10.2	(1.6)	578*	(16.6)
British Columbia	11.7	(1.3)	472*	(9.3)	42.0	(1.9)	491*	(5.7)	34.4	(1.7)	521	(7.0)	11.9	(1.3)	574*	(9.6)
OECD average	16.4	(0.1)	455*	(0.8)	43.3	(0.2)	477*	(0.5)	32.7	(0.2)	491	(0.7)	7.6	(0.1)	514*	(1.4)

SE Standard error
AV. Average
‡ There are fewer than 30 observations.
U Too unreliable to be published.
* Significant difference compared to the average score in the "Confident" category.

Table B.2.13f

Percentage and average scores of students by confidence in performing mathematics tasks: MATHEMATICS

Representing a situation mathematically using variables, symbols, or diagrams

Canada, province, or OECD average	Not at all confident				Not very confident				Confident				Very confident			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	6.7	(0.4)	432*	(4.2)	20.4	(0.5)	462*	(3.2)	50.8	(0.8)	509	(2.1)	22.1	(0.7)	568*	(3.2)
Newfoundland and Labrador	11.7	(2.0)	408*	(12.6)	21.1	(2.6)	438*	(10.6)	50.3	(2.9)	474	(8.1)	17.0	(2.3)	526*	(11.6)
Prince Edward Island	U‡	(2.6)	419*	(30.6)	26.7	(4.7)	460	(17.1)	41.9	(6.0)	499	(13.6)	25.6‡	(5.3)	536	(20.0)
Nova Scotia	12.0	(1.7)	418*	(12.1)	16.9	(1.4)	433*	(9.8)	49.6	(2.3)	480	(6.6)	21.5	(2.1)	542*	(11.2)
New Brunswick	7.8	(1.1)	424*	(13.4)	18.6	(1.8)	441*	(8.6)	51.8	(2.2)	487	(5.8)	21.8	(1.7)	516*	(10.4)
Quebec	3.8	(0.5)	424*	(11.4)	15.3	(1.1)	474*	(8.3)	53.0	(1.3)	519	(4.2)	27.9	(1.2)	570*	(6.0)
Ontario	7.4	(0.7)	436*	(6.6)	22.6	(1.1)	468*	(4.6)	49.8	(1.6)	515	(4.0)	20.2	(1.1)	569*	(5.8)
Manitoba	7.2	(0.9)	420*	(12.1)	21.5	(1.4)	448*	(6.9)	52.6	(1.9)	481	(5.5)	18.7	(1.6)	536*	(6.5)
Saskatchewan	9.2	(1.0)	416*	(13.7)	22.5	(1.6)	446*	(5.8)	54.5	(2.0)	482	(4.9)	13.8	(1.2)	527*	(9.0)
Alberta	6.5	(1.5)	433*	(14.1)	19.3	(2.1)	458*	(8.9)	50.8	(2.2)	500	(6.7)	23.4	(2.7)	585*	(8.4)
British Columbia	7.7	(0.9)	442*	(10.3)	24.1	(1.5)	452*	(7.5)	48.9	(1.8)	516	(6.3)	19.2	(1.5)	570*	(9.2)
OECD average	11.9	(0.1)	437*	(0.9)	32.4	(0.2)	462*	(0.6)	43.5	(0.2)	491	(0.6)	12.2	(0.1)	528*	(1.1)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
U Too unreliable to be published.
* Significant difference compared to the average score in the "Confident" category.

Table B.2.13g

Percentage and average scores of students by confidence in performing mathematics tasks: MATHEMATICS

Evaluating the significance of observed patterns in data

Canada, province, or OECD average	Not at all confident				Not very confident				Confident				Very confident			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	7.6	(0.4)	445*	(4.3)	27.3	(1.1)	480*	(3.0)	48.8	(1.0)	516	(2.3)	16.3	(0.6)	560*	(3.5)
Newfoundland and Labrador	12.6	(1.8)	426*	(11.4)	29.0	(2.4)	448*	(8.8)	50.0	(2.4)	479	(8.5)	8.5	(1.3)	542*	(12.1)
Prince Edward Island	9.2‡	(2.8)	401*	(23.9)	36.2	(5.2)	476	(14.2)	43.5	(5.2)	497	(16.7)	11.1‡	(2.6)	527	(27.8)
Nova Scotia	9.5	(1.3)	428*	(16.2)	22.8	(2.0)	448*	(8.9)	51.6	(2.4)	500	(7.0)	16.2	(1.9)	549*	(13.3)
New Brunswick	8.7	(1.4)	445*	(11.9)	26.5	(2.4)	456*	(9.0)	50.5	(2.0)	489	(6.7)	14.2	(1.4)	529*	(13.3)
Quebec	6.6	(0.8)	460*	(8.8)	21.4	(1.1)	496*	(7.0)	49.6	(1.3)	529	(5.7)	22.4	(1.3)	555*	(5.7)
Ontario	8.6	(0.8)	441*	(7.0)	29.5	(2.5)	481*	(5.3)	47.1	(1.9)	521	(4.1)	14.8	(1.0)	572*	(7.2)
Manitoba	10.6	(1.3)	444*	(8.6)	28.0	(1.5)	450*	(6.2)	46.9	(1.8)	492	(5.0)	14.5	(1.3)	519*	(12.3)
Saskatchewan	9.5	(1.1)	421*	(9.6)	29.9	(1.7)	453*	(6.2)	48.4	(2.0)	482	(4.9)	12.2	(1.3)	517*	(11.2)
Alberta	5.6	(1.1)	463*	(17.6)	26.9	(2.4)	481*	(8.7)	52.4	(2.3)	512	(7.0)	15.1	(1.6)	581*	(9.8)
British Columbia	6.1	(1.0)	436*	(11.6)	30.8	(1.5)	478*	(7.0)	48.0	(1.7)	511	(5.8)	15.1	(1.2)	545*	(10.9)
OECD average	13.5	(0.1)	443*	(0.9)	35.2	(0.2)	467*	(0.6)	40.7	(0.2)	492	(0.6)	10.6	(0.1)	519*	(1.2)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
* Significant difference compared to the average score in the "Confident" category.

Table B.2.13h

Percentage and average scores of students by confidence in performing mathematics tasks: MATHEMATICS

Coding/programming computers

Canada, province, or OECD average	Not at all confident				Not very confident				Confident				Very confident			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	34.7	(0.8)	511*	(2.6)	32.3	(0.8)	497	(2.8)	24.3	(0.6)	498	(3.2)	8.7	(0.5)	535*	(6.0)
Newfoundland and Labrador	37.0	(2.7)	472*	(8.0)	30.2	(2.7)	475*	(9.5)	22.3	(2.4)	448	(10.7)	10.5	(1.6)	512*	(13.8)
Prince Edward Island	37.5	(5.1)	493	(13.3)	33.4	(4.3)	512	(18.0)	20.4‡	(4.7)	485	(25.5)	U‡	(3.0)	507	(32.7)
Nova Scotia	36.7	(2.3)	491	(8.4)	36.2	(2.2)	480	(7.4)	22.2	(2.3)	463	(12.5)	4.9‡	(1.1)	509	(23.3)
New Brunswick	35.1	(2.0)	485	(7.2)	27.7	(2.2)	484	(9.8)	29.3	(2.3)	474	(8.1)	7.9	(1.2)	483	(13.8)
Quebec	37.9	(1.6)	535*	(4.1)	29.6	(1.2)	520	(6.1)	23.8	(1.4)	508	(6.5)	8.6	(0.9)	522	(10.3)
Ontario	35.0	(1.2)	508	(4.4)	31.2	(1.6)	491	(6.5)	25.3	(1.1)	502	(6.1)	8.5	(0.8)	552*	(10.1)
Manitoba	33.7	(1.9)	486*	(5.8)	31.3	(1.9)	471	(5.7)	25.4	(1.8)	460	(8.4)	9.6	(1.0)	517*	(11.6)
Saskatchewan	33.9	(1.6)	481	(5.7)	34.8	(1.8)	469	(5.6)	24.7	(1.5)	469	(5.4)	6.6	(0.9)	506*	(10.8)
Alberta	34.3	(2.9)	510	(8.5)	34.7	(2.2)	493	(7.4)	21.8	(2.3)	505	(11.3)	9.2	(1.5)	543	(20.1)
British Columbia	29.3	(1.6)	505	(8.7)	36.7	(2.3)	505	(6.6)	24.3	(1.7)	497	(6.4)	9.7	(1.2)	528	(15.9)
OECD average	30.8	(0.2)	487*	(0.6)	35.7	(0.2)	477*	(0.6)	25.0	(0.2)	472	(0.7)	8.5	(0.1)	496*	(1.3)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
U Too unreliable to be published.
* Significant difference compared to the average score in the "Confident" category.

Table B.2.13i

Percentage and average scores of students by confidence in performing mathematics tasks: MATHEMATICS

Working with computer mathematics systems (e.g., spreadsheets, programming software, graphing calculators)

Canada, province, or OECD average	Not at all confident				Not very confident				Confident				Very confident			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	15.1	(0.6)	480*	(3.5)	28.5	(0.7)	494*	(2.6)	40.6	(0.5)	511	(2.6)	15.8	(0.6)	549*	(4.1)
Newfoundland and Labrador	24.7	(2.7)	437*	(9.6)	34.6	(2.9)	463	(9.1)	30.6	(2.2)	483	(11.4)	10.2	(1.8)	494	(14.6)
Prince Edward Island	22.7	(4.2)	483	(16.4)	39.0	(4.9)	490	(13.8)	30.7	(4.2)	520	(13.5)	7.5 ‡	(2.4)	489	(32.3)
Nova Scotia	21.6	(2.3)	466*	(9.0)	30.7	(2.1)	467*	(6.9)	37.0	(2.1)	498	(9.1)	10.7	(1.5)	543*	(12.3)
New Brunswick	17.1	(1.9)	472	(11.3)	27.9	(2.3)	461	(8.1)	39.7	(2.8)	479	(7.7)	15.3	(1.7)	503	(11.8)
Quebec	12.3	(0.8)	512	(7.2)	26.0	(1.3)	510	(6.9)	42.1	(1.5)	519	(4.7)	19.7	(1.3)	561*	(6.6)
Ontario	15.3	(1.0)	474*	(6.2)	28.1	(1.2)	491*	(4.6)	40.3	(1.1)	514	(4.6)	16.3	(1.1)	546*	(6.9)
Manitoba	17.0	(1.3)	464	(8.5)	30.6	(1.9)	473	(6.3)	38.3	(1.9)	479	(6.9)	14.2	(1.3)	517*	(10.0)
Saskatchewan	17.4	(1.2)	468	(8.4)	33.1	(2.1)	461*	(7.8)	38.7	(2.0)	486	(4.9)	10.7	(1.1)	515*	(9.6)
Alberta	15.3	(1.9)	475*	(10.8)	25.3	(2.5)	503	(10.4)	44.0	(2.6)	509	(10.0)	15.4	(2.0)	567*	(14.0)
British Columbia	15.1	(1.6)	479*	(9.3)	33.5	(2.0)	497*	(7.6)	38.9	(1.8)	515	(6.6)	12.5	(1.2)	535	(13.0)
OECD average	16.1	(0.1)	457*	(0.9)	32.0	(0.2)	472*	(0.6)	38.9	(0.2)	485	(0.6)	13.0	(0.1)	512*	(1.1)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
* Significant difference compared to the average score in the "Confident" category.

Table B.2.13j

Percentage and average scores of students by confidence in performing mathematics tasks: MATHEMATICS

Calculating the properties of an irregularly shaped object

Canada, province, or OECD average	Not at all confident				Not very confident				Confident				Very confident			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	11.0	(0.5)	471*	(3.4)	30.8	(0.7)	492*	(3.0)	44.1	(0.8)	514	(2.4)	14.0	(0.5)	553*	(3.8)
Newfoundland and Labrador	17.3	(2.4)	434*	(11.4)	36.1	(2.4)	464	(10.2)	35.4	(2.6)	476	(9.9)	11.2	(1.7)	507	(13.8)
Prince Edward Island	16.2‡	(3.8)	437*	(16.6)	34.5	(4.9)	485	(18.4)	42.0	(4.8)	520	(15.6)	7.3‡	(2.4)	578	(28.0)
Nova Scotia	14.9	(1.9)	448*	(9.7)	35.8	(2.8)	476	(8.3)	38.6	(2.9)	480	(9.7)	10.6	(1.6)	554*	(15.0)
New Brunswick	12.8	(1.4)	465	(10.5)	32.5	(2.0)	467	(7.7)	38.6	(2.2)	478	(7.1)	16.1	(1.5)	519*	(11.1)
Quebec	6.2	(0.5)	492*	(11.1)	25.6	(1.1)	501*	(6.6)	48.1	(1.3)	528	(4.9)	20.0	(1.2)	558*	(6.4)
Ontario	13.0	(0.9)	469*	(6.4)	29.7	(1.3)	490*	(4.5)	44.2	(1.5)	517	(4.5)	13.1	(0.9)	554*	(7.1)
Manitoba	12.8	(1.3)	465	(9.1)	32.7	(1.6)	469	(5.8)	42.8	(1.7)	482	(6.3)	11.7	(1.0)	524*	(10.7)
Saskatchewan	12.4	(1.2)	438*	(9.3)	31.3	(1.7)	466*	(6.0)	46.6	(1.9)	486	(4.8)	9.7	(1.2)	530*	(11.9)
Alberta	10.3	(1.4)	469*	(14.1)	31.9	(2.6)	501	(10.7)	45.5	(2.2)	513	(8.8)	12.3	(1.4)	567*	(14.2)
British Columbia	12.2	(1.3)	486*	(8.2)	39.0	(2.1)	496	(7.0)	38.2	(1.9)	509	(6.7)	10.6	(1.2)	542*	(13.1)
OECD average	16.6	(0.1)	457*	(0.8)	39.0	(0.2)	477*	(0.6)	34.9	(0.2)	487	(0.6)	9.5	(0.1)	504*	(1.2)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
* Significant difference compared to the average score in the "Confident" category.

Table B.2.14a

Percentage and average scores of students by feelings of worry about mathematics: MATHEMATICS

I often worry that it will be difficult for me in mathematics classes

Canada, province, or OECD average	Strongly agree				Agree				Disagree				Strongly disagree			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	22.7	(0.5)	481*	(2.6)	35.9	(0.5)	488*	(2.2)	26.8	(0.5)	525	(2.3)	14.6	(0.4)	547*	(3.0)
Newfoundland and Labrador	25.7	(1.8)	434*	(7.3)	33.8	(1.8)	445*	(8.8)	27.0	(1.9)	495	(7.7)	13.6	(1.5)	512	(10.8)
Prince Edward Island	25.8	(3.5)	468*	(13.3)	32.0	(3.7)	444*	(12.5)	27.6	(3.7)	525	(11.7)	14.6	(2.8)	541	(22.9)
Nova Scotia	22.5	(1.7)	446*	(6.7)	35.1	(1.9)	454*	(6.2)	27.7	(1.9)	508	(7.3)	14.6	(1.2)	541*	(12.2)
New Brunswick	20.3	(1.2)	458*	(6.7)	31.0	(1.6)	448*	(5.3)	31.6	(1.4)	478	(5.7)	17.0	(1.4)	528*	(8.1)
Quebec	25.3	(1.0)	499*	(5.3)	33.4	(1.1)	511*	(5.1)	25.0	(1.0)	533	(5.0)	16.2	(0.8)	555*	(6.5)
Ontario	23.2	(1.0)	485*	(4.8)	36.1	(0.9)	484*	(3.7)	26.5	(0.8)	528	(4.7)	14.2	(0.8)	545*	(6.4)
Manitoba	20.7	(1.1)	453*	(5.5)	38.5	(1.2)	460*	(5.0)	27.3	(1.3)	500	(5.3)	13.6	(0.9)	518	(7.6)
Saskatchewan	16.9	(1.2)	451*	(6.4)	35.4	(1.3)	453*	(4.2)	32.6	(1.3)	488	(4.8)	15.2	(0.8)	516*	(7.1)
Alberta	21.7	(1.8)	473*	(8.8)	37.3	(1.7)	496*	(8.0)	27.6	(2.0)	533	(6.9)	13.4	(1.2)	560*	(12.2)
British Columbia	20.5	(1.1)	469*	(6.7)	38.3	(1.2)	491*	(5.8)	27.2	(1.1)	528	(6.2)	13.9	(0.8)	550*	(7.7)
OECD average	22.7	(0.1)	455*	(0.6)	37.1	(0.1)	468*	(0.5)	27.7	(0.1)	496	(0.6)	12.5	(0.1)	512*	(0.9)

SE Standard error
Av. Average
* Significant difference compared to the average score in the "Disagree" category.

Table B.2.14b

Percentage and average scores of students by feelings of worry about mathematics: MATHEMATICS

I get very tense when I have to do mathematics homework

Canada, province, or OECD average	Strongly agree				Agree				Disagree				Strongly disagree			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	**14.9**	**(0.4)**	**473***	**(3.5)**	**28.5**	**(0.7)**	**479***	**(2.1)**	**38.0**	**(0.6)**	**518**	**(2.1)**	**18.6**	**(0.5)**	**547***	**(2.9)**
Newfoundland and Labrador	18.8	(1.8)	442*	(9.3)	28.0	(2.1)	442*	(8.1)	36.5	(1.8)	477	(8.2)	16.8	(1.8)	516*	(9.7)
Prince Edward Island	15.4	(2.8)	451*	(19.0)	24.9	(3.3)	443*	(14.7)	38.3	(3.6)	505	(9.8)	21.3	(2.9)	548*	(15.9)
Nova Scotia	18.3	(1.4)	442*	(6.9)	28.3	(1.8)	453*	(7.9)	37.4	(2.1)	489	(6.7)	16.0	(1.4)	519*	(10.5)
New Brunswick	13.3	(1.3)	449*	(7.9)	29.7	(1.6)	457*	(5.6)	37.2	(1.6)	474	(5.1)	19.8	(1.4)	522*	(7.6)
Quebec	13.7	(0.8)	488*	(6.0)	25.1	(1.0)	500*	(5.0)	36.1	(1.1)	528	(4.8)	25.1	(1.2)	553*	(5.1)
Ontario	16.0	(0.8)	472*	(4.9)	30.1	(1.6)	479*	(3.8)	37.4	(1.1)	520	(4.2)	16.6	(0.8)	546*	(5.8)
Manitoba	14.0	(0.9)	451*	(5.6)	28.7	(1.4)	451*	(5.7)	41.3	(1.4)	491	(4.4)	15.9	(1.1)	511*	(7.0)
Saskatchewan	11.5	(0.9)	438*	(8.4)	30.7	(1.3)	451*	(5.1)	39.8	(1.4)	483	(4.5)	17.9	(1.0)	518*	(5.7)
Alberta	15.5	(1.3)	482*	(13.3)	28.8	(2.0)	481*	(7.1)	39.2	(2.4)	521	(7.1)	16.5	(1.2)	562*	(11.1)
British Columbia	13.2	(1.1)	467*	(8.0)	28.8	(1.2)	473*	(6.4)	40.7	(1.5)	527	(5.3)	17.3	(1.1)	545*	(8.2)
OECD average	**13.6**	**(0.1)**	**445***	**(0.7)**	**25.8**	**(0.1)**	**455***	**(0.6)**	**41.2**	**(0.1)**	**488**	**(0.5)**	**19.3**	**(0.1)**	**514***	**(0.7)**

SE Standard error
Av. Average
* Significant difference compared to the average score in the "Disagree" category.

Table B.2.14c

Percentage and average scores of students by feelings of worry about mathematics: MATHEMATICS

I get very nervous doing mathematics problems

Canada, province, or OECD average	Strongly agree				Agree				Disagree				Strongly disagree			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	**13.9**	**(0.4)**	**463***	**(3.1)**	**25.1**	**(0.6)**	**472***	**(2.4)**	**41.0**	**(0.6)**	**516**	**(2.2)**	**20.1**	**(0.4)**	**549***	**(2.7)**
Newfoundland and Labrador	17.4	(1.8)	436*	(8.8)	22.6	(1.8)	429*	(8.5)	42.2	(2.0)	478	(6.9)	17.8	(1.5)	511*	(9.8)
Prince Edward Island	16.3	(3.0)	457*	(17.0)	24.9	(3.0)	444*	(13.5)	43.0	(3.8)	506	(9.9)	15.7	(2.7)	546*	(20.5)
Nova Scotia	15.8	(1.5)	440*	(7.8)	24.2	(2.1)	441*	(7.5)	43.0	(2.2)	492	(6.5)	17.1	(1.3)	534*	(9.2)
New Brunswick	12.0	(1.0)	443*	(8.0)	24.8	(1.3)	435*	(6.7)	38.6	(1.3)	474	(4.5)	24.6	(1.4)	526*	(6.5)
Quebec	13.3	(0.9)	472*	(6.4)	20.4	(0.8)	484*	(5.3)	38.9	(1.0)	531	(5.0)	27.3	(0.9)	555*	(4.4)
Ontario	15.6	(0.7)	467*	(4.5)	27.6	(1.0)	476*	(4.2)	39.2	(1.0)	519	(3.8)	17.7	(0.8)	546*	(6.0)
Manitoba	12.8	(0.8)	445*	(6.1)	28.3	(1.4)	444*	(5.8)	41.2	(1.3)	491	(3.6)	17.6	(1.0)	524*	(6.5)
Saskatchewan	10.3	(0.8)	440*	(7.6)	27.6	(1.1)	444*	(4.2)	43.7	(1.2)	483	(4.2)	18.5	(1.0)	511*	(6.2)
Alberta	12.0	(1.2)	465*	(12.7)	26.0	(1.7)	475*	(8.2)	43.9	(2.0)	514	(6.8)	18.1	(1.4)	577*	(9.7)
British Columbia	12.7	(0.8)	456*	(8.5)	23.8	(1.5)	471*	(6.1)	45.1	(1.6)	518	(5.0)	18.4	(1.1)	543*	(7.4)
OECD average	**12.8**	**(0.1)**	**442***	**(0.8)**	**25.8**	**(0.1)**	**453***	**(0.6)**	**42.4**	**(0.1)**	**489**	**(0.5)**	**19.0**	**(0.1)**	**516***	**(0.7)**

SE Standard error
Av. Average
* Significant difference compared to the average score in the "Disagree" category.

Table B.2.14d

Percentage and average scores of students by feelings of worry about mathematics: MATHEMATICS

I feel helpless when doing a mathematics problem

Canada, province, or OECD average	Strongly agree				Agree				Disagree				Strongly disagree			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	13.9	(0.4)	464*	(3.2)	23.5	(0.5)	472*	(2.2)	41.8	(0.6)	516	(2.0)	20.8	(0.5)	551*	(2.4)
Newfoundland and Labrador	17.8	(1.6)	436*	(9.1)	23.5	(1.9)	436*	(7.8)	39.3	(1.9)	475	(8.4)	19.4	(1.6)	515*	(9.2)
Prince Edward Island	14.6	(2.7)	455*	(17.5)	23.3	(3.3)	437*	(14.5)	40.8	(3.2)	504	(10.1)	21.4	(2.9)	534	(15.5)
Nova Scotia	16.1	(1.4)	438*	(7.6)	20.9	(1.8)	438*	(7.0)	43.3	(2.0)	493	(6.1)	19.8	(1.2)	536*	(9.0)
New Brunswick	10.6	(1.0)	455*	(9.1)	23.9	(1.6)	436*	(5.9)	41.7	(1.5)	476	(5.0)	23.7	(1.4)	519*	(7.0)
Quebec	13.5	(0.7)	475*	(5.5)	25.6	(1.0)	490*	(5.1)	39.4	(1.1)	539	(4.6)	21.5	(1.0)	559*	(4.6)
Ontario	15.1	(0.7)	466*	(5.0)	24.0	(0.9)	475*	(4.3)	40.2	(1.1)	515	(3.5)	20.8	(0.8)	548*	(5.6)
Manitoba	13.2	(0.9)	440*	(6.2)	22.9	(1.2)	440*	(5.4)	44.7	(1.6)	489	(4.1)	19.2	(1.1)	527*	(6.0)
Saskatchewan	11.4	(0.9)	429*	(8.3)	22.4	(1.0)	440*	(5.0)	46.8	(1.4)	483	(3.7)	19.4	(1.0)	518*	(6.1)
Alberta	13.1	(1.5)	477*	(11.7)	19.2	(1.6)	470*	(7.3)	46.2	(2.1)	515	(6.1)	21.6	(1.2)	571*	(9.7)
British Columbia	13.2	(1.0)	453*	(8.0)	24.0	(1.4)	467*	(6.3)	43.4	(1.4)	518	(5.0)	19.4	(1.1)	547*	(7.1)
OECD average	14.1	(0.1)	443*	(0.7)	27.0	(0.1)	455*	(0.5)	41.2	(0.1)	491	(0.5)	17.7	(0.1)	518*	(0.7)

SE Standard error
Av. Average
* Significant difference compared to the average score in the "Disagree" category.

Table B.2.14e

Percentage and average scores of students by feelings of worry about mathematics: MATHEMATICS

I worry that I will get poor marks in mathematics

Canada, province, or OECD average	Strongly agree				Agree				Disagree				Strongly disagree			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	28.1	(0.5)	494*	(2.4)	35.8	(0.6)	495*	(2.2)	22.1	(0.5)	516	(2.7)	14.1	(0.4)	539*	(3.2)
Newfoundland and Labrador	31.8	(1.7)	454*	(7.3)	33.6	(1.6)	448*	(7.8)	21.6	(1.4)	492	(9.8)	12.9	(1.4)	513	(10.6)
Prince Edward Island	27.2	(3.5)	462*	(11.7)	31.2	(3.9)	476	(12.8)	23.2	(3.2)	512	(14.1)	18.4	(2.9)	547	(14.3)
Nova Scotia	31.2	(2.0)	452*	(6.0)	32.6	(1.9)	469*	(6.6)	21.9	(2.0)	499	(8.4)	14.3	(1.4)	530*	(11.1)
New Brunswick	24.0	(1.4)	468	(7.3)	35.9	(1.6)	461	(5.1)	22.7	(1.4)	471	(7.4)	17.4	(1.3)	519*	(8.2)
Quebec	31.5	(1.3)	510*	(4.8)	34.2	(0.9)	515*	(4.8)	19.9	(1.1)	531	(5.5)	14.4	(0.7)	549*	(5.6)
Ontario	27.5	(1.0)	494*	(4.1)	36.3	(1.1)	493*	(4.4)	22.2	(0.7)	517	(4.7)	14.0	(0.7)	537*	(7.0)
Manitoba	25.5	(1.1)	459*	(6.4)	34.6	(1.2)	464*	(4.9)	25.4	(1.4)	493	(5.0)	14.5	(0.8)	516*	(8.3)
Saskatchewan	19.8	(1.1)	459*	(5.9)	38.0	(1.3)	464*	(3.9)	25.8	(1.1)	480	(5.1)	16.4	(1.0)	509*	(5.9)
Alberta	30.2	(1.6)	499	(7.3)	35.9	(1.9)	501	(7.4)	21.0	(1.5)	520	(10.6)	12.9	(1.0)	551*	(12.1)
British Columbia	24.5	(1.3)	487*	(6.2)	37.3	(1.3)	496*	(6.0)	24.5	(1.3)	515	(6.8)	13.6	(0.9)	542*	(8.3)
OECD average	27.9	(0.1)	468*	(0.6)	37.1	(0.1)	473*	(0.5)	22.8	(0.1)	485	(0.6)	12.2	(0.1)	503*	(0.9)

SE Standard error
Av. Average
* Significant difference compared to the average score in the "Disagree" category.

Table B.2.14f

Percentage and average scores of students by feelings of worry about mathematics: MATHEMATICS

I feel anxious about failing in mathematics

Canada, province, or OECD average	Strongly agree				Agree				Disagree				Strongly disagree			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	**28.1**	**(0.6)**	**485***	**(2.4)**	**29.0**	**(0.5)**	**488***	**(2.6)**	**24.1**	**(0.4)**	**519**	**(2.5)**	**18.8**	**(0.4)**	**547***	**(2.9)**
Newfoundland and Labrador	26.9	(2.0)	447*	(7.9)	28.0	(1.9)	445*	(8.6)	25.9	(2.2)	479	(9.1)	19.2	(1.7)	501	(9.0)
Prince Edward Island	30.0	(3.0)	458*	(11.7)	17.4	(2.6)	447*	(19.1)	26.1	(3.1)	511	(12.2)	26.4	(2.9)	539	(11.9)
Nova Scotia	30.4	(1.7)	454*	(6.2)	27.9	(1.7)	456*	(8.4)	23.6	(1.7)	499	(7.6)	18.1	(1.5)	521*	(9.9)
New Brunswick	24.1	(1.4)	463	(6.7)	29.2	(1.5)	452*	(5.8)	25.0	(1.5)	471	(6.0)	21.7	(1.5)	523*	(6.5)
Quebec	30.5	(1.3)	496*	(4.5)	25.1	(1.0)	507*	(5.6)	23.2	(1.0)	536	(5.3)	21.2	(0.9)	559*	(6.1)
Ontario	28.6	(1.0)	487*	(4.3)	29.6	(1.1)	490*	(4.0)	24.1	(0.7)	520	(4.9)	17.7	(0.8)	544*	(5.9)
Manitoba	25.2	(1.1)	455*	(5.0)	29.3	(1.1)	454*	(4.8)	25.5	(1.3)	492	(4.9)	20.0	(1.0)	515*	(6.2)
Saskatchewan	20.3	(1.1)	456*	(6.8)	31.9	(1.3)	454*	(3.8)	28.7	(1.1)	481	(5.5)	19.1	(1.0)	513*	(5.4)
Alberta	30.9	(1.8)	486*	(7.7)	30.8	(1.5)	496*	(7.7)	20.9	(1.4)	524	(7.6)	17.4	(1.0)	565*	(9.9)
British Columbia	23.1	(1.4)	483*	(6.8)	31.4	(1.4)	483*	(6.4)	27.1	(1.3)	518	(5.9)	18.3	(0.9)	547*	(6.9)
OECD average	**24.5**	**(0.1)**	**462***	**(0.6)**	**30.3**	**(0.1)**	**466***	**(0.5)**	**27.9**	**(0.1)**	**486**	**(0.6)**	**17.3**	**(0.1)**	**507***	**(0.8)**

SE Standard error
Av. Average
* Significant difference compared to the average score in the "Disagree" category.

Table B.2.15a

Percentage and average scores of students by time spent on mathematics homework: MATHEMATICS

Canada, province, or OECD average	Up to 30 minutes a day				More than 30 minutes and up to 1 hour a day				More than 1 hour and up to 2 hours a day				More than 2 hours and up to 3 hours a day				More than 3 hours a day			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	50.5	(0.6)	503	(1.9)	24.5	(0.5)	517*	(2.7)	15.8	(0.4)	510*	(2.9)	5.9	(0.3)	499	(4.4)	3.4	(0.2)	474*	(5.2)
Newfoundland and Labrador	65.3	(1.8)	469	(6.3)	20.0	(1.2)	466	(7.9)	10.9	(1.2)	456	(10.8)	2.5‡	(0.6)	462	(27.8)	1.3‡	(0.4)	429	(29.3)
Prince Edward Island	68.9	(3.1)	496	(9.3)	19.6	(2.5)	483	(14.8)	7.1‡	(1.9)	486	(27.5)	U‡	(1.0)	488	(29.1)	U‡	(1.4)	501	(53.8)
Nova Scotia	62.7	(1.5)	478	(5.0)	21.7	(1.3)	491	(7.0)	12.1	(1.1)	472	(11.9)	1.7‡	(0.5)	444*	(15.4)	1.7‡	(0.5)	453	(17.3)
New Brunswick	62.4	(1.5)	484	(4.5)	23.5	(1.3)	476	(6.0)	10.1	(1.0)	461*	(8.5)	2.1	(0.4)	438*	(16.6)	1.8‡	(0.5)	397*	(25.6)
Quebec	56.3	(1.2)	518	(4.0)	25.8	(0.9)	533*	(5.1)	12.7	(0.7)	527	(6.7)	3.5	(0.5)	507	(11.8)	1.7	(0.3)	474*	(16.4)
Ontario	42.9	(1.2)	498	(4.3)	24.4	(0.9)	523*	(4.3)	18.7	(0.9)	512*	(4.2)	8.8	(0.6)	508	(6.3)	5.2	(0.5)	478*	(6.7)
Manitoba	54.6	(1.6)	480	(3.4)	26.1	(1.1)	480	(5.0)	12.8	(1.0)	481	(6.4)	3.5	(0.5)	461	(13.6)	2.9	(0.5)	432*	(11.7)
Saskatchewan	59.8	(1.3)	479	(3.8)	20.7	(1.1)	479	(5.7)	12.3	(0.8)	463	(7.3)	4.3	(0.5)	458	(12.1)	2.9	(0.5)	450*	(13.5)
Alberta	51.0	(1.9)	512	(6.2)	24.6	(1.3)	515	(8.2)	16.6	(1.3)	517	(9.5)	5.1	(0.7)	485	(16.7)	2.7	(0.6)	495	(20.4)
British Columbia	51.0	(1.5)	503	(5.6)	24.1	(1.3)	514	(6.0)	15.8	(0.8)	505	(6.4)	5.7	(0.6)	490	(8.8)	3.5	(0.4)	467*	(13.0)
OECD average	53.2	(0.1)	474	(0.5)	25.3	(0.1)	482*	(0.5)	14.3	(0.1)	475	(0.7)	4.5	(0.1)	464*	(1.3)	2.7	(0.0)	435*	(1.8)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
U Too unreliable to be published.
* Significant difference compared to the average score in the "Up to 30 minutes a day" category.

Percentage and average scores of students by time spent on language homework: MATHEMATICS

Canada, province, or OECD average	Up to 30 minutes a day				More than 30 minutes and up to 1 hour a day				More than 1 hour and up to 2 hours a day				More than 2 hours and up to 3 hours a day				More than 3 hours a day			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	**53.8**	**(0.8)**	**506**	**(1.7)**	**23.0**	**(0.6)**	**512**	**(3.0)**	**14.6**	**(0.4)**	**508**	**(3.3)**	**5.4**	**(0.3)**	**496***	**(4.7)**	**3.2**	**(0.2)**	**479***	**(5.7)**
Newfoundland and Labrador	72.9	(1.7)	466	(5.8)	16.8	(1.4)	479	(8.9)	6.9	(1.0)	469	(14.3)	1.7‡	(0.4)	424	(21.6)	1.7‡	(0.5)	377*	(26.5)
Prince Edward Island	56.0	(3.8)	491	(9.1)	22.7	(2.9)	482	(14.8)	15.7	(2.6)	518	(21.7)	U‡	(1.4)	541	(35.5)	U‡	(1.0)	427*	(33.6)
Nova Scotia	71.3	(1.6)	481	(4.9)	17.0	(1.3)	482	(8.5)	7.8	(0.9)	481	(13.5)	2.3	(0.6)	461	(28.5)	1.6‡	(0.5)	428*	(18.6)
New Brunswick	60.5	(1.5)	485	(4.5)	22.1	(1.3)	471	(6.0)	11.7	(1.0)	468	(8.2)	3.4	(0.5)	444*	(15.7)	2.3	(0.5)	428*	(21.5)
Quebec	76.1	(1.2)	527	(3.6)	15.3	(0.8)	517	(6.9)	5.9	(0.5)	487*	(7.9)	1.6	(0.2)	481*	(19.0)	1.0	(0.2)	433*	(18.1)
Ontario	42.2	(1.5)	500	(4.0)	25.6	(1.0)	517*	(4.9)	19.8	(0.9)	512*	(4.6)	7.6	(0.7)	502	(6.5)	4.8	(0.5)	488	(7.4)
Manitoba	55.5	(1.5)	479	(3.1)	23.6	(1.2)	482	(4.7)	13.9	(1.0)	487	(7.1)	4.8	(0.5)	447	(16.4)	2.2	(0.3)	434*	(13.8)
Saskatchewan	53.7	(1.5)	478	(3.9)	24.5	(1.1)	481	(5.4)	13.7	(0.9)	469	(6.7)	5.0	(0.6)	456*	(10.7)	3.0	(0.5)	431*	(16.1)
Alberta	50.4	(2.3)	508	(5.4)	26.5	(1.9)	515	(8.5)	15.1	(1.3)	522	(12.1)	5.2	(0.7)	503	(12.6)	2.8	(0.4)	487	(18.8)
British Columbia	45.4	(2.0)	495	(4.7)	26.1	(1.3)	516*	(6.2)	17.4	(1.0)	513*	(6.4)	7.2	(0.7)	501	(9.6)	3.8	(0.5)	494	(11.8)
OECD average	**56.0**	**(0.1)**	**482**	**(0.5)**	**25.5**	**(0.1)**	**476***	**(0.6)**	**12.7**	**(0.1)**	**465***	**(0.8)**	**3.7**	**(0.0)**	**450***	**(1.4)**	**2.1**	**(0.0)**	**426***	**(2.1)**

SE Standard error

Av. Average

‡ There are fewer than 30 observations.

U Too unreliable to be published.

* Significant difference compared to the average score in the "Up to 30 minutes a day" category.

Table B.2.15c

Percentage and average scores of students by time spent on science homework: MATHEMATICS

Canada, province, or OECD average	Up to 30 minutes a day				More than 30 minutes and up to 1 hour a day				More than 1 hour and up to 2 hours a day				More than 2 hours and up to 3 hours a day				More than 3 hours a day			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	47.6	(0.7)	504	(1.9)	25.9	(0.6)	517*	(2.3)	16.8	(0.4)	508	(2.9)	6.4	(0.3)	495*	(3.9)	3.4	(0.2)	474*	(5.1)
Newfoundland and Labrador	59.8	(1.8)	465	(7.0)	22.6	(1.6)	472	(7.2)	11.8	(1.3)	472	(10.7)	4.3	(0.7)	447	(19.0)	1.5 ‡	(0.5)	402*	(27.4)
Prince Edward Island	54.5	(3.7)	498	(9.5)	27.1	(3.2)	489	(13.4)	13.1	(2.6)	499	(19.1)	U ‡	(1.2)	428*	(30.7)	U ‡	(1.4)	443	(68.5)
Nova Scotia	67.8	(1.6)	483	(5.1)	16.2	(1.4)	482	(6.9)	10.9	(1.2)	475	(10.2)	3.7	(0.7)	446*	(14.6)	1.4 ‡	(0.4)	423*	(18.8)
New Brunswick	61.1	(1.6)	479	(4.3)	22.4	(1.3)	486	(6.8)	9.6	(1.0)	465	(8.5)	4.4	(0.6)	459	(16.4)	2.4	(0.4)	445	(21.1)
Quebec	58.4	(1.3)	521	(3.7)	24.9	(1.0)	533*	(5.5)	12.1	(0.7)	516	(6.0)	3.0	(0.3)	510	(9.2)	1.6	(0.3)	466*	(16.4)
Ontario	39.1	(1.2)	501	(4.4)	27.2	(1.0)	520*	(4.6)	20.4	(0.8)	509	(5.1)	8.7	(0.6)	500	(5.9)	4.6	(0.5)	483*	(6.7)
Manitoba	52.6	(1.4)	483	(3.5)	25.8	(1.1)	478	(3.9)	14.3	(0.9)	480	(6.7)	4.3	(0.5)	451*	(13.1)	3.1	(0.5)	445*	(12.7)
Saskatchewan	57.8	(1.3)	481	(3.9)	20.3	(1.2)	480	(5.1)	13.7	(0.8)	462*	(5.9)	5.0	(0.6)	437*	(10.0)	3.1	(0.5)	446*	(13.3)
Alberta	43.4	(1.8)	509	(5.7)	28.0	(1.7)	515	(8.3)	18.2	(1.2)	524	(9.6)	6.7	(0.8)	501	(14.0)	3.7	(0.7)	478*	(13.5)
British Columbia	45.8	(2.0)	503	(6.1)	25.8	(1.4)	515*	(4.8)	17.6	(1.0)	502	(6.1)	7.4	(0.8)	491	(8.1)	3.4	(0.5)	467*	(14.2)
OECD average	54.8	(0.1)	477	(0.5)	23.5	(0.1)	483*	(0.6)	14.2	(0.1)	474*	(0.8)	4.8	(0.1)	459*	(1.3)	2.6	(0.0)	435*	(2.0)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
* Significant difference compared to the average score in the "Up to 30 minutes a day" category.

Table B.2.15d

Percentage and average scores of students by time spent on all homework in all subjects, including subjects not listed above: MATHEMATICS

Canada, province, or OECD average	Up to 30 minutes a day				More than 30 minutes and up to 1 hour a day				More than 1 hour and up to 2 hours a day				More than 2 hours and up to 3 hours a day				More than 3 hours a day			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	25.1	(0.6)	483	(2.2)	16.2	(0.4)	508*	(2.6)	23.8	(0.6)	520*	(2.5)	17.6	(0.5)	518*	(2.9)	17.3	(0.5)	508*	(2.9)
Newfoundland and Labrador	38.7	(1.8)	454	(7.3)	17.9	(1.6)	474	(10.1)	21.8	(1.3)	479*	(8.4)	12.0	(1.4)	482*	(8.6)	9.7	(1.1)	448	(12.0)
Prince Edward Island	30.4	(3.3)	488	(12.3)	15.7	(2.5)	491	(16.6)	24.0	(3.6)	502	(13.8)	17.2	(2.5)	498	(17.6)	12.7 ‡	(2.4)	480	(22.4)
Nova Scotia	37.5	(1.7)	470	(6.3)	20.2	(1.4)	500*	(7.9)	18.9	(1.3)	480	(6.9)	13.4	(1.4)	475	(10.2)	9.9	(0.8)	482	(12.1)
New Brunswick	35.8	(1.3)	469	(6.1)	17.7	(1.3)	478	(7.6)	22.6	(1.2)	495*	(5.5)	13.4	(1.1)	468	(7.9)	10.5	(1.0)	475	(10.3)
Quebec	31.5	(1.3)	504	(3.9)	17.9	(0.7)	537*	(5.1)	24.8	(0.9)	533*	(5.1)	15.1	(0.7)	526*	(6.4)	10.7	(0.8)	517	(6.7)
Ontario	18.5	(1.1)	474	(4.6)	13.5	(0.7)	499*	(5.1)	24.2	(1.4)	522*	(5.5)	20.8	(0.9)	520*	(4.4)	23.1	(1.2)	509*	(3.9)
Manitoba	28.8	(1.2)	464	(4.8)	18.2	(1.1)	478	(5.6)	24.1	(1.0)	488*	(5.3)	15.8	(0.9)	491*	(5.7)	13.1	(1.0)	479	(7.0)
Saskatchewan	35.7	(1.1)	469	(4.4)	18.5	(1.0)	487*	(5.6)	21.8	(1.1)	483*	(5.0)	12.6	(1.0)	476	(6.8)	11.4	(0.8)	463	(6.3)
Alberta	25.1	(1.8)	490	(6.9)	18.1	(1.1)	502	(7.6)	22.1	(1.1)	527*	(7.3)	16.9	(1.3)	526*	(12.6)	17.8	(1.4)	519*	(9.2)
British Columbia	23.4	(1.6)	472	(6.5)	16.5	(0.9)	507*	(5.6)	24.4	(1.3)	516*	(5.0)	17.6	(1.1)	520*	(6.5)	18.2	(1.2)	511*	(7.5)
OECD average	27.0	(0.1)	456	(0.6)	19.2	(0.1)	483*	(0.6)	23.2	(0.1)	489*	(0.5)	15.9	(0.1)	487*	(0.6)	14.8	(0.1)	474*	(0.8)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
* Significant difference compared to the average score in the "Up to 30 minutes a day" category.

Table B.2.16a

Percentage and average scores of students by type of additional mathematics instruction: MATHEMATICS

| Canada, province, or OECD average | One-on-one tutoring with a person | | | | | | | | Difference (yes - no) | |
| | Yes | | | | No | | | | | |
	%	SE	Av.	SE	%	SE	Av.	SE	Dif.	SE
Canada	**16.9**	**(0.4)**	**470**	**(2.8)**	**83.1**	**(0.4)**	**505**	**(1.7)**	**-35***	**(3.3)**
Newfoundland and Labrador	22.2	(1.7)	432	(7.5)	77.8	(1.7)	469	(6.3)	-36*	(9.8)
Prince Edward Island	16.1	(2.7)	444	(17.1)	83.9	(2.7)	490	(7.6)	-46*	(18.7)
Nova Scotia	18.2	(1.5)	428	(6.9)	81.8	(1.5)	482	(4.0)	-54*	(8.0)
New Brunswick	15.2	(1.2)	424	(7.0)	84.8	(1.2)	479	(3.3)	-55*	(7.7)
Quebec	12.4	(0.8)	471	(6.0)	87.6	(0.8)	523	(3.9)	-51*	(7.1)
Ontario	18.8	(1.0)	480	(4.2)	81.2	(1.0)	502	(3.4)	-22*	(5.4)
Manitoba	13.8	(0.7)	444	(7.3)	86.2	(0.7)	476	(2.8)	-33*	(7.8)
Saskatchewan	15.3	(0.9)	435	(5.7)	84.7	(0.9)	476	(3.0)	-41*	(6.4)
Alberta	18.0	(0.9)	472	(8.9)	82.0	(0.9)	512	(6.1)	-40*	(10.8)
British Columbia	18.1	(1.0)	473	(8.0)	81.9	(1.0)	504	(4.4)	-31*	(9.1)
OECD average	**20.4**	**(0.1)**	**450**	**(0.6)**	**79.6**	**(0.1)**	**479**	**(0.4)**	**-29***	**(0.8)**

SE Standard error
Av. Average
Dif. Difference
* Significant difference within Canada, province, or OECD.

Table B.2.16b

Percentage and average scores of students by type of additional mathematics instruction: MATHEMATICS

Internet or computer tutoring with a program or application

Canada, province, or OECD average	Yes				No				Difference (yes - no)	
	%	SE	Av.	SE	%	SE	Av.	SE	Dif.	SE
Canada	**16.2**	**(0.4)**	**488**	**(3.0)**	**83.8**	**(0.4)**	**501**	**(1.8)**	**-13***	**(3.4)**
Newfoundland and Labrador	14.6	(1.4)	444	(9.4)	85.4	(1.4)	464	(6.1)	-20*	(11.2)
Prince Edward Island	13.7	(2.1)	458	(17.2)	86.3	(2.1)	487	(7.4)	-29	(18.7)
Nova Scotia	12.8	(1.0)	451	(8.3)	87.2	(1.0)	475	(4.2)	-24*	(9.3)
New Brunswick	10.5	(1.0)	440	(9.0)	89.5	(1.0)	475	(3.3)	-35*	(9.5)
Quebec	8.4	(0.6)	472	(6.9)	91.6	(0.6)	520	(3.9)	-48*	(7.9)
Ontario	19.5	(0.9)	496	(4.3)	80.5	(0.9)	499	(3.4)	-2	(5.5)
Manitoba	17.3	(1.1)	464	(7.0)	82.7	(1.1)	474	(2.9)	-10	(7.6)
Saskatchewan	14.0	(1.0)	458	(5.6)	86.0	(1.0)	472	(2.9)	-14*	(6.3)
Alberta	20.4	(1.0)	499	(10.7)	79.6	(1.0)	506	(6.0)	-7	(12.3)
British Columbia	16.9	(0.8)	490	(7.7)	83.1	(0.8)	500	(4.7)	-10	(9.0)
OECD average	**17.9**	**(0.1)**	**453**	**(0.7)**	**82.1**	**(0.1)**	**477**	**(0.4)**	**-23***	**(0.8)**

SE Standard error
Av. Average
Dif. Difference
* Significant difference within Canada, province, or OECD.

Table B.2.16c

Percentage and average scores of students by type of additional mathematics instruction: MATHEMATICS

Video-recorded instruction by a person

Canada, province, or OECD average	Yes				No				Difference (yes - no)	
	%	SE	Av.	SE	%	SE	Av.	SE	Dif.	SE
Canada	**18.9**	**(0.5)**	**495**	**(2.6)**	**81.1**	**(0.5)**	**500**	**(1.8)**	**-5**	**(3.2)**
Newfoundland and Labrador	20.0	(1.5)	465	(8.3)	80.0	(1.5)	460	(5.9)	5	(10.2)
Prince Edward Island	26.3	(3.2)	496	(15.7)	73.7	(3.2)	478	(8.1)	17	(17.7)
Nova Scotia	15.1	(1.3)	463	(8.8)	84.9	(1.3)	474	(4.3)	-11	(9.8)
New Brunswick	13.9	(1.0)	452	(7.7)	86.1	(1.0)	474	(3.4)	-22*	(8.4)
Quebec	8.6	(0.6)	470	(7.9)	91.4	(0.6)	521	(3.8)	-51*	(8.8)
Ontario	23.7	(1.0)	502	(4.0)	76.3	(1.0)	497	(3.4)	5	(5.2)
Manitoba	20.1	(1.1)	476	(5.6)	79.9	(1.1)	471	(3.0)	6	(6.3)
Saskatchewan	15.9	(1.1)	471	(5.3)	84.1	(1.1)	470	(2.9)	1	(6.1)
Alberta	23.1	(1.5)	507	(9.2)	76.9	(1.5)	504	(6.2)	3	(11.1)
British Columbia	19.3	(1.2)	496	(6.0)	80.7	(1.2)	498	(4.7)	-2	(7.6)
OECD average	**16.3**	**(0.1)**	**464**	**(0.7)**	**83.7**	**(0.1)**	**475**	**(0.4)**	**-11***	**(0.9)**

SE Standard error
Av. Average
Dif. Difference
* Significant difference within Canada, province, or OECD.

Table B.2.16d

Percentage and average scores of students by type of additional mathematics instruction: MATHEMATICS

Small-group study or practice (2 to 7 students)

Canada, province, or OECD average	Yes				No				Difference (yes - no)	
	%	SE	Av.	SE	%	SE	Av.	SE	Dif.	SE
Canada	**20.9**	**(0.5)**	**493**	**(2.5)**	**79.1**	**(0.5)**	**501**	**(1.8)**	**-8***	**(3.1)**
Newfoundland and Labrador	21.8	(1.4)	455	(8.3)	78.2	(1.4)	462	(6.0)	-7	(10.2)
Prince Edward Island	21.6	(3.1)	479	(13.6)	78.4	(3.1)	484	(8.3)	-6	(15.9)
Nova Scotia	19.7	(1.3)	456	(7.9)	80.3	(1.3)	477	(4.1)	-21*	(8.9)
New Brunswick	16.2	(0.9)	453	(6.4)	83.8	(0.9)	475	(3.5)	-22*	(7.2)
Quebec	12.1	(0.7)	487	(6.3)	87.9	(0.7)	520	(3.7)	-33*	(7.4)
Ontario	23.0	(0.9)	503	(4.5)	77.0	(0.9)	497	(3.4)	6	(5.6)
Manitoba	18.4	(0.9)	466	(5.0)	81.6	(0.9)	473	(3.2)	-8	(5.9)
Saskatchewan	20.2	(1.0)	455	(4.9)	79.8	(1.0)	474	(2.9)	-19*	(5.7)
Alberta	27.2	(1.7)	503	(8.8)	72.8	(1.7)	505	(6.5)	-2	(10.9)
British Columbia	24.6	(1.1)	488	(5.9)	75.4	(1.1)	501	(4.7)	-13*	(7.6)
OECD average	**17.9**	**(0.1)**	**454**	**(0.7)**	**82.1**	**(0.1)**	**477**	**(0.4)**	**-23***	**(0.8)**

SE Standard error
Av. Average
Dif. Difference
* Significant difference within Canada, province, or OECD.

Table B.2.16e

Percentage and average scores of students by type of additional mathematics instruction: MATHEMATICS

Large-group study or practice (8 or more students)

Canada, province, or OECD average	Yes				No				Difference (yes - no)	
	%	SE	Av.	SE	%	SE	Av.	SE	Dif.	SE
Canada	**7.6**	**(0.3)**	**467**	**(4.3)**	**92.4**	**(0.3)**	**502**	**(1.7)**	**-35***	**(4.6)**
Newfoundland and Labrador	5.9	(0.9)	440	(11.9)	94.1	(0.9)	462	(5.9)	-22	(13.3)
Prince Edward Island	9.4	(2.0)	458	(20.2)	90.6	(2.0)	485	(7.6)	-28	(21.6)
Nova Scotia	5.5	(0.7)	423	(10.3)	94.5	(0.7)	475	(4.0)	-52*	(11.1)
New Brunswick	9.3	(0.8)	431	(7.7)	90.7	(0.8)	475	(3.4)	-44*	(8.4)
Quebec	7.9	(0.6)	473	(9.4)	92.1	(0.6)	520	(3.7)	-47*	(10.1)
Ontario	7.8	(0.5)	475	(7.8)	92.2	(0.5)	500	(3.1)	-25*	(8.4)
Manitoba	9.9	(0.7)	467	(7.8)	90.1	(0.7)	472	(3.0)	-5	(8.4)
Saskatchewan	10.6	(0.8)	434	(7.1)	89.4	(0.8)	474	(2.9)	-41*	(7.7)
Alberta	6.5	(0.9)	464	(16.5)	93.5	(0.9)	507	(6.0)	-43*	(17.6)
British Columbia	6.7	(0.5)	461	(9.6)	93.3	(0.5)	501	(4.5)	-40*	(10.6)
OECD average	**10.5**	**(0.1)**	**444**	**(0.9)**	**89.5**	**(0.1)**	**477**	**(0.4)**	**-32***	**(1.0)**

SE Standard error
Av. Average
Dif. Difference
* Significant difference within Canada, province, or OECD.

Table B.2.16f

Percentage and average scores of students by type of additional mathematics instruction: MATHEMATICS

I do not participate in additional mathematics instruction

Canada, province, or OECD average	Yes				No				Difference (yes - no)	
	%	SE	Av.	SE	%	SE	Av.	SE	Dif.	SE
Canada	**48.0**	**(0.6)**	**517**	**(1.7)**	**52.0**	**(0.6)**	**483**	**(2.2)**	**34***	**(2.7)**
Newfoundland and Labrador	47.9	(1.9)	483	(6.8)	52.1	(1.9)	441	(6.1)	42*	(9.2)
Prince Edward Island	48.9	(3.3)	495	(10.2)	51.1	(3.3)	472	(10.2)	23	(14.5)
Nova Scotia	48.7	(1.9)	497	(5.2)	51.3	(1.9)	449	(4.8)	48*	(7.1)
New Brunswick	58.4	(1.3)	487	(4.2)	41.6	(1.3)	449	(4.0)	39*	(5.8)
Quebec	64.4	(1.2)	536	(3.7)	35.6	(1.2)	481	(4.3)	55*	(5.7)
Ontario	40.3	(1.1)	514	(3.5)	59.7	(1.1)	488	(3.7)	26*	(5.1)
Manitoba	49.3	(1.3)	488	(3.6)	50.7	(1.3)	456	(3.6)	32*	(5.1)
Saskatchewan	51.5	(1.2)	488	(3.7)	48.5	(1.2)	451	(3.5)	36*	(5.1)
Alberta	42.4	(1.7)	518	(6.1)	57.6	(1.7)	494	(7.1)	24*	(9.4)
British Columbia	45.9	(1.3)	513	(5.2)	54.1	(1.3)	486	(5.5)	27*	(7.6)
OECD average	**49.8**	**(0.1)**	**486**	**(0.5)**	**50.2**	**(0.1)**	**459**	**(0.5)**	**27***	**(0.7)**

SE Standard error
Av. Average
Dif. Difference
* Significant difference within Canada, province, or OECD.

Table B.2.17a

Percentage and average scores of students by how often schools offered specific supports during school building closure because of COVID-19: MATHEMATICS

Sent you learning materials to study on your own

Canada, province, or OECD average	Never				A few times				About once or twice a week				Every day or almost every day			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	**18.0**	**(0.5)**	**495***	**(3.2)**	**31.3**	**(0.8)**	**494***	**(3.0)**	**21.2**	**(0.6)**	**515**	**(3.0)**	**29.5**	**(0.7)**	**521**	**(3.2)**
Newfoundland and Labrador	19.5	(1.8)	458*	(15.4)	33.0	(2.3)	455*	(8.5)	22.2	(1.8)	489	(10.6)	25.2	(1.9)	486	(11.0)
Prince Edward Island	15.0‡	(4.1)	480*	(22.6)	26.4	(4.2)	468*	(21.2)	15.0‡	(3.9)	545‡	(18.6)	43.6	(5.6)	503	(13.4)
Nova Scotia	19.9	(1.9)	461	(10.1)	32.4	(2.1)	461	(8.6)	17.8	(1.8)	471	(10.9)	29.9	(2.4)	515*	(8.3)
New Brunswick	24.4	(1.8)	473	(7.4)	29.8	(1.7)	472	(7.9)	19.1	(1.7)	483	(8.5)	26.6	(1.8)	494	(6.8)
Quebec	23.3	(1.2)	510*	(6.7)	33.9	(1.5)	518*	(5.9)	22.1	(1.2)	530	(8.1)	20.8	(1.1)	541	(6.5)
Ontario	17.2	(0.9)	495*	(5.4)	31.7	(1.5)	496*	(6.2)	17.8	(1.0)	514	(6.2)	33.3	(1.4)	524	(5.1)
Manitoba	11.7	(1.1)	460	(8.9)	27.5	(1.7)	468	(5.5)	26.5	(1.9)	484	(10.3)	34.3	(2.0)	495	(5.3)
Saskatchewan	20.6	(1.4)	459*	(6.6)	29.1	(1.7)	463*	(6.1)	22.3	(1.5)	486	(7.0)	28.0	(1.7)	500	(6.7)
Alberta	14.0	(1.6)	489*	(13.5)	33.2	(2.3)	491*	(8.0)	22.1	(2.0)	526	(8.5)	30.7	(2.0)	517	(10.0)
British Columbia	17.1	(1.4)	507	(10.0)	25.3	(1.6)	485	(7.0)	28.0	(1.6)	515	(8.5)	29.6	(2.0)	517	(7.7)
OECD average	**17.0**	**(0.1)**	**458***	**(1.0)**	**27.9**	**(0.2)**	**468***	**(0.7)**	**22.5**	**(0.2)**	**491**	**(0.8)**	**32.6**	**(0.2)**	**498***	**(0.7)**

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
* Significant difference compared to the average score in the "About once or twice a week" category.

Percentage and average scores of students by how often schools offered specific supports during school building closure because of COVID-19: MATHEMATICS

Canada, province, or OECD average	Sent you assignments															
	Never				A few times				About once or twice a week				Every day or almost every day			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	6.6	(0.3)	478*	(5.7)	18.4	(0.5)	485*	(2.9)	26.1	(0.6)	512	(3.2)	48.9	(0.8)	517	(2.3)
Newfoundland and Labrador	12.3	(1.6)	456	(15.7)	24.6	(2.0)	477	(9.2)	28.7	(2.3)	479	(11.9)	34.3	(2.2)	470	(8.4)
Prince Edward Island	U‡	(2.5)	493	(34.5)	18.2 ‡	(4.2)	453	(19.1)	20.1	(4.0)	495	(21.1)	55.4	(5.0)	501	(12.0)
Nova Scotia	5.2	(0.9)	457	(19.2)	18.0	(1.9)	443*	(10.4)	24.4	(2.2)	486	(10.1)	52.4	(2.6)	502	(6.5)
New Brunswick	9.8	(1.3)	469	(12.0)	19.7	(1.6)	464	(8.6)	26.1	(1.8)	469	(8.0)	44.4	(2.2)	495*	(6.5)
Quebec	7.5	(0.8)	485*	(10.2)	24.1	(1.2)	507	(6.3)	28.3	(1.3)	521	(6.4)	40.0	(2.1)	540*	(4.9)
Ontario	6.3	(0.5)	475*	(9.5)	16.0	(1.0)	490*	(5.6)	22.3	(1.2)	516	(7.1)	55.4	(1.2)	514	(4.3)
Manitoba	4.7	(0.8)	438*	(12.5)	18.5	(1.4)	459	(7.7)	25.7	(1.6)	479	(6.6)	51.0	(1.7)	495*	(4.8)
Saskatchewan	9.2	(1.0)	444*	(9.8)	21.0	(1.3)	453*	(6.3)	28.6	(1.7)	487	(6.9)	41.1	(1.8)	491	(5.4)
Alberta	5.9	(1.0)	479	(17.4)	16.7	(1.5)	472*	(8.7)	24.7	(1.9)	515	(11.0)	52.7	(1.9)	528	(6.7)
British Columbia	5.3	(0.9)	514	(14.9)	17.4	(1.4)	477*	(8.5)	34.9	(1.8)	518	(6.4)	42.4	(2.3)	509	(6.3)
OECD average	7.6	(0.1)	444*	(1.4)	22.8	(0.2)	459*	(0.8)	24.2	(0.2)	485	(0.7)	45.4	(0.2)	497*	(0.6)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
U Too unreliable to be published.
* Significant difference compared to the average score in the "About once or twice a week" category.

Percentage and average scores of students by how often schools offered specific supports during school building closure because of COVID-19: MATHEMATICS

Canada, province, or OECD average	Uploaded material on a learning management system or school learning platform (e.g., Blackboard®, Edmodo®, Moodle®, Google® Classroom™, Brightspace®)															
	Never				A few times				About once or twice a week				Every day or almost every day			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	10.0	(0.4)	487*	(3.9)	15.8	(0.4)	483*	(3.5)	19.6	(0.6)	502	(2.8)	54.5	(0.7)	523*	(2.3)
Newfoundland and Labrador	10.7	(1.5)	458	(15.3)	18.0	(1.8)	449	(11.4)	21.7	(1.9)	473	(10.3)	49.6	(2.5)	485	(6.8)
Prince Edward Island	U‡	(2.1)	508	(45.2)	19.6‡	(3.7)	462	(24.1)	17.7‡	(3.5)	486	(21.3)	58.1	(4.4)	504	(12.4)
Nova Scotia	5.3	(1.1)	454	(22.3)	15.5	(1.5)	448	(10.6)	18.9	(1.7)	468	(11.9)	60.3	(2.5)	502*	(6.3)
New Brunswick	18.2	(1.7)	475	(9.4)	21.1	(1.8)	471	(9.4)	20.7	(1.7)	470	(8.8)	40.0	(1.9)	492*	(6.0)
Quebec	21.1	(1.3)	505*	(6.7)	25.9	(1.0)	523	(6.8)	22.8	(1.2)	537	(7.3)	30.2	(1.3)	538	(6.0)
Ontario	5.7	(0.6)	467	(7.5)	11.9	(0.7)	464*	(6.9)	15.1	(0.9)	484	(6.0)	67.2	(1.3)	525*	(3.9)
Manitoba	9.5	(1.3)	463	(11.6)	14.7	(1.3)	459	(7.7)	21.8	(1.2)	477	(6.6)	54.1	(1.8)	494*	(4.0)
Saskatchewan	10.6	(1.0)	441*	(10.1)	18.8	(1.3)	440*	(7.6)	22.3	(1.3)	474	(7.0)	48.3	(1.9)	497*	(4.9)
Alberta	5.3	(0.8)	473	(19.7)	11.1	(1.2)	465*	(11.8)	17.1	(1.3)	497	(7.7)	66.4	(1.8)	530*	(7.1)
British Columbia	9.8	(1.1)	499	(11.2)	15.0	(1.3)	469*	(9.5)	28.3	(1.7)	512	(6.4)	46.8	(2.4)	517	(5.3)
OECD average	13.4	(0.1)	456*	(1.0)	19.2	(0.1)	456*	(0.8)	21.4	(0.1)	482	(0.8)	46.0	(0.2)	501*	(0.6)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
U Too unreliable to be published.
* Significant difference compared to the average score in the "About once or twice a week" category.

Percentage and average scores of students by how often schools offered specific supports during school building closure because of COVID-19: MATHEMATICS

Canada, province, or OECD average	Checked in with you to ensure that you were completing your assignments															
	Never				A few times				About once or twice a week				Every day or almost every day			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	15.9	(0.5)	502	(3.2)	29.3	(0.6)	504	(3.1)	28.7	(0.7)	511	(2.8)	26.1	(0.8)	506	(3.5)
Newfoundland and Labrador	23.4	(2.3)	463	(9.9)	26.7	(2.2)	472	(10.1)	26.6	(1.9)	477	(9.2)	23.4	(2.4)	472	(9.5)
Prince Edward Island	21.4	(4.3)	491	(18.3)	29.6	(4.0)	493	(16.2)	25.7	(4.2)	520	(13.0)	23.3	(3.5)	483	(22.2)
Nova Scotia	16.8	(1.8)	451*	(9.6)	30.2	(2.2)	477	(8.4)	28.1	(2.2)	495	(9.2)	25.0	(2.3)	499	(9.1)
New Brunswick	19.0	(1.4)	479	(9.1)	28.3	(2.1)	483	(8.0)	26.4	(1.5)	470	(8.1)	26.4	(2.0)	480	(7.3)
Quebec	24.4	(1.4)	519	(6.0)	35.0	(1.5)	523	(5.8)	23.3	(1.1)	530	(7.4)	17.4	(1.2)	529	(7.0)
Ontario	12.3	(0.7)	496*	(6.2)	26.8	(1.0)	504	(5.8)	30.3	(1.2)	511	(4.7)	30.7	(1.4)	507	(6.4)
Manitoba	13.5	(1.3)	473	(8.4)	28.0	(1.4)	472*	(5.1)	30.1	(1.8)	489	(5.8)	28.4	(1.7)	474	(7.2)
Saskatchewan	18.7	(1.5)	464*	(7.2)	27.2	(1.6)	470	(6.9)	29.3	(2.0)	483	(6.4)	24.9	(1.5)	478	(7.7)
Alberta	12.1	(1.5)	512	(14.5)	27.1	(1.8)	500	(9.6)	29.6	(2.4)	512	(8.8)	31.2	(1.9)	508	(9.7)
British Columbia	16.4	(1.5)	506	(6.6)	31.3	(1.6)	499	(8.0)	31.6	(1.6)	510	(7.6)	20.7	(1.9)	508	(8.3)
OECD average	20.6	(0.2)	478*	(0.8)	30.2	(0.2)	479*	(0.7)	25.5	(0.1)	486	(0.7)	23.7	(0.2)	484	(0.8)

SE Standard error
Av. Average
* Significant difference compared to the average score in the "About once or twice a week" category.

Percentage and average scores of students by how often schools offered specific supports during school building closure because of COVID-19: MATHEMATICS

Canada, province, or OECD average	Offered live virtual classes on a video communication program (e.g., Zoom™, Skype™, Google® Meet™, Microsoft® Teams)															
	Never				A few times				About once or twice a week				Every day or almost every day			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	8.5	(0.3)	483*	(4.3)	15.2	(0.5)	481*	(3.8)	18.0	(0.5)	499	(3.4)	58.3	(0.8)	524*	(2.4)
Newfoundland and Labrador	9.3	(2.0)	462	(14.1)	16.7	(1.8)	443	(10.3)	12.5	(1.4)	444	(15.5)	61.6	(2.8)	483*	(7.8)
Prince Edward Island	11.6 ‡	(3.5)	471	(25.6)	13.2‡	(3.0)	436	(20.2)	23.9	(3.7)	487	(15.7)	51.3	(5.0)	505	(13.8)
Nova Scotia	7.9	(1.3)	437	(16.2)	12.2	(1.8)	455	(13.3)	16.0	(1.8)	470	(12.9)	63.8	(2.4)	502*	(5.6)
New Brunswick	11.4	(1.2)	453	(10.3)	14.7	(1.4)	463	(9.9)	19.7	(1.7)	468	(10.0)	54.2	(2.0)	497*	(5.6)
Quebec	10.4	(0.9)	488	(7.6)	16.6	(1.0)	501	(7.0)	16.2	(1.1)	509	(8.8)	56.9	(1.9)	546*	(4.5)
Ontario	6.2	(0.5)	478	(8.4)	13.0	(0.8)	473*	(7.0)	14.0	(1.0)	493	(5.9)	66.8	(1.3)	523*	(4.1)
Manitoba	8.2	(1.0)	442*	(13.6)	13.7	(1.2)	452*	(8.6)	22.9	(2.0)	488	(6.3)	55.2	(2.1)	487	(5.1)
Saskatchewan	11.3	(1.2)	445*	(10.6)	23.3	(1.3)	457*	(6.8)	28.4	(2.1)	487	(7.0)	37.0	(2.4)	499	(5.5)
Alberta	5.9	(1.0)	501	(20.9)	10.8	(1.0)	473	(12.8)	16.5	(1.4)	497	(10.0)	66.8	(1.7)	523*	(7.1)
British Columbia	14.1	(1.2)	502	(9.1)	22.9	(1.8)	496	(7.9)	30.1	(1.6)	514	(8.3)	33.0	(2.3)	523	(7.0)
OECD average	12.8	(0.1)	450*	(1.0)	17.8	(0.2)	455*	(0.9)	18.8	(0.1)	472	(0.9)	50.6	(0.2)	502*	(0.6)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
* Significant difference compared to the average score in the "About once or twice a week" category.

Percentage and average scores of students by how often schools offered specific supports during school building closure because of COVID-19: MATHEMATICS

Asked you to submit completed school assignments

Canada, province, or OECD average	Never				A few times				About once or twice a week				Every day or almost every day			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	**8.0**	**(0.4)**	**493***	**(4.3)**	**18.7**	**(0.6)**	**493***	**(3.0)**	**28.3**	**(0.7)**	**512**	**(2.9)**	**45.1**	**(0.8)**	**519***	**(2.7)**
Newfoundland and Labrador	9.9	(1.4)	435*	(13.4)	18.4	(2.1)	459	(12.0)	29.1	(2.2)	473	(11.1)	42.6	(2.1)	470	(8.0)
Prince Edward Island	U‡	(2.1)	485	(35.7)	24.2	(4.2)	503	(17.6)	25.6	(4.4)	496	(15.1)	44.2	(4.5)	496	(15.4)
Nova Scotia	6.5	(1.3)	430*	(14.6)	18.1	(2.1)	451*	(11.0)	29.8	(2.6)	493	(9.4)	45.6	(2.7)	489	(7.6)
New Brunswick	12.2	(1.3)	464	(11.4)	19.4	(1.5)	468	(8.5)	30.8	(1.8)	479	(7.7)	37.6	(2.1)	495	(7.6)
Quebec	9.0	(0.8)	500*	(7.1)	24.2	(1.2)	512*	(6.7)	32.7	(1.3)	537	(5.9)	34.1	(1.5)	541	(5.2)
Ontario	7.2	(0.7)	497	(8.2)	16.7	(1.0)	493	(6.7)	23.8	(1.2)	506	(5.8)	52.2	(1.4)	518	(4.9)
Manitoba	7.1	(0.9)	471	(10.7)	17.3	(1.1)	460	(7.1)	29.4	(1.7)	481	(8.4)	46.2	(1.5)	488	(6.1)
Saskatchewan	15.0	(1.2)	462*	(9.2)	20.6	(1.4)	464*	(6.7)	30.2	(1.7)	484	(6.5)	34.3	(1.5)	486	(6.0)
Alberta	4.7	(1.0)	517	(21.7)	15.2	(1.6)	485*	(12.0)	27.3	(1.8)	516	(9.3)	52.8	(2.3)	528	(7.8)
British Columbia	10.1	(1.1)	499	(11.8)	19.7	(1.5)	491	(6.3)	33.7	(1.9)	508	(8.3)	36.5	(2.4)	517	(6.5)
OECD average	**9.6**	**(0.1)**	**455***	**(1.1)**	**22.4**	**(0.2)**	**465***	**(0.8)**	**28.0**	**(0.2)**	**489**	**(0.7)**	**40.0**	**(0.2)**	**494***	**(0.7)**

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
U Too unreliable to be published.
* Significant difference compared to the average score in the "About once or twice a week" category.

Percentage and average scores of students by how often schools offered specific supports during school building closure because of COVID-19: MATHEMATICS

Gave you helpful tips about how to study on your own

Canada, province, or OECD average	Never				A few times				About once or twice a week				Every day or almost every day			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	**26.5**	**(0.5)**	**512**	**(2.6)**	**32.8**	**(0.7)**	**515**	**(2.7)**	**21.2**	**(0.6)**	**509**	**(3.1)**	**19.5**	**(0.5)**	**498***	**(3.7)**
Newfoundland and Labrador	29.2	(2.0)	470	(10.2)	28.5	(1.9)	467	(9.6)	21.6	(1.9)	476	(10.0)	20.6	(2.0)	467	(12.2)
Prince Edward Island	31.4	(5.1)	514	(14.8)	24.1	(4.4)	511	(15.9)	21.1	(4.0)	470	(18.8)	23.4	(4.3)	493	(19.4)
Nova Scotia	28.6	(2.0)	499	(7.8)	33.1	(2.2)	490	(10.4)	19.4	(1.9)	471	(10.5)	18.8	(2.4)	474	(11.8)
New Brunswick	28.5	(1.9)	493	(7.4)	32.1	(2.0)	476	(7.3)	21.0	(1.7)	472	(9.3)	18.4	(1.6)	470	(9.4)
Quebec	27.0	(1.3)	525	(5.3)	34.8	(1.6)	534	(5.3)	20.3	(1.2)	525	(7.2)	17.9	(1.1)	516*	(7.2)
Ontario	25.2	(1.1)	509	(5.5)	32.4	(1.2)	516	(4.9)	21.3	(0.9)	515	(5.6)	21.1	(1.0)	499*	(6.0)
Manitoba	22.3	(1.3)	481	(5.8)	33.8	(1.9)	481	(8.0)	21.6	(1.5)	478	(7.1)	22.3	(1.6)	465	(6.4)
Saskatchewan	29.3	(1.8)	490	(5.8)	24.6	(1.2)	479	(6.4)	26.2	(1.9)	479	(7.0)	19.9	(1.3)	475	(6.8)
Alberta	26.0	(2.0)	520	(10.1)	33.7	(2.5)	516	(8.9)	19.5	(1.8)	513	(12.9)	20.8	(1.8)	499	(13.0)
British Columbia	29.1	(1.6)	516	(7.5)	32.5	(1.7)	515	(6.7)	23.3	(1.6)	499	(6.3)	15.1	(1.4)	498	(9.0)
OECD average	**27.3**	**(0.2)**	**488**	**(0.7)**	**33.0**	**(0.2)**	**488**	**(0.7)**	**22.5**	**(0.2)**	**481 ***	**(0.8)**	**17.1**	**(0.1)**	**468***	**(0.9)**

SE Standard error
Av. Average
* Significant difference compared to the average score in the "A few times" category.

Percentage and average scores of students by how often schools offered specific supports during school building closure because of COVID-19: MATHEMATICS

Canada, province, or OECD average	Checked in with you to ask how you were feeling															
	Never				A few times				About once or twice a week				Every day or almost every day			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	**35.9**	**(0.7)**	**515**	**(2.4)**	**33.9**	**(0.7)**	**513**	**(3.4)**	**17.6**	**(0.5)**	**501***	**(3.9)**	**12.6**	**(0.4)**	**480***	**(4.1)**
Newfoundland and Labrador	29.7	(2.3)	475	(10.0)	32.6	(2.2)	466	(10.3)	19.2	(1.8)	472	(11.7)	18.5	(2.2)	452	(9.8)
Prince Edward Island	33.4	(4.3)	501	(16.8)	34.1	(4.4)	507	(12.3)	15.2‡	(3.8)	500	(19.3)	17.3‡	(3.8)	451*	(16.6)
Nova Scotia	36.6	(2.5)	486	(8.2)	31.3	(2.1)	484	(9.5)	18.5	(1.8)	480	(11.9)	13.5	(2.3)	482	(12.1)
New Brunswick	33.8	(1.8)	487	(6.5)	30.5	(1.8)	482	(6.9)	22.6	(1.6)	466	(8.6)	13.2	(1.2)	454*	(10.5)
Quebec	44.5	(1.6)	535	(4.9)	32.8	(1.3)	532	(6.3)	13.2	(1.1)	508*	(8.9)	9.5	(0.8)	478*	(9.9)
Ontario	32.4	(1.2)	514	(4.8)	35.8	(1.5)	511	(6.3)	18.2	(1.0)	508	(5.8)	13.6	(0.8)	490*	(7.1)
Manitoba	32.5	(2.0)	488	(6.4)	30.5	(1.8)	486	(6.8)	20.3	(1.6)	469	(8.7)	16.7	(1.5)	461*	(7.3)
Saskatchewan	39.1	(2.5)	494*	(5.3)	28.5	(1.7)	476	(5.8)	19.9	(1.7)	466	(7.3)	12.5	(1.2)	463	(10.2)
Alberta	32.1	(2.5)	504	(8.1)	34.7	(1.7)	521	(9.7)	19.5	(1.9)	512	(11.3)	13.7	(1.5)	476*	(12.5)
British Columbia	37.6	(1.8)	521	(6.3)	32.6	(1.5)	508	(7.3)	18.5	(1.9)	496	(9.1)	11.3	(1.5)	477*	(11.4)
OECD average	**38.2**	**(0.2)**	**493***	**(0.6)**	**31.0**	**(0.2)**	**485**	**(0.7)**	**17.4**	**(0.1)**	**472***	**(0.9)**	**13.3**	**(0.1)**	**457***	**(1.1)**

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
* Significant difference compared to the average score in the "A few times" category.

Table B.2.18

Percentage and average scores of students by which digital device they used most often for their school work during school building closure because of COVID-19: MATHEMATICS

Canada, province, or OECD average	My own laptop, desktop computer, or tablet				My own smartphone				A digital device that was also used by other family members				A digital device that my school gave or lent to me				I did not have any digital device for my schoolwork			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	68.4	(0.7)	519	(1.9)	14.6	(0.4)	474*	(2.7)	5.7	(0.3)	508*	(4.9)	10.3	(0.5)	492*	(3.5)	1.0	(0.1)	428*	(8.5)
Newfoundland and Labrador	49.9	(1.9)	476	(6.6)	10.2	(1.1)	426*	(12.7)	2.0‡	(0.6)	471	(24.0)	36.8	(1.8)	476	(7.0)	U‡	(0.5)	431	(39.3)
Prince Edward Island	66.7	(3.7)	499	(9.1)	15.0	(2.6)	481	(20.6)	7.6‡	(1.7)	490	(18.8)	8.6‡	(2.6)	490	(28.6)	U‡	(1.1)	432	(37.7)
Nova Scotia	53.1	(2.0)	492	(6.1)	10.9	(1.1)	440*	(11.9)	3.8	(0.9)	501	(25.2)	31.0	(1.8)	480	(6.4)	U‡	(0.4)	481	(36.5)
New Brunswick	69.3	(1.7)	490	(4.0)	23.7	(1.4)	465*	(6.7)	3.0	(0.6)	460	(20.8)	1.9‡	(0.5)	477	(14.1)	2.1‡	(0.5)	391*	(18.2)
Quebec	62.5	(1.4)	538	(4.5)	16.7	(0.9)	495*	(5.1)	5.1	(0.6)	521	(11.4)	14.3	(1.1)	523	(7.6)	1.5	(0.3)	418*	(15.1)
Ontario	74.8	(1.2)	521	(3.7)	11.0	(0.7)	469*	(5.4)	3.8	(0.3)	498*	(9.9)	9.6	(0.9)	485*	(6.5)	0.7	(0.2)	443*	(18.3)
Manitoba	62.1	(1.5)	491	(3.3)	20.1	(1.3)	462*	(5.4)	6.8	(0.8)	484	(9.9)	9.8	(1.2)	455*	(12.7)	1.1‡	(0.2)	411*	(17.2)
Saskatchewan	57.3	(1.5)	489	(3.7)	24.4	(1.1)	456*	(5.2)	9.2	(0.9)	496	(9.6)	6.7	(0.8)	460*	(9.9)	2.4	(0.4)	418*	(14.8)
Alberta	71.7	(1.9)	520	(6.6)	13.3	(1.3)	471*	(9.8)	6.0	(1.0)	531	(15.7)	8.3	(1.0)	486*	(11.0)	U‡	(0.3)	413*	(40.9)
British Columbia	65.6	(1.4)	518	(4.6)	18.0	(1.0)	477*	(7.8)	11.4	(0.8)	506	(9.3)	4.0	(0.8)	475*	(16.3)	1.1‡	(0.3)	439*	(17.4)
OECD average	54.8	(0.2)	499	(0.5)	29.2	(0.1)	455*	(0.6)	6.8	(0.1)	474*	(1.3)	7.2	(0.1)	451*	(1.6)	1.9	(0.0)	413*	(2.2)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
U Too unreliable to be published.
* Significant difference compared to the average score in the '"My own laptop, desktop computer, or tablet" category.

Table B.2.19a

Percentage and average scores of students by how often they used specific learning resources during school building closure because of COVID-19: MATHEMATICS

Paper textbooks, workbooks, or worksheets

Canada, province, or OECD average	Never				A few times				About once or twice a week				Every day or almost every day			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	30.3	(0.8)	508	(2.5)	36.6	(0.8)	511	(2.8)	18.5	(0.6)	512	(3.6)	14.6	(0.5)	510	(4.7)
Newfoundland and Labrador	40.8	(2.1)	469	(8.1)	33.7	(2.2)	474	(8.7)	17.1	(2.0)	470	(13.6)	8.5	(1.5)	493	(16.2)
Prince Edward Island	38.3	(4.1)	510	(15.8)	23.2	(3.4)	485	(19.0)	22.7	(3.7)	491	(16.8)	15.8 ‡	(3.4)	495	(20.0)
Nova Scotia	36.5	(2.3)	485	(7.4)	33.1	(1.9)	501*	(8.2)	16.4	(1.9)	471	(13.9)	14.0	(1.8)	487	(12.7)
New Brunswick	34.4	(2.3)	489	(6.2)	36.7	(2.4)	489	(7.3)	16.9	(1.6)	479	(9.7)	12.0	(1.7)	476	(13.7)
Quebec	15.5	(1.1)	514*	(7.3)	38.8	(1.7)	531	(5.2)	21.8	(1.2)	537	(6.6)	23.9	(1.3)	527	(7.1)
Ontario	35.4	(1.5)	512	(4.4)	38.1	(1.4)	516	(4.8)	16.1	(1.0)	505	(5.3)	10.4	(0.8)	508	(8.4)
Manitoba	24.9	(1.7)	478*	(6.7)	33.7	(1.6)	485	(5.1)	22.2	(1.8)	500	(7.8)	19.3	(1.6)	472*	(9.7)
Saskatchewan	36.4	(2.0)	482	(6.5)	32.2	(2.2)	480	(6.4)	18.8	(1.6)	462	(8.4)	12.6	(1.4)	485*	(8.6)
Alberta	30.1	(2.3)	516	(8.1)	34.6	(2.2)	504	(11.2)	20.3	(1.6)	521	(10.5)	15.0	(1.9)	507	(16.7)
British Columbia	35.9	(1.7)	511	(6.3)	35.2	(1.6)	500	(6.8)	17.4	(1.4)	506	(10.4)	11.5	(1.6)	509	(15.6)
OECD average	18.6	(0.1)	462*	(0.9)	33.1	(0.2)	478*	(0.7)	22.5	(0.1)	489	(0.8)	25.7	(0.2)	495*	(0.8)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
* Significant difference compared to the average score in the "About once or twice a week" category.

Table B.2.19b

Percentage and average scores of students by how often they used specific learning resources during school building closure because of COVID-19: MATHEMATICS

Digital textbooks, workbooks, or worksheets

Canada, province, or OECD average	Never				A few times				About once or twice a week				Every day or almost every day			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	11.6	(0.4)	479*	(3.3)	27.0	(0.7)	499*	(2.6)	25.7	(0.6)	516	(2.6)	35.7	(0.7)	523*	(3.1)
Newfoundland and Labrador	14.5	(1.7)	444	(18.5)	26.7	(2.2)	473	(8.5)	23.7	(1.9)	479	(10.2)	35.2	(2.2)	489	(8.4)
Prince Edward Island	17.5‡	(3.8)	479	(15.7)	26.0	(3.9)	510	(19.8)	27.4	(4.1)	466	(18.3)	29.1	(4.7)	496	(15.8)
Nova Scotia	12.2	(1.5)	465	(11.3)	28.8	(2.4)	473	(9.2)	22.5	(2.5)	476	(13.2)	36.5	(2.9)	498	(8.0)
New Brunswick	21.0	(1.8)	456*	(7.7)	27.7	(2.0)	481	(9.6)	25.8	(1.9)	487	(7.6)	25.4	(2.4)	495	(7.4)
Quebec	11.9	(1.0)	496*	(7.2)	32.4	(1.3)	515*	(5.3)	26.0	(1.3)	534	(6.7)	29.7	(1.4)	541	(6.3)
Ontario	10.4	(0.7)	473*	(7.0)	22.3	(1.3)	500*	(6.2)	25.7	(1.1)	519	(4.7)	41.7	(1.4)	526	(4.6)
Manitoba	14.1	(1.3)	461*	(11.9)	27.5	(1.4)	475	(6.6)	25.7	(1.5)	489	(6.1)	32.7	(1.5)	493	(6.9)
Saskatchewan	21.1	(1.6)	451*	(8.1)	32.1	(2.0)	476	(6.9)	23.2	(1.3)	482	(6.4)	23.5	(1.6)	488	(6.4)
Alberta	9.2	(1.4)	500	(14.3)	25.1	(2.4)	490*	(8.4)	23.7	(1.5)	521	(8.4)	41.9	(2.4)	520	(9.7)
British Columbia	12.4	(1.2)	481*	(8.7)	31.9	(1.7)	504	(6.8)	28.7	(1.7)	506	(7.2)	26.9	(1.8)	524*	(6.8)
OECD average	17.0	(0.1)	461*	(0.9)	30.4	(0.2)	475*	(0.7)	25.4	(0.2)	491	(0.8)	27.3	(0.2)	499*	(0.8)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
* Significant difference compared to the average score in the "About once or twice a week" category.

Percentage and average scores of students by how often they used specific learning resources during school building closure because of COVID-19: MATHEMATICS

Real-time lessons by a teacher from my school on a video communication program (e.g., Zoom™, Skype™, Google® Meet™, Microsoft® Teams)

Canada, province, or OECD average	Never				A few times				About once or twice a week				Every day or almost every day			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	8.0	(0.4)	477*	(5.0)	15.9	(0.5)	478*	(3.7)	16.9	(0.5)	500	(3.7)	59.3	(0.8)	525*	(2.4)
Newfoundland and Labrador	9.6	(1.5)	438	(14.8)	14.6	(1.6)	463	(12.5)	15.6	(2.0)	459	(11.4)	60.3	(2.5)	481	(7.2)
Prince Edward Island	10.8‡	(3.1)	453	(21.2)	21.2	(3.8)	495	(22.1)	21.8	(3.8)	488	(18.6)	46.3	(4.9)	506	(12.7)
Nova Scotia	6.7	(1.2)	444	(19.3)	15.8	(1.7)	437*	(13.3)	15.9	(1.7)	477	(13.8)	61.6	(2.6)	505	(5.9)
New Brunswick	11.8	(1.5)	446	(11.6)	18.2	(1.8)	452	(11.0)	16.1	(1.3)	463	(10.3)	53.9	(2.2)	501*	(5.8)
Quebec	7.1	(0.8)	499	(9.8)	15.2	(1.1)	485	(6.9)	14.7	(1.1)	500	(10.6)	63.0	(1.6)	542*	(4.6)
Ontario	5.4	(0.7)	457*	(10.0)	11.3	(0.7)	474*	(8.6)	14.1	(1.0)	500	(7.7)	69.2	(1.3)	526*	(3.8)
Manitoba	7.5	(0.8)	453*	(10.8)	18.2	(1.6)	450*	(7.0)	22.8	(2.0)	488	(5.6)	51.5	(2.0)	494	(4.6)
Saskatchewan	18.0	(1.9)	471	(8.8)	26.7	(1.7)	465*	(7.5)	26.3	(1.9)	486	(6.8)	28.9	(2.0)	482	(7.0)
Alberta	4.8‡	(0.9)	459*	(16.1)	14.5	(1.5)	474	(12.7)	13.7	(1.6)	505	(12.0)	66.9	(2.5)	525	(6.5)
British Columbia	16.6	(1.8)	502	(10.8)	27.1	(1.8)	494*	(7.6)	27.4	(2.2)	512	(7.3)	28.9	(2.3)	526	(8.6)
OECD average	11.7	(0.1)	448*	(1.1)	19.0	(0.2)	454*	(0.8)	18.7	(0.2)	471	(0.8)	50.6	(0.2)	504*	(0.7)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
* Significant difference compared to the average score in the "About once or twice a week" category.

Percentage and average scores of students by how often they used specific learning resources during school building closure because of COVID-19: MATHEMATICS

Real-time lessons by a private tutor on a video communication program (e.g., Zoom™, Skype™, Google® Meet™, Microsoft® Teams)

Canada, province, or OECD average	Never				A few times				About once or twice a week				Every day or almost every day			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	43.1	(0.8)	526	(2.4)	16.3	(0.5)	483*	(3.7)	14.2	(0.5)	494*	(4.4)	26.3	(0.6)	514*	(3.1)
Newfoundland and Labrador	58.1	(2.5)	484	(7.0)	10.9	(1.4)	437*	(10.6)	9.5	(1.6)	468	(15.0)	21.5	(2.5)	465	(10.9)
Prince Edward Island	46.6	(5.7)	523	(14.7)	22.6	(3.9)	485	(19.6)	13.8‡	(3.0)	456*	(24.8)	17.0‡	(4.2)	498	(20.0)
Nova Scotia	51.1	(2.1)	506	(7.7)	14.4	(1.9)	436*	(13.4)	10.5	(1.5)	458*	(16.0)	24.0	(2.3)	493	(9.1)
New Brunswick	43.7	(1.8)	491	(6.1)	18.2	(1.9)	458*	(10.2)	11.9	(1.4)	449*	(10.4)	26.1	(1.8)	492	(6.8)
Quebec	28.8	(1.2)	547	(5.5)	19.9	(1.2)	502*	(7.9)	13.2	(1.2)	505*	(10.4)	38.2	(1.5)	531*	(5.6)
Ontario	46.1	(1.3)	530	(4.5)	14.4	(0.8)	483*	(6.4)	13.7	(0.9)	498*	(7.5)	25.9	(1.2)	515*	(5.3)
Manitoba	46.2	(1.8)	489	(6.3)	14.9	(1.1)	469*	(7.9)	14.0	(1.3)	476	(9.2)	24.8	(1.6)	472*	(6.3)
Saskatchewan	45.5	(1.8)	495	(5.5)	18.2	(1.3)	462*	(7.1)	21.2	(1.7)	464*	(6.5)	15.1	(1.3)	477*	(7.4)
Alberta	46.2	(2.4)	534	(7.2)	13.7	(1.3)	477*	(11.5)	12.2	(1.4)	490*	(14.9)	27.9	(1.8)	506*	(10.9)
British Columbia	48.4	(1.8)	520	(6.7)	19.6	(1.6)	480*	(7.5)	19.3	(1.6)	501*	(7.9)	12.7	(1.2)	510	(10.5)
OECD average	36.6	(0.2)	498	(0.7)	19.0	(0.1)	459*	(0.9)	16.8	(0.1)	468*	(0.9)	27.5	(0.2)	490*	(0.8)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
* Significant difference compared to the average score in the "Never" category.

Table B.2.19e

Percentage and average scores of students by how often they used specific learning resources during school building closure because of COVID-19: MATHEMATICS

Learning material my teachers sent via SMS or WhatsApp™

Canada, province, or OECD average	Never				A few times				About once or twice a week				Every day or almost every day			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	58.2	(0.8)	523	(2.2)	17.3	(0.6)	494*	(3.2)	14.3	(0.5)	497*	(3.5)	10.2	(0.5)	495*	(4.7)
Newfoundland and Labrador	69.0	(2.6)	480	(6.8)	13.0	(1.6)	449*	(14.1)	10.5	(1.6)	463	(18.8)	7.6	(1.5)	451*	(15.2)
Prince Edward Island	63.6	(4.5)	512	(12.6)	16.4‡	(3.5)	491	(22.8)	13.9 ‡	(3.2)	474	(20.8)	U‡	(2.6)	479	(26.3)
Nova Scotia	65.8	(2.5)	490	(5.5)	17.9	(1.8)	457*	(11.5)	8.9	(1.5)	457	(16.5)	7.4	(1.3)	482	(17.4)
New Brunswick	53.3	(2.2)	494	(5.8)	20.1	(1.9)	470	(11.2)	15.5	(1.7)	471*	(9.0)	11.1	(1.2)	471	(12.0)
Quebec	45.2	(1.8)	542	(5.2)	23.1	(1.4)	515*	(6.5)	18.3	(1.1)	526*	(7.5)	13.5	(1.1)	515*	(8.4)
Ontario	66.4	(1.5)	523	(3.8)	13.5	(0.9)	493*	(6.2)	11.7	(0.7)	493*	(6.3)	8.4	(0.7)	489*	(8.1)
Manitoba	52.3	(1.9)	491	(6.4)	21.3	(1.3)	463*	(7.2)	14.4	(1.3)	472	(9.9)	12.1	(1.3)	470	(9.9)
Saskatchewan	51.3	(1.9)	493	(5.4)	22.1	(1.6)	464*	(6.8)	16.7	(1.2)	478	(7.9)	9.9	(1.1)	489	(10.7)
Alberta	57.4	(2.4)	532	(7.5)	16.7	(1.5)	499*	(10.9)	13.9	(1.3)	486*	(12.6)	11.9	(1.7)	497*	(14.2)
British Columbia	58.9	(1.8)	523	(5.3)	16.7	(1.6)	481*	(6.7)	15.9	(1.5)	488*	(9.0)	8.6	(0.9)	486*	(12.8)
OECD average	38.0	(0.2)	495	(0.8)	23.5	(0.2)	471*	(0.8)	20.9	(0.1)	476*	(0.9)	17.6	(0.1)	476*	(1.0)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
U Too unreliable to be published.
* Significant difference compared to the average score in the "Never" category.

Table B.2.19f

Percentage and average scores of students by how often they used specific learning resources during school building closure because of COVID-19: MATHEMATICS

Recorded lessons or other digital material provided by teachers from my school

Canada, province, or OECD average	Never				A few times				About once or twice a week				Every day or almost every day			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	23.1	(0.7)	500*	(2.8)	28.5	(0.5)	511*	(2.8)	28.1	(0.7)	520	(3.0)	20.3	(0.7)	513	(2.9)
Newfoundland and Labrador	46.1	(2.6)	470	(8.8)	22.7	(2.0)	489	(10.2)	15.6	(1.8)	483	(13.9)	15.6	(2.0)	454	(13.7)
Prince Edward Island	19.7‡	(4.2)	503	(23.4)	25.9	(4.2)	486	(15.6)	32.1	(4.5)	493	(16.1)	22.4	(3.7)	494	(23.9)
Nova Scotia	34.4	(2.5)	489	(7.4)	28.7	(2.4)	489	(10.7)	23.6	(2.2)	496	(13.3)	13.3	(1.8)	469	(10.9)
New Brunswick	29.7	(2.1)	478	(8.2)	31.6	(2.0)	483	(7.7)	22.4	(1.9)	490	(8.9)	16.3	(1.6)	480	(10.7)
Quebec	24.8	(1.3)	520	(6.8)	32.2	(1.2)	530	(6.2)	25.8	(1.5)	534	(6.7)	17.2	(1.3)	530	(7.3)
Ontario	20.3	(1.1)	501*	(5.5)	28.7	(1.1)	516	(5.0)	29.6	(1.1)	520	(5.1)	21.4	(1.0)	516	(4.9)
Manitoba	21.2	(1.4)	468*	(8.6)	29.0	(1.8)	483	(8.2)	29.0	(1.5)	495	(6.8)	20.9	(1.5)	492	(6.8)
Saskatchewan	29.3	(1.9)	473*	(7.0)	26.9	(1.6)	473*	(6.4)	26.5	(2.1)	498	(6.7)	17.3	(1.5)	486	(7.4)
Alberta	21.3	(1.8)	500	(10.2)	23.1	(1.8)	504	(9.6)	28.5	(2.2)	522	(10.6)	27.1	(2.4)	513	(9.2)
British Columbia	23.3	(1.5)	498*	(7.1)	29.2	(1.4)	498*	(7.1)	30.2	(1.8)	520	(6.9)	17.3	(1.4)	507	(8.6)
OECD average	27.1	(0.2)	481*	(0.7)	29.2	(0.2)	483*	(0.7)	25.4	(0.2)	488	(0.8)	18.4	(0.1)	484*	(0.9)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
* Significant difference compared to the average score in the "About once or twice a week" category.

Table B.2.19g

Percentage and average scores of students by how often they used specific learning resources during school building closure because of COVID-19: MATHEMATICS

Recorded lessons or other digital material from other sources (e.g., Khan Academy®, Coursera®)

Canada, province, or OECD average	Never				A few times				About once or twice a week				Every day or almost every day			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	34.7	(0.7)	511	(2.4)	28.3	(0.6)	515	(3.1)	22.8	(0.6)	516	(3.6)	14.3	(0.5)	494*	(3.5)
Newfoundland and Labrador	56.8	(2.9)	479	(7.7)	24.4	(2.2)	475	(10.5)	12.6	(1.8)	473	(15.4)	6.3‡	(1.4)	429*	(23.3)
Prince Edward Island	33.1	(4.7)	508	(16.9)	29.6	(4.5)	507	(16.2)	28.5	(4.1)	477	(20.1)	8.8‡	(2.7)	458	(26.8)
Nova Scotia	43.7	(2.6)	490	(7.5)	28.2	(2.4)	485	(11.1)	19.5	(1.9)	508	(13.7)	8.6	(1.5)	487	(20.5)
New Brunswick	43.8	(2.0)	497	(7.0)	26.6	(2.0)	483	(9.9)	16.4	(1.7)	460*	(8.6)	13.2	(1.7)	464*	(10.4)
Quebec	49.5	(1.5)	536	(4.2)	25.3	(1.1)	527	(6.3)	15.7	(1.0)	526	(7.7)	9.5	(0.8)	493*	(8.6)
Ontario	28.1	(1.2)	504	(5.1)	31.0	(1.1)	522*	(5.3)	24.9	(1.0)	517	(5.2)	16.1	(0.9)	503	(6.6)
Manitoba	35.4	(1.9)	488	(7.0)	27.4	(1.8)	481	(5.6)	22.0	(1.4)	481	(7.9)	15.2	(1.3)	483	(8.0)
Saskatchewan	39.9	(2.2)	485	(5.4)	26.3	(1.9)	480	(6.3)	22.1	(1.8)	481	(7.1)	11.8	(1.3)	474	(10.6)
Alberta	26.7	(1.5)	503	(9.7)	26.7	(2.1)	520	(7.7)	28.2	(1.9)	528*	(12.0)	18.3	(1.7)	479*	(10.6)
British Columbia	32.0	(1.8)	510	(6.8)	28.9	(1.4)	508	(8.0)	24.6	(1.7)	514	(7.4)	14.4	(1.0)	505	(9.5)
OECD average	39.3	(0.2)	488	(0.7)	26.5	(0.2)	483*	(0.8)	20.4	(0.2)	481*	(0.9)	13.8	(0.1)	469*	(1.0)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
* Significant difference compared to the average score in the "Never" category.

Table B.2.19h

Percentage and average scores of students by how often they used specific learning resources during school building closure because of COVID-19: MATHEMATICS

Lessons broadcast over television or radio

Canada, province, or OECD average	Never				A few times				About once or twice a week				Every day or almost every day			
	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE	%	SE	Av.	SE
Canada	71.7	(0.6)	520	(2.1)	14.8	(0.4)	489*	(3.7)	7.4	(0.4)	467*	(5.1)	6.1	(0.4)	478*	(5.7)
Newfoundland and Labrador	79.5	(1.7)	479	(6.9)	9.6	(1.5)	464	(14.0)	6.0‡	(1.3)	409*	(15.7)	4.9‡	(1.1)	399*	(18.2)
Prince Edward Island	74.9	(4.7)	505	(11.6)	9.9‡	(3.2)	461	(20.8)	10.3‡	(2.8)	426*	(23.4)	U‡	(1.8)	442*	(29.4)
Nova Scotia	75.5	(2.2)	492	(5.6)	13.6	(1.7)	465	(13.3)	6.9	(1.5)	432*	(15.0)	4.1	(0.8)	480	(20.0)
New Brunswick	70.6	(1.9)	501	(5.6)	15.5	(1.6)	451*	(13.5)	8.4	(1.3)	439*	(11.8)	5.4	(1.0)	429*	(15.0)
Quebec	71.7	(1.4)	539	(4.5)	14.0	(1.0)	506*	(8.6)	7.8	(0.9)	470*	(12.2)	6.5	(0.8)	492*	(12.9)
Ontario	72.0	(1.1)	519	(3.8)	14.7	(0.9)	491*	(6.8)	7.0	(0.7)	481*	(8.9)	6.2	(0.7)	476*	(10.8)
Manitoba	69.7	(1.5)	494	(4.0)	14.8	(1.2)	459*	(8.6)	9.2	(1.0)	446*	(11.3)	6.2	(0.9)	444*	(12.7)
Saskatchewan	67.2	(1.9)	491	(4.8)	17.1	(1.4)	454*	(9.4)	9.5	(1.3)	474	(10.0)	6.2	(0.9)	446*	(12.9)
Alberta	71.4	(2.1)	527	(6.8)	16.9	(1.4)	492*	(10.7)	5.4	(1.0)	436*	(17.6)	6.3	(1.2)	494	(19.5)
British Columbia	71.0	(1.6)	516	(5.8)	13.9	(1.2)	487*	(11.0)	9.5	(1.0)	479*	(10.3)	5.7	(0.9)	475*	(12.3)
OECD average	66.4	(0.2)	498	(0.5)	16.7	(0.1)	465*	(0.9)	10.1	(0.1)	450*	(1.1)	6.8	(0.1)	446*	(1.4)

SE Standard error
Av. Average
‡ There are fewer than 30 observations.
U Too unreliable to be published.
* Significant difference compared to the average score in the "Never" category.

Percentage of students at each proficiency level: READING

Country, province, or OECD average	Below Level 1a		Level 1a		Level 2		Level 3		Level 4		Level 5		Level 6	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Singapore	3.5	(0.3)	7.7	(0.5)	15.6	(0.6)	23.8	(0.7)	26.9	(0.7)	17.2	(0.6)	5.4	(0.4)
Ireland	2.7	(0.3)	8.7	(0.6)	21.4	(0.7)	31.8	(0.9)	25.2	(0.8)	9.1	(0.6)	1.1	(0.2)
Macao (China)	3.4	(0.3)	9.2	(0.6)	22.4	(0.8)	31.6	(0.8)	24.4	(0.8)	8.0	(0.5)	0.9	(0.2)
Japan	3.8	(0.5)	10.0	(0.7)	20.7	(0.9)	27.9	(1.1)	25.2	(1.0)	10.6	(0.7)	1.8	(0.3)
Estonia	3.4	(0.4)	10.4	(0.7)	22.4	(0.8)	30.0	(0.8)	23.2	(0.7)	9.1	(0.5)	1.5	(0.3)
Korea	5.0	(0.6)	9.7	(0.8)	19.4	(1.0)	28.0	(1.0)	24.7	(1.1)	10.8	(0.8)	2.5	(0.4)
Alberta	**5.1**	**(1.1)**	**9.6**	**(1.2)**	**19.2**	**(2.1)**	**24.6**	**(1.9)**	**22.5**	**(1.6)**	**13.6**	**(1.5)**	**5.3**	**(1.1)**
Chinese Taipei	5.1	(0.6)	10.7	(0.7)	19.0	(0.8)	26.9	(1.1)	24.3	(1.1)	11.4	(0.9)	2.6	(0.4)
British Columbia	**5.5**	**(0.9)**	**11.5**	**(1.2)**	**21.1**	**(1.5)**	**25.4**	**(1.5)**	**22.0**	**(1.4)**	**11.1**	**(1.2)**	**3.3**	**(0.7)**
Ontario	**5.6**	**(0.6)**	**11.6**	**(0.9)**	**20.5**	**(1.0)**	**25.6**	**(1.3)**	**22.4**	**(1.0)**	**10.7**	**(0.8)**	**3.6**	**(0.5)**
Hong Kong (China)	6.1	(0.6)	11.4	(0.7)	21.8	(0.9)	29.7	(0.9)	22.1	(0.8)	7.8	(0.6)	1.2	(0.2)
Canada	**6.1**	**(0.3)**	**12.0**	**(0.4)**	**21.2**	**(0.5)**	**25.6**	**(0.7)**	**21.4**	**(0.5)**	**10.3**	**(0.4)**	**3.3**	**(0.3)**
Denmark	5.2	(0.4)	13.8	(0.7)	26.3	(0.9)	29.3	(0.9)	19.1	(0.8)	5.6	(0.5)	0.7	(0.2)
Quebec	**6.8**	**(0.7)**	**12.5**	**(1.0)**	**21.3**	**(1.1)**	**26.3**	**(1.3)**	**21.2**	**(1.3)**	**9.4**	**(0.9)**	**2.5**	**(0.4)**
Prince Edward Island	**7.2**	**(2.0)**	**12.8**	**(3.0)**	**21.2**	**(3.0)**	**27.2**	**(3.6)**	**22.0**	**(3.9)**	**U‡**	**(3.5)**	**U‡**	**(0.9)**
United States	7.1	(0.7)	13.0	(0.8)	20.9	(0.9)	25.0	(0.9)	19.8	(1.0)	10.6	(0.8)	3.6	(0.5)
United Kingdom	6.9	(0.5)	13.3	(0.6)	23.9	(0.7)	26.4	(0.8)	19.5	(0.7)	7.9	(0.5)	2.2	(0.3)
New Zealand	7.3	(0.5)	13.5	(0.7)	21.1	(0.8)	24.8	(0.9)	20.3	(0.7)	10.4	(0.7)	2.7	(0.3)
Australia	7.8	(0.4)	13.4	(0.4)	21.4	(0.5)	25.0	(0.7)	20.1	(0.5)	9.5	(0.4)	2.9	(0.3)
Czech Republic	6.0	(0.5)	15.4	(0.6)	24.8	(0.8)	27.0	(0.8)	18.8	(0.8)	6.9	(0.4)	1.1	(0.2)
Italy	6.6	(0.5)	14.8	(0.7)	26.0	(0.9)	29.8	(0.8)	17.8	(0.8)	4.6	(0.5)	U	(0.1)
Finland	8.0	(0.5)	13.5	(0.6)	22.6	(0.7)	26.8	(0.7)	20.4	(0.9)	7.5	(0.5)	1.2	(0.2)
Manitoba	**7.3**	**(0.8)**	**14.7**	**(1.2)**	**25.5**	**(1.1)**	**26.4**	**(1.3)**	**17.6**	**(1.1)**	**6.7**	**(0.8)**	**1.7**	**(0.5)**
Poland	8.2	(0.7)	14.0	(0.7)	22.4	(0.9)	26.9	(1.1)	19.7	(0.9)	7.5	(0.6)	1.3	(0.2)
Saskatchewan	**7.2**	**(0.9)**	**15.3**	**(1.6)**	**24.8**	**(1.5)**	**27.3**	**(1.2)**	**18.2**	**(1.2)**	**5.9**	**(0.9)**	**U‡**	**(0.5)**
Croatia	6.2	(0.6)	16.5	(0.8)	28.8	(0.9)	28.4	(1.0)	16.0	(0.8)	3.9	(0.5)	U‡	(0.1)
Latvia	6.3	(0.6)	16.6	(0.8)	29.1	(0.9)	28.6	(0.8)	15.3	(0.8)	3.8	(0.5)	0.4‡	(0.1)
Vietnam	5.7	(0.9)	17.2	(1.1)	35.3	(1.2)	30.5	(1.4)	10.0	(1.0)	1.2	(0.3)	U‡	(0.0)
Nova Scotia	**7.5**	**(1.2)**	**15.5**	**(1.3)**	**24.5**	**(2.1)**	**24.2**	**(1.6)**	**18.4**	**(1.6)**	**7.8**	**(1.2)**	**2.1‡**	**(0.6)**
Portugal	7.4	(0.7)	15.8	(0.7)	26.8	(0.8)	28.5	(0.9)	16.8	(0.8)	4.3	(0.4)	0.4‡	(0.1)
Sweden	9.7	(0.6)	14.6	(0.6)	21.5	(0.8)	24.7	(1.0)	19.3	(0.9)	8.4	(0.6)	1.8	(0.3)
Spain	8.2	(0.4)	16.2	(0.5)	26.6	(0.5)	27.5	(0.5)	16.1	(0.5)	4.7	(0.3)	0.6	(0.1)
Switzerland	8.5	(0.6)	16.2	(0.7)	23.5	(0.8)	24.7	(0.9)	18.6	(0.8)	7.2	(0.5)	1.4	(0.2)
Lithuania	7.9	(0.6)	16.9	(0.7)	27.8	(0.9)	27.1	(0.9)	15.5	(0.7)	4.2	(0.4)	0.5	(0.1)
Newfoundland and Labrador	**8.3**	**(1.5)**	**16.9**	**(1.7)**	**25.9**	**(1.7)**	**25.1**	**(1.9)**	**16.2**	**(2.2)**	**6.2**	**(1.2)**	**U‡**	**(0.7)**
Belgium	9.7	(0.6)	15.5	(0.7)	23.2	(0.8)	25.9	(0.9)	18.2	(0.7)	6.3	(0.4)	1.0	(0.2)
Austria	9.2	(0.7)	16.1	(0.8)	23.1	(0.8)	25.5	(0.8)	18.5	(0.8)	6.7	(0.5)	1.0	(0.2)
Germany	9.3	(0.7)	16.2	(0.8)	23.8	(0.9)	24.7	(0.8)	17.8	(0.9)	6.7	(0.5)	1.4	(0.2)
Hungary	9.9	(0.7)	16.0	(0.9)	24.4	(0.9)	27.0	(1.1)	17.3	(0.8)	4.9	(0.5)	0.5	(0.1)
Slovenia	9.3	(0.5)	16.8	(0.6)	26.9	(1.0)	27.3	(0.9)	15.3	(0.7)	4.0	(0.4)	U‡	(0.2)
France	10.7	(0.7)	16.2	(0.7)	23.6	(0.8)	25.5	(0.9)	16.9	(0.8)	6.1	(0.5)	1.0	(0.2)
Norway	11.8	(0.6)	15.6	(0.7)	21.9	(0.8)	24.2	(0.7)	17.7	(0.8)	7.1	(0.4)	1.6	(0.2)

Percentage of students at each proficiency level: READING

Country, province, or OECD average	Proficiency levels												
	Below Level 1a		Level 1a		Level 2		Level 3		Level 4		Level 5		Level 6	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
New Brunswick	**10.8**	**(1.2)**	**16.9**	**(1.5)**	**25.4**	**(1.4)**	**25.4**	**(2.0)**	**14.8**	**(1.3)**	**5.6**	**(0.9)**	**1.2‡**	**(0.3)**
Türkiye	8.6	(0.5)	20.6	(0.8)	30.5	(0.9)	26.4	(0.8)	12.0	(0.6)	1.8	(0.2)	U‡	(0.0)
Israel	14.4	(0.8)	15.3	(0.7)	20.2	(0.7)	22.1	(0.8)	17.5	(0.7)	8.3	(0.6)	2.2	(0.3)
Chile	11.1	(0.7)	22.6	(0.8)	29.1	(0.9)	23.9	(0.9)	10.9	(0.7)	2.3	(0.3)	U‡	(0.1)
Netherlands	16.3	(1.5)	18.3	(0.9)	20.4	(1.0)	21.5	(1.1)	16.6	(0.9)	6.0	(0.5)	1.0	(0.2)
Slovak Republic	15.5	(1.0)	19.9	(0.8)	25.0	(0.9)	23.0	(0.8)	13.2	(0.7)	3.1	(0.3)	U‡	(0.1)
Malta	17.8	(0.8)	18.5	(0.9)	23.8	(0.8)	22.2	(0.9)	13.3	(0.7)	4.0	(0.4)	U‡	(0.2)
Serbia	12.6	(0.8)	23.8	(0.8)	29.7	(0.9)	22.7	(0.9)	9.3	(0.6)	1.7	(0.4)	U‡	(0.1)
Greece	14.2	(1.0)	23.4	(0.9)	28.3	(0.8)	22.4	(0.9)	9.7	(0.6)	1.9	(0.2)	U‡	(0.1)
Iceland	17.7	(0.7)	22.1	(0.9)	24.9	(1.0)	22.0	(0.8)	10.7	(0.8)	2.4	(0.4)	U‡	(0.1)
Ukrainian regions (18 of 27)	16.6	(1.6)	24.3	(1.3)	29.7	(1.3)	20.6	(1.1)	7.1	(0.6)	1.4	(0.3)	U‡	(0.1)
Uruguay	18.1	(0.8)	23.1	(0.8)	26.8	(0.9)	20.9	(0.7)	9.2	(0.5)	2.0	(0.3)	U‡	(0.1)
Romania	18.5	(1.1)	23.2	(1.2)	26.6	(1.0)	20.6	(1.1)	9.1	(0.8)	1.9	(0.4)	U‡	(0.0)
Brunei Darussalam	18.3	(0.6)	23.9	(0.6)	26.2	(0.6)	20.2	(0.7)	9.4	(0.5)	1.9	(0.2)	U‡	(0.1)
Mexico	17.2	(1.1)	29.8	(1.1)	30.8	(1.0)	16.7	(0.9)	5.0	(0.6)	0.6	(0.2)	U‡	(0.0)
Costa Rica	18.1	(0.9)	29.0	(0.9)	30.0	(0.8)	17.3	(1.0)	4.9	(0.5)	0.7	(0.2)	U‡	(0.0)
Qatar	22.7	(0.6)	24.6	(0.7)	24.3	(0.8)	17.1	(0.7)	8.4	(0.5)	2.5	(0.3)	0.4‡	(0.1)
United Arab Emirates	27.9	(0.5)	20.1	(0.4)	20.2	(0.5)	16.5	(0.4)	10.3	(0.3)	4.0	(0.2)	1.0	(0.1)
Moldova	20.0	(1.0)	28.8	(0.9)	29.2	(1.2)	16.8	(0.8)	4.8	(0.5)	0.5	(0.2)	U‡	(0.0)
Jamaica	23.2	(1.6)	26.9	(1.1)	25.1	(1.1)	17.0	(1.1)	6.9	(0.8)	1.0	(0.3)	U‡	(0.1)
Brazil	23.6	(0.7)	26.8	(0.7)	25.3	(0.6)	15.8	(0.6)	6.7	(0.5)	1.6	(0.2)	U‡	(0.1)
Peru	21.9	(1.0)	28.5	(0.8)	27.2	(0.8)	16.6	(0.8)	5.2	(0.5)	0.7	(0.1)	U‡	(0.0)
Colombia	22.3	(1.3)	29.1	(1.1)	25.9	(1.0)	15.8	(1.0)	5.9	(0.6)	1.0	(0.2)	U‡	(0.0)
Montenegro	22.9	(0.8)	30.0	(1.0)	26.1	(0.9)	15.6	(0.6)	4.9	(0.4)	0.6	(0.1)	U‡	(0.0)
Bulgaria	27.9	(1.2)	25.0	(1.1)	22.5	(1.0)	15.1	(0.9)	7.3	(0.7)	1.9	(0.4)	U‡	(0.1)
Argentina	25.1	(1.0)	29.4	(0.8)	25.8	(0.8)	14.0	(0.7)	4.8	(0.4)	0.9	(0.2)	U‡	(0.0)
Panama	28.7	(1.4)	29.1	(1.2)	24.4	(1.2)	12.8	(0.9)	4.2	(0.6)	0.7‡	(0.2)	U‡	(0.1)
Malaysia	28.0	(1.1)	30.1	(0.9)	27.2	(1.0)	12.2	(0.7)	2.3	(0.4)	U‡	(0.1)	U‡	(0.0)
Cyprus	36.4	(0.7)	24.3	(0.7)	20.2	(0.7)	12.8	(0.6)	5.0	(0.4)	1.3	(0.2)	U‡	(0.1)
Saudi Arabia	28.1	(1.0)	34.5	(0.8)	26.2	(0.9)	9.6	(0.6)	1.5	(0.2)	U‡	(0.1)	U‡	(0.0)
Kazakhstan	27.1	(0.8)	36.6	(0.7)	23.6	(0.6)	9.1	(0.4)	3.0	(0.2)	0.5	(0.1)	U‡	(0.0)
Mongolia	28.4	(1.1)	35.7	(0.8)	26.7	(0.8)	8.3	(0.6)	0.9	(0.2)	U‡	(0.0)	0.0‡	(0.0)
Thailand	30.8	(1.4)	34.6	(1.2)	23.5	(1.0)	8.9	(0.7)	2.0	(0.4)	U	(0.1)	U‡	(0.0)
Paraguay	33.6	(1.2)	32.6	(0.9)	22.9	(0.9)	9.1	(0.7)	1.7	(0.2)	U‡	(0.0)	0.0‡	(0.0)
Georgia	33.7	(1.1)	33.1	(1.1)	22.1	(0.8)	8.9	(0.6)	1.9	(0.3)	U‡	(0.1)	U‡	(0.0)
Guatemala	30.3	(1.2)	38.2	(1.1)	23.7	(0.9)	6.9	(0.7)	0.9	(0.3)	U‡	(0.0)	0.0‡	(0.0)
Baku (Azerbaijan)	37.6	(1.2)	31.6	(0.7)	21.3	(0.9)	8.1	(0.5)	1.3	(0.2)	U‡	(0.0)	U‡	(0.0)
El Salvador	37.9	(1.5)	34.2	(1.1)	19.4	(0.8)	7.1	(0.7)	1.4	(0.3)	U‡	(0.1)	U‡	(0.0)
North Macedonia	39.9	(0.7)	33.7	(0.7)	20.3	(0.7)	5.5	(0.4)	0.5	(0.1)	U‡	(0.0)	0.0‡	(0.0)

Percentage of students at each proficiency level: READING

Country, province, or OECD average	Below Level 1a		Level 1a		Level 2		Level 3		Level 4		Level 5		Level 6	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Albania	40.9	(1.1)	32.8	(1.0)	19.0	(0.8)	6.2	(0.5)	1.0	(0.2)	U‡	(0.1)	U‡	(0.0)
Indonesia	39.1	(1.6)	35.4	(1.0)	19.3	(1.1)	5.4	(0.5)	0.7	(0.2)	U‡	(0.0)	U‡	(0.0)
Dominican Republic	45.1	(1.4)	30.3	(1.3)	17.2	(0.7)	6.1	(0.5)	1.2	(0.3)	U‡	(0.0)	U‡	(0.0)
Philippines	49.7	(1.5)	26.6	(1.0)	15.9	(0.9)	6.4	(0.7)	1.3	(0.3)	U‡	(0.1)	0.0‡	(0.0)
Palestinian Authority	43.1	(1.2)	34.0	(0.8)	18.5	(0.8)	4.0	(0.4)	0.3	(0.1)	U‡	(0.0)	0.0‡	(0.0)
Jordan	48.0	(1.3)	31.6	(0.9)	16.4	(0.8)	3.6	(0.5)	U‡	(0.1)	U‡	(0.0)	0.0‡	(0.0)
Morocco	49.5	(2.2)	31.6	(1.1)	15.1	(1.2)	3.5	(0.7)	U‡	(0.1)	U‡	(0.0)	0.0‡	(0.0)
Kosovo	48.1	(0.9)	35.0	(0.8)	14.4	(0.7)	2.4	(0.3)	U‡	(0.1)	U‡	(0.0)	0.0‡	(0.0)
Uzbekistan	50.9	(1.4)	35.0	(1.1)	12.2	(0.8)	1.8	(0.3)	U‡	(0.1)	U‡	(0.0)	0.0‡	(0.0)
Cambodia	53.4	(1.6)	38.6	(1.4)	7.6	(0.8)	U ‡	(0.2)	0.0‡	(0.0)	0.0‡	(0.0)	0.0‡	(0.0)
OECD average	**9.7**	**(0.1)**	**16.6**	**(0.1)**	**24.4**	**(0.1)**	**25.3**	**(0.1)**	**16.9**	**(0.1)**	**6.0**	**(0.1)**	**1.2**	**(0.0)**

SE Standard error
‡ There are fewer than 30 observations.
U Too unreliable to be published.
Note: Countries and provinces have been sorted in descending order by the total percentage of students who attained Level 2 or higher. See OECD (2023a) for notes regarding Israeli statistical data, Cyprus, and Kosovo.

Table B.3.1b

Proportion of students who performed below Level 2, at Level 2 or above, and at Levels 5 and 6: READING

Country, province, or OECD average	Proficiency levels					
	Below Level 2		Level 2 or above		Levels 5 and 6	
	%	Standard error	%	Standard error	%	Standard error
Singapore	11.2	(0.6)	88.8	(0.6)	22.6	(0.7)
Ireland	11.4	(0.8)	88.6	(0.8)	10.3	(0.6)
Macao (China)	12.6	(0.6)	87.4	(0.6)	8.9	(0.5)
Japan	13.8	(1.0)	86.2	(1.0)	12.3	(0.9)
Estonia	13.8	(0.8)	86.2	(0.8)	10.6	(0.6)
Korea	14.7	(1.1)	85.3	(1.1)	13.3	(1.0)
Alberta	**14.8**	**(1.6)**	**85.2**	**(1.6)**	**18.9**	**(1.9)**
Chinese Taipei	15.8	(1.0)	84.2	(1.0)	14.0	(1.0)
British Columbia	**17.0**	**(1.6)**	**83.0**	**(1.6)**	**14.4**	**(1.6)**
Ontario	**17.2**	**(1.1)**	**82.8**	**(1.1)**	**14.3**	**(1.2)**
Hong Kong (China)	17.5	(0.9)	82.5	(0.9)	9.0	(0.6)
Canada	**18.1**	**(0.6)**	**81.9**	**(0.6)**	**13.6**	**(0.6)**
Denmark	19.0	(0.9)	81.0	(0.9)	6.3	(0.6)
Quebec	**19.4**	**(1.3)**	**80.6**	**(1.3)**	**11.9**	**(1.1)**
Prince Edward Island	**20.0**	**(3.2)**	**80.0**	**(3.2)**	**U‡**	**(3.7)**
United States	20.1	(1.3)	79.9	(1.3)	14.2	(1.1)
United Kingdom	20.1	(0.8)	79.9	(0.8)	10.1	(0.6)
New Zealand	20.7	(0.8)	79.3	(0.8)	13.1	(0.7)
Australia	21.2	(0.6)	78.8	(0.6)	12.4	(0.6)
Czech Republic	21.3	(0.9)	78.7	(0.9)	8.1	(0.5)
Italy	21.4	(1.0)	78.6	(1.0)	5.0	(0.5)
Finland	21.4	(0.8)	78.6	(0.8)	8.8	(0.6)
Manitoba	**22.1**	**(1.4)**	**77.9**	**(1.4)**	**8.4**	**(1.0)**
Poland	22.2	(1.1)	77.8	(1.1)	8.8	(0.7)
Saskatchewan	**22.4**	**(1.5)**	**77.6**	**(1.5)**	**7.3**	**(1.1)**
Croatia	22.7	(1.0)	77.3	(1.0)	4.2	(0.5)
Latvia	22.8	(1.0)	77.2	(1.0)	4.2	(0.5)
Vietnam	23.0	(1.7)	77.0	(1.7)	1.2	(0.3)
Nova Scotia	**23.0**	**(2.1)**	**77.0**	**(2.1)**	**9.9**	**(1.4)**
Portugal	23.1	(1.1)	76.9	(1.1)	4.7	(0.4)
Sweden	24.3	(0.9)	75.7	(0.9)	10.2	(0.6)
Spain	24.4	(0.7)	75.6	(0.7)	5.3	(0.3)
Switzerland	24.6	(0.9)	75.4	(0.9)	8.6	(0.6)
Lithuania	24.9	(0.9)	75.1	(0.9)	4.7	(0.4)
Newfoundland and Labrador	**25.1**	**(2.5)**	**74.9**	**(2.5)**	**7.7**	**(1.4)**
Belgium	25.3	(0.9)	74.7	(0.9)	7.3	(0.5)
Austria	25.3	(1.1)	74.7	(1.1)	7.7	(0.6)
Germany	25.5	(1.2)	74.5	(1.2)	8.2	(0.6)
Hungary	25.9	(1.1)	74.1	(1.1)	5.5	(0.6)
Slovenia	26.1	(0.6)	73.9	(0.6)	4.4	(0.4)
France	26.9	(1.1)	73.1	(1.1)	7.1	(0.6)
Norway	27.5	(0.9)	72.5	(0.9)	8.7	(0.5)
New Brunswick	**27.6**	**(1.9)**	**72.4**	**(1.9)**	**6.8**	**(1.0)**
Türkiye	29.3	(1.0)	70.7	(1.0)	1.9	(0.2)
Israel	29.6	(1.2)	70.4	(1.2)	10.5	(0.7)
Chile	33.7	(1.1)	66.3	(1.1)	2.5	(0.3)
Netherlands	34.6	(1.7)	65.4	(1.7)	7.0	(0.5)
Slovak Republic	35.4	(1.3)	64.6	(1.3)	3.4	(0.3)

Proportion of students who performed below Level 2, at Level 2 or above, and at Levels 5 and 6: READING

Country, province, or OECD average	Proficiency levels					
	Below Level 2		Level 2 or above		Levels 5 and 6	
	%	Standard error	%	Standard error	%	Standard error
Malta	36.3	(0.9)	63.7	(0.9)	4.5	(0.5)
Serbia	36.4	(1.2)	63.6	(1.2)	1.8	(0.4)
Greece	37.6	(1.3)	62.4	(1.3)	2.0	(0.2)
Iceland	39.7	(0.9)	60.3	(0.9)	2.7	(0.3)
Ukrainian regions (18 of 27)	40.9	(1.9)	59.1	(1.9)	1.5	(0.3)
Uruguay	41.1	(1.1)	58.9	(1.1)	2.1	(0.3)
Romania	41.7	(1.8)	58.3	(1.8)	2.0	(0.4)
Brunei Darussalam	42.2	(0.6)	57.8	(0.6)	2.0	(0.2)
Mexico	47.0	(1.5)	53.0	(1.5)	0.6	(0.2)
Costa Rica	47.1	(1.4)	52.9	(1.4)	0.8	(0.2)
Qatar	47.3	(0.8)	52.7	(0.8)	2.9	(0.3)
United Arab Emirates	48.0	(0.6)	52.0	(0.6)	5.0	(0.2)
Moldova	48.8	(1.3)	51.2	(1.3)	0.5	(0.2)
Jamaica	50.0	(1.9)	50.0	(1.9)	1.0	(0.3)
Brazil	50.3	(1.0)	49.7	(1.0)	1.8	(0.2)
Peru	50.4	(1.3)	49.6	(1.3)	0.7	(0.2)
Colombia	51.4	(1.8)	48.6	(1.8)	1.1	(0.2)
Montenegro	52.9	(0.9)	47.1	(0.9)	0.6	(0.1)
Bulgaria	52.9	(1.5)	47.1	(1.5)	2.2	(0.4)
Argentina	54.5	(1.3)	45.5	(1.3)	1.0	(0.2)
Panama	57.8	(1.7)	42.2	(1.7)	0.8‡	(0.3)
Malaysia	58.1	(1.4)	41.9	(1.4)	U‡	(0.1)
Cyprus	60.6	(1.2)	39.4	(1.2)	1.4	(0.1)
Saudi Arabia	62.6	(1.1)	37.4	(1.1)	U‡	(0.1)
Kazakhstan	63.7	(0.9)	36.3	(0.9)	0.5	(0.1)
Mongolia	64.1	(1.2)	35.9	(1.2)	U‡	(0.0)
Thailand	65.4	(1.4)	34.6	(1.4)	U	(0.1)
Paraguay	66.2	(1.2)	33.8	(1.2)	U‡	(0.0)
Georgia	66.9	(1.1)	33.1	(1.1)	U‡	(0.1)
Guatemala	68.4	(1.3)	31.6	(1.3)	U‡	(0.0)
Baku (Azerbaijan)	69.2	(1.1)	30.8	(1.1)	U‡	(0.0)
El Salvador	72.0	(1.3)	28.0	(1.3)	U‡	(0.1)
North Macedonia	73.6	(0.6)	26.4	(0.6)	U‡	(0.0)
Albania	73.7	(1.0)	26.3	(1.0)	U‡	(0.1)
Indonesia	74.5	(1.5)	25.5	(1.5)	U‡	(0.0)
Dominican Republic	75.4	(1.1)	24.6	(1.1)	U‡	(0.0)
Philippines	76.3	(1.6)	23.7	(1.6)	U‡	(0.1)
Palestinian Authority	77.1	(1.0)	22.9	(1.0)	U‡	(0.0)
Jordan	79.6	(1.2)	20.4	(1.2)	U‡	(0.0)
Morocco	81.1	(1.8)	18.9	(1.8)	U‡	(0.0)
Kosovo	83.1	(0.7)	16.9	(0.7)	U‡	(0.0)
Uzbekistan	85.9	(0.9)	14.1	(0.9)	U‡	(0.0)
Cambodia	92.1	(0.8)	7.9	(0.8)	0.0‡	(0.0)
OECD average	**26.3**	**(0.2)**	**73.7**	**(0.2)**	**7.2**	**(0.1)**

‡ There are fewer than 30 observations.
U Too unreliable to be published.
Note: Countries and provinces have been sorted in descending order by the total percentage of students who attained Level 2 or higher. See OECD (2023a) for notes regarding Israeli statistical data, Cyprus, and Kosovo.

Table B.3.2a

Percentage of students at each proficiency level: SCIENCE

Country, province, or OECD average	Below Level 1a		Level 1a		Level 2		Level 3		Level 4		Level 5		Level 6	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Macao (China)	1.4	(0.2)	6.1	(0.5)	16.6	(0.8)	30.5	(0.9)	30.7	(0.9)	12.7	(0.6)	2.0	(0.3)
Singapore	1.6	(0.2)	6.2	(0.5)	13.9	(0.6)	24.2	(0.6)	29.7	(0.7)	18.9	(0.6)	5.6	(0.4)
Japan	1.5	(0.3)	6.5	(0.6)	17.0	(0.9)	27.7	(0.9)	29.3	(1.0)	15.0	(0.9)	3.0	(0.4)
Estonia	1.6	(0.3)	8.5	(0.6)	21.9	(0.8)	31.7	(0.9)	24.7	(0.8)	9.8	(0.6)	1.8	(0.2)
Chinese Taipei	3.0	(0.4)	9.1	(0.6)	17.2	(0.8)	26.4	(1.0)	26.6	(1.1)	14.2	(1.0)	3.6	(0.6)
Alberta	**3.0**	**(0.9)**	**9.2**	**(1.4)**	**19.5**	**(1.8)**	**27.4**	**(1.9)**	**23.1**	**(2.0)**	**13.2**	**(1.6)**	**4.5**	**(1.1)**
Hong Kong (China)	2.8	(0.4)	10.0	(0.7)	20.8	(0.9)	30.2	(1.1)	25.4	(0.9)	9.3	(0.6)	1.4	(0.2)
Korea	4.2	(0.6)	9.5	(0.8)	18.4	(0.8)	27.0	(0.8)	25.2	(1.1)	12.7	(0.9)	3.0	(0.5)
British Columbia	**3.3**	**(0.5)**	**11.1**	**(1.2)**	**21.6**	**(1.5)**	**28.9**	**(1.7)**	**22.8**	**(1.4)**	**9.8**	**(1.1)**	**2.6**	**(0.6)**
Ontario	**3.5**	**(0.4)**	**11.5**	**(0.8)**	**21.9**	**(1.1)**	**28.4**	**(1.3)**	**22.1**	**(1.1)**	**9.7**	**(0.8)**	**2.8**	**(0.4)**
Quebec	**4.3**	**(0.6)**	**10.9**	**(0.9)**	**22.5**	**(1.2)**	**28.9**	**(1.2)**	**23.1**	**(1.4)**	**8.8**	**(1.0)**	**1.5**	**(0.3)**
Canada	**3.8**	**(0.3)**	**11.5**	**(0.5)**	**22.3**	**(0.6)**	**28.5**	**(0.7)**	**22.0**	**(0.7)**	**9.4**	**(0.4)**	**2.5**	**(0.2)**
Ireland	3.5	(0.4)	12.1	(0.7)	25.4	(0.9)	30.4	(0.8)	21.0	(0.7)	6.8	(0.4)	0.8	(0.2)
Latvia	2.7	(0.4)	13.8	(0.7)	29.8	(0.9)	30.9	(0.9)	17.7	(0.8)	4.6	(0.5)	0.6	(0.1)
Slovenia	3.9	(0.4)	13.9	(0.5)	25.7	(0.9)	29.0	(0.9)	19.5	(0.7)	6.9	(0.4)	1.1	(0.2)
Finland	5.2	(0.3)	12.8	(0.6)	21.6	(0.7)	26.6	(0.8)	21.2	(0.7)	9.9	(0.5)	2.8	(0.3)
Saskatchewan	**3.8**	**(0.6)**	**14.4**	**(1.2)**	**27.8**	**(1.3)**	**29.8**	**(1.8)**	**17.9**	**(1.2)**	**5.2**	**(0.7)**	**1.1‡**	**(0.3)**
Poland	4.8	(0.5)	13.8	(0.9)	24.3	(1.0)	28.9	(1.0)	20.1	(0.8)	7.0	(0.5)	1.0	(0.2)
Prince Edward Island	**U‡**	**(1.8)**	**14.3**	**(3.5)**	**25.9**	**(3.1)**	**28.0**	**(4.3)**	**19.8**	**(4.4)**	**U‡**	**(2.3)**	**U‡**	**(1.2)**
Switzerland	4.4	(0.5)	14.8	(0.6)	23.7	(0.8)	26.6	(0.8)	21.0	(0.8)	8.1	(0.5)	1.5	(0.2)
Manitoba	**4.8**	**(0.8)**	**14.5**	**(1.3)**	**26.8**	**(1.3)**	**29.7**	**(1.4)**	**17.9**	**(1.2)**	**5.2**	**(0.7)**	**1.0‡**	**(0.3)**
Denmark	4.6	(0.5)	14.9	(0.8)	26.4	(1.1)	28.7	(0.9)	18.5	(0.9)	6.0	(0.6)	1.0	(0.3)
Australia	5.8	(0.4)	13.7	(0.5)	22.2	(0.6)	25.3	(0.7)	20.3	(0.5)	9.6	(0.4)	3.0	(0.4)
Czech Republic	4.8	(0.4)	15.1	(0.7)	24.9	(0.8)	27.4	(1.0)	18.9	(0.8)	7.5	(0.5)	1.5	(0.3)
United Kingdom	5.7	(0.5)	14.4	(0.6)	24.3	(0.7)	26.4	(0.7)	19.2	(0.7)	8.1	(0.5)	2.0	(0.3)
New Zealand	6.1	(0.5)	14.3	(0.7)	21.8	(0.6)	25.9	(0.8)	20.0	(0.8)	9.8	(0.6)	2.2	(0.3)
Nova Scotia	**5.2**	**(0.9)**	**15.8**	**(1.3)**	**26.4**	**(1.7)**	**27.1**	**(1.8)**	**17.9**	**(1.5)**	**6.3**	**(0.9)**	**1.3‡**	**(0.4)**
Newfoundland and Labrador	**4.9**	**(1.0)**	**16.0**	**(1.7)**	**25.4**	**(1.8)**	**29.4**	**(2.2)**	**17.4**	**(1.8)**	**5.6**	**(1.1)**	**U‡**	**(0.5)**
Vietnam	4.1	(0.7)	16.9	(1.1)	34.4	(1.1)	31.2	(1.2)	11.5	(0.9)	1.7	(0.3)	U‡	(0.1)
Spain	5.4	(0.3)	15.9	(0.5)	27.8	(0.6)	29.5	(0.7)	16.5	(0.5)	4.4	(0.3)	0.5	(0.1)
Lithuania	5.1	(0.5)	16.7	(0.8)	28.4	(0.9)	28.1	(0.8)	16.3	(0.7)	4.8	(0.5)	0.7	(0.1)
Portugal	5.3	(0.5)	16.5	(0.8)	27.8	(0.9)	28.2	(0.9)	17.3	(0.8)	4.4	(0.4)	0.5‡	(0.1)
United States	6.6	(0.8)	15.3	(1.0)	22.4	(0.8)	24.8	(0.9)	19.9	(1.0)	8.8	(0.8)	2.2	(0.4)
Belgium	7.3	(0.6)	15.2	(0.7)	23.3	(0.7)	27.4	(0.7)	19.8	(0.7)	6.4	(0.5)	0.7	(0.1)
Croatia	5.6	(0.5)	16.9	(0.7)	28.5	(0.8)	27.4	(0.9)	16.2	(0.7)	4.9	(0.4)	0.5	(0.1)
New Brunswick	**6.5**	**(1.0)**	**16.1**	**(1.3)**	**28.3**	**(1.7)**	**27.2**	**(1.9)**	**15.6**	**(1.7)**	**5.2**	**(0.9)**	**U‡**	**(0.4)**
Austria	6.7	(0.6)	16.0	(0.7)	23.6	(0.7)	26.7	(0.9)	19.2	(0.8)	6.9	(0.4)	1.0	(0.2)
Germany	7.4	(0.7)	15.5	(0.9)	24.0	(0.8)	25.4	(0.8)	18.0	(0.8)	7.8	(0.6)	1.9	(0.3)
Hungary	6.1	(0.5)	16.8	(0.9)	25.9	(1.0)	27.3	(1.0)	17.7	(0.9)	5.5	(0.5)	0.6	(0.1)
Sweden	7.5	(0.6)	16.2	(0.8)	22.1	(0.8)	25.0	(0.9)	19.2	(0.7)	8.2	(0.5)	1.8	(0.2)
France	7.6	(0.7)	16.2	(0.9)	23.8	(0.8)	26.8	(0.9)	17.9	(0.8)	6.7	(0.4)	1.1	(0.2)
Italy	6.5	(0.6)	17.4	(0.9)	27.9	(1.0)	28.3	(0.8)	15.6	(0.9)	3.9	(0.4)	U	(0.1)
Türkiye	5.2	(0.4)	19.5	(0.7)	29.4	(0.7)	26.7	(0.8)	15.2	(0.6)	3.7	(0.3)	U‡	(0.1)

Percentage of students at each proficiency level: SCIENCE

Country, province, or OECD average	Below Level 1a		Level 1a		Level 2		Level 3		Level 4		Level 5		Level 6	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Netherlands	9.0	(1.0)	18.3	(1.0)	21.3	(1.0)	22.0	(1.1)	18.8	(1.0)	8.9	(0.6)	1.6	(0.2)
Norway	9.4	(0.5)	18.2	(0.7)	23.8	(0.7)	24.5	(0.8)	17.0	(0.8)	5.8	(0.4)	1.2	(0.2)
Malta	11.3	(0.7)	19.0	(0.9)	25.3	(0.9)	25.1	(0.9)	14.8	(0.7)	4.1	(0.5)	U‡	(0.2)
Slovak Republic	11.9	(0.9)	18.7	(0.8)	26.3	(1.1)	24.7	(1.1)	14.0	(0.8)	3.8	(0.4)	0.5	(0.1)
Israel	12.8	(0.9)	19.3	(0.8)	24.0	(0.9)	23.2	(0.9)	15.0	(0.8)	4.9	(0.5)	0.9	(0.2)
Ukrainian regions (18 of 27)	10.2	(1.2)	23.8	(1.2)	30.3	(1.1)	23.9	(1.2)	9.7	(0.7)	2.0	(0.4)	U‡	(0.1)
Serbia	10.6	(0.7)	24.5	(0.9)	30.7	(0.9)	22.5	(0.9)	9.5	(0.6)	2.0	(0.5)	U‡	(0.1)
Iceland	12.5	(0.8)	23.4	(1.1)	28.6	(1.1)	22.9	(1.0)	10.4	(0.8)	2.1	(0.4)	U‡	(0.1)
Chile	12.0	(0.8)	24.4	(0.8)	30.3	(0.9)	22.3	(0.8)	9.2	(0.5)	1.7	(0.2)	U‡	(0.0)
Brunei Darussalam	12.0	(0.6)	25.1	(0.7)	28.6	(0.8)	21.7	(0.7)	10.2	(0.6)	2.2	(0.3)	U‡	(0.1)
Greece	12.7	(1.0)	24.6	(0.9)	30.1	(0.9)	22.4	(0.8)	8.7	(0.7)	1.4	(0.3)	U‡	(0.0)
Uruguay	14.1	(0.9)	26.4	(0.8)	29.3	(0.9)	20.6	(0.7)	8.1	(0.5)	1.5	(0.2)	U‡	(0.1)
Qatar	16.1	(0.6)	27.6	(0.6)	27.7	(0.7)	17.8	(0.7)	8.0	(0.4)	2.4	(0.3)	U‡	(0.1)
Romania	18.1	(1.2)	25.9	(1.1)	27.0	(0.9)	19.6	(1.1)	8.0	(0.7)	1.3	(0.2)	U‡	(0.1)
United Arab Emirates	20.2	(0.7)	24.8	(0.6)	23.2	(0.5)	17.7	(0.4)	10.2	(0.3)	3.3	(0.2)	0.6	(0.1)
Kazakhstan	11.6	(0.6)	33.6	(0.7)	34.6	(0.7)	15.2	(0.6)	4.2	(0.3)	0.8	(0.1)	U‡	(0.0)
Malaysia	15.5	(0.9)	32.4	(1.0)	32.6	(1.0)	15.7	(0.8)	3.3	(0.5)	U‡	(0.2)	U‡	(0.1)
Bulgaria	19.4	(1.0)	28.6	(1.0)	26.2	(0.9)	17.4	(0.9)	6.9	(0.6)	1.4	(0.3)	U‡	(0.1)
Moldova	16.3	(0.9)	32.3	(0.9)	30.1	(0.9)	16.0	(0.8)	4.8	(0.5)	0.5‡	(0.1)	U‡	(0.0)
Mongolia	15.4	(0.9)	34.3	(1.1)	32.5	(0.9)	14.7	(0.8)	2.9	(0.4)	U‡	(0.1)	0.0‡	(0.0)
Costa Rica	17.3	(1.0)	33.4	(1.2)	31.2	(0.9)	14.2	(0.9)	3.4	(0.4)	0.4‡	(0.1)	U‡	(0.0)
Mexico	15.8	(1.0)	35.0	(1.3)	32.7	(1.1)	13.9	(0.8)	2.5	(0.4)	U‡	(0.1)	U‡	(0.0)
Colombia	19.5	(1.2)	31.9	(1.0)	28.3	(1.0)	15.0	(1.0)	4.6	(0.5)	0.7	(0.1)	U‡	(0.0)
Cyprus	26.0	(0.7)	25.8	(0.7)	23.0	(0.9)	16.2	(0.6)	7.0	(0.4)	1.8	(0.3)	0.2	(0.1)
Peru	20.4	(1.1)	32.2	(0.9)	28.2	(0.8)	14.8	(0.7)	4.0	(0.4)	0.5	(0.1)	U‡	(0.0)
Thailand	17.9	(1.2)	35.2	(1.1)	28.8	(1.0)	13.8	(0.8)	3.8	(0.5)	0.6	(0.2)	U‡	(0.0)
Argentina	20.9	(1.0)	33.0	(0.9)	27.5	(0.9)	13.8	(0.7)	4.1	(0.4)	0.5	(0.1)	U‡	(0.0)
Jamaica	25.3	(1.5)	29.4	(1.2)	25.5	(1.1)	13.8	(1.1)	5.2	(0.7)	0.9‡	(0.2)	U‡	(0.0)
Montenegro	21.9	(0.8)	33.0	(1.2)	27.4	(0.7)	14.1	(0.7)	3.3	(0.3)	U‡	(0.1)	U‡	(0.0)
Brazil	24.2	(0.7)	31.2	(0.7)	25.4	(0.6)	13.2	(0.6)	4.8	(0.4)	1.0	(0.2)	0.2	(0.1)
Panama	28.5	(1.3)	33.6	(1.3)	23.7	(1.0)	10.8	(1.0)	2.8	(0.6)	U‡	(0.2)	U‡	(0.0)
Saudi Arabia	21.6	(1.1)	40.6	(1.1)	28.2	(1.1)	8.4	(0.6)	1.1	(0.2)	U‡	(0.0)	U‡	(0.0)
Georgia	28.3	(1.0)	36.3	(0.9)	24.0	(0.8)	9.0	(0.6)	2.2	(0.4)	U‡	(0.1)	U‡	(0.0)
North Macedonia	31.5	(0.8)	33.8	(0.8)	23.3	(0.6)	9.4	(0.5)	1.8	(0.2)	U‡	(0.1)	U‡	(0.0)
Indonesia	24.7	(1.3)	41.1	(1.1)	26.3	(1.1)	7.0	(0.6)	0.8	(0.2)	U‡	(0.0)	0.0‡	(0.0)
Baku (Azerbaijan)	29.7	(1.1)	36.1	(0.8)	24.2	(0.9)	8.4	(0.5)	1.4	(0.3)	U‡	(0.1)	U‡	(0.0)
Albania	32.5	(1.3)	34.8	(1.0)	22.5	(0.8)	8.1	(0.6)	1.8	(0.3)	U‡	(0.1)	U‡	(0.0)
Jordan	31.2	(1.2)	37.7	(0.8)	23.3	(0.9)	6.8	(0.6)	0.9	(0.2)	U‡	(0.0)	U‡	(0.0)
El Salvador	31.5	(1.5)	39.4	(1.0)	21.2	(1.0)	6.8	(0.6)	1.0	(0.2)	U‡	(0.1)	0.0‡	(0.0)
Paraguay	35.1	(1.3)	36.0	(1.1)	21.5	(0.9)	6.3	(0.5)	1.0	(0.2)	U‡	(0.0)	0.0‡	(0.0)
Palestinian Authority	33.3	(1.2)	39.1	(0.9)	21.3	(0.9)	5.6	(0.5)	0.7	(0.2)	U‡	(0.0)	0.0‡	(0.0)
Guatemala	28.6	(1.2)	44.4	(1.1)	21.7	(0.9)	4.7	(0.7)	U‡	(0.2)	U‡	(0.0)	0.0‡	(0.0)

Percentage of students at each proficiency level: SCIENCE

Country, province, or OECD average	Proficiency levels													
	Below Level 1a		Level 1a		Level 2		Level 3		Level 4		Level 5		Level 6	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Morocco	34.9	(1.9)	40.6	(1.1)	19.5	(1.3)	4.6	(0.7)	0.4‡	(0.1)	U‡	(0.0)	0.0‡	(0.0)
Dominican Republic	37.6	(1.2)	39.0	(1.0)	18.7	(0.9)	4.2	(0.4)	0.4‡	(0.1)	U‡	(0.0)	0.0‡	(0.0)
Philippines	44.2	(1.5)	33.1	(0.9)	16.0	(0.9)	5.6	(0.7)	1.0	(0.2)	U‡	(0.1)	U‡	(0.0)
Kosovo	40.0	(1.1)	39.3	(1.1)	16.7	(0.7)	3.7	(0.4)	U‡	(0.1)	U‡	(0.0)	0.0‡	(0.0)
Uzbekistan	38.5	(1.2)	42.6	(0.9)	16.5	(0.9)	2.2	(0.3)	U‡	(0.1)	U‡	(0.0)	0.0‡	(0.0)
Cambodia	40.1	(1.6)	49.5	(1.2)	9.9	(1.0)	U‡	(0.2)	U‡	(0.0)	0.0‡	(0.0)	0.0‡	(0.0)
OECD average	**7.4**	**(0.1)**	**17.1**	**(0.1)**	**25.2**	**(0.1)**	**25.7**	**(0.1)**	**17.2**	**(0.1)**	**6.3**	**(0.1)**	**1.2**	**(0.0)**

SE Standard error
‡ There are fewer than 30 observations.
U Too unreliable to be published.
Note: Countries and provinces have been sorted in descending order by the total percentage of students who attained Level 2 or higher. See OECD (2023a) for notes regarding Israeli statistical data, Cyprus, and Kosovo.

Table B.3.2b

Proportion of students who performed below Level 2, at Level 2 or above, and at Levels 5 and 6: SCIENCE

Country, province, or OECD average	Proficiency levels					
	Below Level 2		Level 2 or above		Levels 5 and 6	
	%	Standard error	%	Standard error	%	Standard error
Macao (China)	7.4	(0.5)	92.6	(0.5)	14.7	(0.7)
Singapore	7.8	(0.4)	92.2	(0.4)	24.4	(0.6)
Japan	8.0	(0.7)	92.0	(0.7)	18.0	(1.0)
Estonia	10.1	(0.6)	89.9	(0.6)	11.6	(0.7)
Chinese Taipei	12.1	(0.8)	87.9	(0.8)	17.8	(1.2)
Alberta	**12.2**	**(1.6)**	**87.8**	**(1.6)**	**17.8**	**(2.0)**
Hong Kong (China)	12.8	(0.9)	87.2	(0.9)	10.7	(0.7)
Korea	13.7	(1.1)	86.3	(1.1)	15.7	(1.1)
British Columbia	**14.3**	**(1.5)**	**85.7**	**(1.5)**	**12.4**	**(1.4)**
Ontario	**15.1**	**(1.0)**	**84.9**	**(1.0)**	**12.5**	**(1.0)**
Quebec	**15.2**	**(1.2)**	**84.8**	**(1.2)**	**10.3**	**(1.1)**
Canada	**15.3**	**(0.5)**	**84.7**	**(0.5)**	**12.0**	**(0.6)**
Ireland	15.6	(0.8)	84.4	(0.8)	7.5	(0.5)
Latvia	16.5	(0.8)	83.5	(0.8)	5.2	(0.5)
Slovenia	17.8	(0.7)	82.2	(0.7)	8.0	(0.5)
Finland	18.0	(0.8)	82.0	(0.8)	12.7	(0.6)
Saskatchewan	**18.1**	**(1.3)**	**81.9**	**(1.3)**	**6.3**	**(0.8)**
Poland	18.6	(1.0)	81.4	(1.0)	8.0	(0.6)
Prince Edward Island	**19.0**	**(4.2)**	**81.0**	**(4.2)**	**7.2**	**(2.9)**
Switzerland	19.2	(0.8)	80.8	(0.8)	9.6	(0.5)
Manitoba	**19.3**	**(1.6)**	**80.7**	**(1.6)**	**6.3**	**(0.8)**
Denmark	19.5	(1.0)	80.5	(1.0)	7.0	(0.6)
Australia	19.5	(0.6)	80.5	(0.6)	12.6	(0.6)
Czech Republic	19.9	(0.9)	80.1	(0.9)	9.0	(0.6)
United Kingdom	20.1	(0.8)	79.9	(0.8)	10.1	(0.7)
New Zealand	20.4	(0.8)	79.6	(0.8)	12.0	(0.6)
Nova Scotia	**21.0**	**(1.5)**	**79.0**	**(1.5)**	**7.6**	**(1.0)**
Newfoundland and Labrador	**21.0**	**(2.0)**	**79.0**	**(2.0)**	**6.8**	**(1.1)**
Vietnam	21.1	(1.5)	78.9	(1.5)	1.9	(0.4)
Spain	21.3	(0.6)	78.7	(0.6)	4.9	(0.3)
Lithuania	21.8	(0.9)	78.2	(0.9)	5.5	(0.6)
Portugal	21.8	(1.1)	78.2	(1.1)	4.9	(0.5)
United States	21.9	(1.3)	78.1	(1.3)	11.0	(1.0)
Belgium	22.4	(0.9)	77.6	(0.9)	7.2	(0.5)
Croatia	22.4	(1.0)	77.6	(1.0)	5.4	(0.5)
New Brunswick	**22.6**	**(1.5)**	**77.4**	**(1.5)**	**6.3**	**(1.0)**
Austria	22.7	(1.0)	77.3	(1.0)	7.9	(0.5)
Germany	22.9	(1.2)	77.1	(1.2)	9.7	(0.7)
Hungary	22.9	(1.1)	77.1	(1.1)	6.2	(0.6)
Sweden	23.7	(0.9)	76.3	(0.9)	10.0	(0.6)
France	23.8	(1.1)	76.2	(1.1)	7.7	(0.5)
Italy	23.9	(1.2)	76.1	(1.2)	4.2	(0.5)
Türkiye	24.7	(1.0)	75.3	(1.0)	4.0	(0.3)
Netherlands	27.3	(1.7)	72.7	(1.7)	10.5	(0.7)
Norway	27.6	(0.9)	72.4	(0.9)	7.0	(0.5)
Malta	30.3	(0.8)	69.7	(0.8)	4.6	(0.5)
Slovak Republic	30.6	(1.3)	69.4	(1.3)	4.3	(0.5)
Israel	32.1	(1.3)	67.9	(1.3)	5.8	(0.7)

Proportion of students who performed below Level 2, at Level 2 or above, and at Levels 5 and 6: SCIENCE

Country, province, or OECD average	Below Level 2		Level 2 or above		Levels 5 and 6	
	%	Standard error	%	Standard error	%	Standard error
Ukrainian regions (18 of 27)	34.0	(1.8)	66.0	(1.8)	2.1	(0.4)
Serbia	35.1	(1.2)	64.9	(1.2)	2.2	(0.6)
Iceland	35.9	(0.9)	64.1	(0.9)	2.3	(0.3)
Chile	36.4	(1.2)	63.6	(1.2)	1.8	(0.2)
Brunei Darussalam	37.1	(0.8)	62.9	(0.8)	2.4	(0.3)
Greece	37.3	(1.3)	62.7	(1.3)	1.5	(0.3)
Uruguay	40.5	(1.2)	59.5	(1.2)	1.5	(0.2)
Qatar	43.7	(0.8)	56.3	(0.8)	2.8	(0.3)
Romania	44.0	(1.8)	56.0	(1.8)	1.4	(0.2)
United Arab Emirates	45.1	(0.6)	54.9	(0.6)	3.9	(0.3)
Kazakhstan	45.1	(1.0)	54.9	(1.0)	0.9	(0.1)
Malaysia	47.9	(1.2)	52.1	(1.2)	U‡	(0.3)
Bulgaria	48.0	(1.5)	52.0	(1.5)	1.4	(0.3)
Moldova	48.7	(1.3)	51.3	(1.3)	0.5‡	(0.1)
Mongolia	49.7	(1.4)	50.3	(1.4)	U‡	(0.1)
Costa Rica	50.7	(1.4)	49.3	(1.4)	0.4‡	(0.1)
Mexico	50.8	(1.5)	49.2	(1.5)	U‡	(0.1)
Colombia	51.4	(1.6)	48.6	(1.6)	0.7	(0.2)
Cyprus	51.8	(1.0)	48.2	(1.2)	2.0	(0.3)
Peru	52.6	(1.3)	47.4	(1.3)	0.5	(0.1)
Thailand	53.0	(1.4)	47.0	(1.4)	0.6	(0.2)
Argentina	53.9	(1.3)	46.1	(1.3)	0.6	(0.1)
Jamaica	54.6	(1.9)	45.4	(1.9)	0.9‡	(0.2)
Montenegro	54.9	(0.8)	45.1	(0.8)	U‡	(0.1)
Brazil	55.4	(0.9)	44.6	(0.9)	1.2	(0.2)
Panama	62.1	(1.7)	37.9	(1.7)	U‡	(0.2)
Saudi Arabia	62.2	(1.2)	37.8	(1.2)	U‡	(0.0)
Georgia	64.6	(1.1)	35.4	(1.1)	U‡	(0.1)
North Macedonia	65.3	(0.6)	34.7	(0.6)	U‡	(0.1)
Indonesia	65.8	(1.5)	34.2	(1.5)	U‡	(0.0)
Baku (Azerbaijan)	65.9	(1.2)	34.1	(1.2)	U‡	(0.1)
Albania	67.4	(1.2)	32.6	(1.2)	U‡	(0.1)
Jordan	68.9	(1.3)	31.1	(1.3)	U‡	(0.0)
El Salvador	71.0	(1.3)	29.0	(1.3)	U‡	(0.1)
Paraguay	71.1	(1.1)	28.9	(1.1)	U‡	(0.0)
Palestinian Authority	72.4	(1.2)	27.6	(1.2)	U‡	(0.0)
Guatemala	73.0	(1.2)	27.0	(1.2)	U‡	(0.0)
Morocco	75.5	(1.9)	24.5	(1.9)	U‡	(0.0)
Dominican Republic	76.7	(1.2)	23.3	(1.2)	U‡	(0.0)
Philippines	77.2	(1.5)	22.8	(1.5)	U‡	(0.1)
Kosovo	79.3	(0.7)	20.7	(0.7)	U‡	(0.0)
Uzbekistan	81.1	(1.1)	18.9	(1.1)	U‡	(0.0)
Cambodia	89.6	(1.1)	10.4	(1.1)	0.0‡	(0.0)
OECD average	**24.5**	**(0.2)**	**75.5**	**(0.2)**	**7.5**	**(0.1)**

‡ There are fewer than 30 observations.
U Too unreliable to be published.
Note: Countries and provinces have been sorted in descending order by the total percentage of students who attained Level 2 or higher. See OECD (2023a) for notes regarding Israeli statistical data, Cyprus, and Kosovo.

Average scores and confidence intervals: READING

Country, province, or OECD average	Average	Standard error	Confidence interval - 95% lower limit	Confidence interval - 95% upper limit	Difference from Canadian average		Difference from OECD average	
					Average score difference	Standard error	Average score difference	Standard error
Singapore	543	(1.9)	539	546	35**	2.7	67***	1.9
Alberta	**525**	**(6.3)**	**512**	**537**	**17****	**5.8**	**49*****	**6.3**
Ireland	516	(2.3)	511	521	9**	3.1	40***	2.4
Japan	516	(3.2)	510	522	9**	3.7	40***	3.2
Korea	515	(3.6)	508	523	8**	4.1	40***	3.7
Chinese Taipei	515	(3.3)	509	522	8**	3.8	40***	3.3
Ontario	**512**	**(3.8)**	**504**	**519**	**5**	**3.0**	**36*****	**3.8**
Estonia	511	(2.4)	506	516	4	3.1	35***	2.4
British Columbia	**511**	**(5.8)**	**499**	**522**	**4**	**5.3**	**35*****	**5.8**
Macao (China)	510	(1.3)	508	513	3	2.4	35***	1.4
Canada	**507**	**(2.0)**	**503**	**511**	**--**	**--**	**32*****	**2.0**
United States	504	(4.3)	495	512	-3	4.8	28***	4.3
Quebec	**501**	**(4.6)**	**492**	**510**	**-6**	**4.3**	**25*****	**4.7**
New Zealand	501	(2.1)	497	505	-6**	2.9	25***	2.2
Hong Kong (China)	500	(2.8)	494	505	-7**	3.5	24***	2.9
Australia	498	(2.0)	494	502	-9**	2.8	22***	2.1
Prince Edward Island	**496**	**(10.3)**	**476**	**517**	**-11**	**10.6**	**21*****	**10.3**
United Kingdom	494	(2.4)	490	499	-13**	3.1	19***	2.4
Finland	490	(2.3)	486	495	-17**	3.0	15***	2.3
Nova Scotia	**489**	**(6.2)**	**477**	**501**	**-18****	**5.9**	**13*****	**6.2**
Denmark	489	(2.6)	484	494	-18**	3.2	13***	2.6
Poland	489	(2.7)	483	494	-18**	3.4	13***	2.8
Czech Republic	489	(2.2)	484	493	-19**	3.0	13***	2.3
Sweden	487	(2.5)	482	492	-20**	3.2	11***	2.5
Manitoba	**486**	**(3.8)**	**478**	**493**	**-21****	**4.4**	**10*****	**3.8**
Saskatchewan	**484**	**(4.1)**	**476**	**492**	**-23****	**4.4**	**8*****	**4.1**
Switzerland	483	(2.3)	479	488	-24**	3.0	8***	2.3
Italy	482	(2.7)	476	487	-26**	3.3	6***	2.7
Austria	480	(2.7)	475	486	-27**	3.3	5	2.7
Germany	480	(3.6)	473	487	-27**	4.1	4	3.6
Belgium	479	(2.5)	474	484	-28**	3.2	3	2.6
Newfoundland and Labrador	**478**	**(7.1)**	**464**	**492**	**-29****	**7.3**	**3**	**7.1**
Portugal	477	(2.7)	471	482	-31**	3.3	1	2.7
Norway	477	(2.5)	472	482	-31**	3.2	1	2.6
Croatia	475	(2.4)	471	480	-32**	3.1	0	2.5
Latvia	475	(2.5)	470	479	-33**	3.1	-1	2.5
Spain	474	(1.7)	471	478	-33**	2.6	-1	1.7
France	474	(3.1)	468	480	-33**	3.6	-2	3.1
Israel	474	(3.5)	467	481	-33**	4.0	-2	3.5
Hungary	473	(2.8)	467	479	-34**	3.4	-3	2.9
Lithuania	472	(2.2)	468	476	-35**	3.0	-4	2.3
New Brunswick	**469**	**(4.0)**	**461**	**477**	**-38****	**4.6**	**-7**	**4.1**
Slovenia	469	(1.6)	465	472	-39**	2.6	-7***	1.7
Vietnam	462	(3.9)	454	470	-45**	4.4	-14***	4.0

Average scores and confidence intervals: READING

Country, province, or OECD average	Average	Standard error	Confidence interval - 95% lower limit	Confidence interval - 95% upper limit	Difference from Canadian average		Difference from OECD average	
					Average score difference	Standard error	Average score difference	Standard error
Netherlands	459	(4.3)	451	468	-48 **	4.7	-16 ***	4.3
Türkiye	456	(1.9)	452	460	-51**	2.7	-20***	1.9
Chile	448	(2.6)	443	453	-59**	3.3	-28***	2.7
Slovak Republic	447	(3.1)	441	453	-60**	3.7	-29***	3.1
Malta	445	(1.9)	442	449	-62**	2.7	-30***	2.0
Serbia	440	(2.8)	435	446	-67**	3.4	-35***	2.8
Greece	438	(2.8)	433	444	-69**	3.4	-37***	2.9
Iceland	436	(2.1)	432	440	-71**	2.9	-40***	2.1
Uruguay	430	(2.4)	426	435	-77**	3.1	-45***	2.4
Brunei Darussalam	429	(1.2)	427	432	-78**	2.3	-46***	1.2
Romania	428	(4.0)	421	436	-79**	4.4	-47***	4.0
Ukrainian regions (18 of 27)	428	(3.9)	420	435	-80**	4.4	-48***	4.0
Qatar	419	(1.4)	416	422	-88**	2.4	-56***	1.5
United Arab Emirates	417	(1.3)	415	420	-90**	2.4	-58***	1.4
Mexico	415	(2.9)	410	421	-92**	3.5	-60***	3.0
Costa Rica	415	(2.7)	410	420	-92**	3.3	-60***	2.7
Moldova	411	(2.5)	406	416	-96**	3.2	-65***	2.6
Brazil	410	(2.1)	406	414	-97**	2.9	-65***	2.1
Jamaica	410	(4.2)	401	418	-98**	4.6	-66***	4.2
Colombia	409	(3.8)	401	416	-98**	4.2	-67***	3.8
Peru	408	(2.7)	403	414	-99**	3.4	-67***	2.8
Montenegro	405	(1.3)	402	408	-102**	2.4	-71***	1.4
Bulgaria	404	(3.4)	398	411	-103**	3.9	-71***	3.4
Argentina	401	(2.6)	396	406	-106**	3.2	-75***	2.6
Panama	392	(3.4)	385	399	-115**	3.9	-84***	3.4
Malaysia	388	(2.7)	383	393	-119**	3.4	-88***	2.8
Kazakhstan	386	(1.7)	383	390	-121**	2.6	-89***	1.7
Saudi Arabia	383	(2.0)	379	386	-125**	2.8	-93***	2.0
Cyprus	381	(1.2)	379	383	-126**	2.3	-95***	1.2
Thailand	379	(2.8)	373	384	-128**	3.4	-97***	2.9
Mongolia	378	(2.3)	374	383	-129**	3.0	-97***	2.3
Guatemala	374	(2.4)	369	379	-133**	3.1	-101***	2.5
Georgia	374	(2.3)	369	378	-133**	3.0	-102***	2.3
Paraguay	373	(2.4)	368	378	-134**	3.1	-102***	2.5
Baku (Azerbaijan)	365	(2.5)	360	370	-142**	3.1	-110***	2.5
El Salvador	365	(2.8)	359	370	-142**	3.4	-111***	2.8
Indonesia	359	(2.9)	353	364	-149**	3.5	-117***	2.9
North Macedonia	359	(0.8)	357	360	-149**	2.1	-117***	0.9
Albania	358	(1.9)	355	362	-149**	2.8	-117***	2.0
Dominican Republic	351	(2.4)	347	356	-156**	3.1	-124***	2.5
Palestinian Authority	349	(2.0)	345	353	-158**	2.8	-126***	2.1
Philippines	347	(3.4)	340	353	-161**	3.9	-129***	3.4

Average scores and confidence intervals: READING

Country, province, or OECD average	Average	Standard error	Confidence interval - 95% lower limit	Confidence interval - 95% upper limit	Difference from Canadian average		Difference from OECD average	
					Average score difference	Standard error	Average score difference	Standard error
Kosovo	342	(1.1)	340	344	-165**	2.2	-133***	1.2
Jordan	342	(2.4)	337	347	-165**	3.1	-133***	2.4
Morocco	339	(4.0)	332	347	-168**	4.4	-136***	4.0
Uzbekistan	336	(2.0)	332	339	-172**	2.8	-140***	2.1
Cambodia	329	(2.1)	325	333	-178**	2.9	-147***	2.1
OECD average	**476**	**(0.5)**	**475**	**476**	**-32****	**2.0**	**--**	**--**

** Significant difference compared to Canada.
*** Significant difference compared to OECD average.
Note: Countries and provinces have been sorted in descending order by average scores. See OECD (2023a) for notes regarding Israeli statistical data, Cyprus, and Kosovo.

Average scores and confidence intervals: SCIENCE

Country, province, or OECD average	Average	Standard error	Confidence interval - 95% lower limit	Confidence interval - 95% upper limit	Difference from Canadian average		Difference from OECD average	
					Average score difference	Standard error	Average score difference	Standard error
Singapore	561	(1.3)	559	564	46**	2.3	77***	1.4
Japan	547	(2.8)	541	552	32**	3.4	62***	2.8
Macao (China)	543	(1.1)	541	545	28**	2.2	58***	1.2
Chinese Taipei	537	(3.3)	531	544	22**	3.8	53***	3.3
Alberta	**534**	**(6.8)**	**520**	**547**	**19****	**5.9**	**49****	**6.8**
Korea	528	(3.6)	521	535	13**	4.1	43***	3.6
Estonia	526	(2.1)	522	530	11**	2.8	41***	2.1
Hong Kong (China)	520	(2.8)	515	526	5	3.4	36***	2.8
British Columbia	**519**	**(4.9)**	**509**	**528**	**4**	**4.5**	**34****	**5.0**
Ontario	**517**	**(3.7)**	**510**	**524**	**2**	**3.0**	**32****	**3.7**
Canada	**515**	**(1.9)**	**511**	**519**	**--**	**--**	**30****	**2.0**
Quebec	**512**	**(4.2)**	**504**	**520**	**-3**	**4.1**	**27****	**4.2**
Finland	511	(2.5)	506	516	-4	3.2	26***	2.5
Australia	507	(1.9)	503	511	-8**	2.7	22***	2.0
New Zealand	504	(2.2)	500	509	-11**	3.0	19***	2.3
Ireland	504	(2.3)	499	508	-11**	3.0	19***	2.3
Switzerland	503	(2.2)	498	507	-12**	2.9	18***	2.2
Slovenia	500	(1.4)	497	503	-15**	2.4	15***	1.5
United Kingdom	500	(2.4)	495	504	-15**	3.1	15***	2.4
United States	499	(4.3)	491	508	-16**	4.7	15***	4.3
Poland	499	(2.5)	494	504	-16**	3.2	15***	2.6
Czech Republic	498	(2.3)	493	502	-17**	3.0	13***	2.3
Prince Edward Island	**496**	**(13.4)**	**470**	**522**	**-19**	**13.5**	**11**	**13.4**
Latvia	494	(2.3)	489	498	-21**	3.0	9***	2.3
Denmark	494	(2.5)	489	499	-21**	3.2	9***	2.5
Saskatchewan	**494**	**(3.1)**	**488**	**500**	**-21****	**3.6**	**9****	**3.1**
Sweden	494	(2.4)	489	498	-21**	3.0	9***	2.4
Germany	492	(3.5)	486	499	-23**	4.0	8***	3.5
Manitoba	**492**	**(4.0)**	**484**	**500**	**-23****	**4.3**	**8**	**4.0**
Nova Scotia	**492**	**(3.9)**	**484**	**500**	**-23****	**4.0**	**7**	**3.9**
Newfoundland and Labrador	**491**	**(5.2)**	**481**	**502**	**-24****	**5.4**	**7**	**5.2**
Austria	491	(2.7)	486	496	-24**	3.3	7***	2.7
Belgium	491	(2.5)	486	495	-24**	3.1	6***	2.5
Netherlands	488	(4.1)	480	496	-27**	4.5	4	4.1
France	487	(2.7)	482	493	-28**	3.3	3	2.8
Hungary	486	(2.7)	481	491	-29**	3.3	1	2.7
Spain	485	(1.6)	481	488	-30**	2.5	0	1.7
Lithuania	484	(2.3)	480	489	-31**	3.0	0	2.4
Portugal	484	(2.6)	479	489	-31**	3.2	0	2.6
New Brunswick	**483**	**(4.3)**	**474**	**491**	**-32****	**4.6**	**-2**	**4.3**
Croatia	483	(2.4)	478	487	-32**	3.1	-2	2.4
Norway	478	(2.4)	474	483	-37**	3.1	-6***	2.4
Italy	477	(3.2)	471	484	-38**	3.7	-7***	3.2
Türkiye	476	(1.9)	472	480	-39**	2.7	-9***	2.0

Average scores and confidence intervals: SCIENCE

Country, province, or OECD average	Average	Standard error	Confidence interval - 95% lower limit	Confidence interval - 95% upper limit	Difference from Canadian average		Difference from OECD average	
					Average score difference	Standard error	Average score difference	Standard error
Vietnam	472	(3.6)	465	479	-43**	4.1	-12***	3.6
Malta	466	(1.7)	462	469	-49**	2.6	-19***	1.8
Israel	465	(3.4)	458	471	-50**	3.9	-20***	3.4
Slovak Republic	462	(3.0)	456	468	-53**	3.6	-22***	3.1
Ukrainian regions (18 of 27)	450	(3.8)	443	458	-65**	4.2	-34***	3.8
Serbia	447	(2.9)	442	453	-68**	3.5	-37***	2.9
Iceland	447	(1.8)	443	450	-68**	2.6	-38***	1.8
Brunei Darussalam	446	(1.3)	443	448	-69**	2.3	-39***	1.4
Chile	444	(2.5)	439	448	-71**	3.1	-41***	2.5
Greece	441	(2.8)	435	446	-74**	3.4	-44***	2.8
Uruguay	435	(2.5)	431	440	-80**	3.1	-49***	2.5
Qatar	432	(1.5)	430	435	-83**	2.4	-52***	1.5
United Arab Emirates	432	(1.3)	429	435	-83**	2.3	-53***	1.4
Romania	428	(3.9)	420	435	-88**	4.3	-57***	3.9
Kazakhstan	423	(1.7)	420	427	-92**	2.6	-61***	1.8
Bulgaria	421	(3.2)	415	427	-94**	3.7	-64***	3.2
Moldova	417	(2.4)	412	422	-98**	3.1	-68***	2.4
Malaysia	416	(2.3)	412	421	-99**	3.0	-68***	2.4
Mongolia	412	(2.4)	408	417	-103**	3.1	-72***	2.4
Colombia	411	(3.3)	405	418	-104**	3.8	-74***	3.3
Costa Rica	411	(2.4)	406	416	-104**	3.1	-74***	2.5
Cyprus	411	(1.5)	408	414	-104**	2.4	-74***	1.5
Mexico	410	(2.4)	405	415	-105**	3.1	-75***	2.5
Thailand	409	(2.8)	404	415	-106**	3.4	-75***	2.8
Peru	408	(2.6)	403	413	-107**	3.3	-77***	2.7
Argentina	406	(2.5)	401	411	-109**	3.2	-78***	2.5
Montenegro	403	(1.2)	401	405	-112**	2.3	-82***	1.3
Brazil	403	(1.9)	399	407	-112**	2.7	-82***	2.0
Jamaica	403	(3.9)	395	411	-112**	4.3	-82***	3.9
Saudi Arabia	390	(2.0)	387	394	-125**	2.7	-94***	2.0
Panama	388	(3.5)	381	395	-127**	4.0	-97***	3.6
Georgia	384	(2.3)	380	389	-131**	3.0	-101***	2.3
Indonesia	383	(2.6)	378	388	-132**	3.2	-102***	2.6
Baku (Azerbaijan)	380	(2.2)	376	384	-135**	2.9	-105***	2.3
North Macedonia	380	(0.9)	378	382	-135**	2.1	-105***	1.0
Albania	376	(2.2)	372	380	-139**	2.9	-109***	2.3
Jordan	375	(2.4)	370	379	-140**	3.0	-110***	2.4
El Salvador	373	(2.6)	368	378	-142**	3.3	-112***	2.7
Guatemala	373	(2.2)	369	377	-142**	2.9	-112***	2.3
Palestinian Authority	369	(2.1)	365	373	-146**	2.8	-116***	2.1
Paraguay	368	(2.1)	364	372	-147**	2.8	-116***	2.1

Average scores and confidence intervals: SCIENCE

Country, province, or OECD average	Average	Standard error	Confidence interval - 95% lower limit	Confidence interval - 95% upper limit	Difference from Canadian average		Difference from OECD average	
					Average score difference	Standard error	Average score difference	Standard error
Morocco	365	(3.4)	359	372	-150**	3.9	-119***	3.4
Dominican Republic	360	(2.0)	356	364	-155**	2.8	-124***	2.1
Kosovo	357	(1.3)	355	359	-158**	2.3	-128***	1.3
Philippines	356	(3.1)	350	362	-159**	3.7	-128***	3.1
Uzbekistan	355	(2.0)	351	359	-160**	2.8	-130***	2.1
Cambodia	347	(2.1)	343	351	-168**	2.9	-138***	2.1
OECD average	**485**	**(0.4)**	**484**	**485**	**-30****	**2.0**	**--**	**--**

** Significant difference compared to Canada.
*** Significant difference compared to OECD average.
Note: Countries and provinces have been sorted in descending order by average scores. See OECD (2023a) for notes regarding Israeli statistical data, Cyprus, and Kosovo.

Table B.3.5

Variation in student performance between percentiles: READING

Country, province, or OECD average	Percentiles														Difference in score points between the 10th and 90th percentiles
	5th		10th		25th		50th		75th		90th		95th		
	Score	SE	Score	SE	Score	SE	Score	SE	Score	SE	Score	SE	Score	SE	
Cambodia	233	(3.0)	256	(2.6)	292	(2.4)	330	(2.3)	367	(2.5)	400	(3.3)	420	(3.7)	144
Uzbekistan	230	(2.5)	252	(2.1)	290	(2.1)	333	(2.4)	379	(2.3)	422	(3.1)	449	(3.6)	170
Kosovo	240	(2.7)	259	(2.0)	295	(1.5)	338	(1.5)	386	(1.7)	432	(2.7)	458	(3.1)	173
Guatemala	258	(3.9)	283	(2.9)	323	(2.6)	372	(2.7)	422	(3.2)	469	(4.3)	500	(5.5)	186
Indonesia	239	(3.4)	264	(3.1)	306	(2.9)	355	(3.1)	409	(3.9)	459	(4.1)	488	(4.6)	195
Morocco	221	(3.9)	245	(3.5)	285	(3.4)	336	(4.4)	391	(5.0)	440	(6.3)	470	(7.1)	195
North Macedonia	241	(2.3)	263	(1.6)	304	(1.6)	355	(1.2)	411	(1.8)	460	(2.0)	487	(2.5)	196
Vietnam	329	(6.8)	361	(6.2)	413	(4.6)	465	(3.9)	515	(3.9)	558	(4.7)	583	(5.7)	197
Jordan	223	(3.1)	245	(2.6)	287	(2.5)	339	(2.6)	395	(3.1)	443	(4.2)	472	(4.2)	198
Palestinian Authority	225	(3.0)	251	(2.6)	295	(2.3)	349	(2.5)	402	(2.4)	449	(2.8)	476	(3.1)	198
Mongolia	250	(3.9)	279	(3.4)	327	(2.5)	379	(2.4)	431	(2.7)	477	(3.0)	503	(3.5)	199
Saudi Arabia	256	(3.0)	281	(3.1)	328	(2.7)	381	(2.5)	437	(2.3)	485	(2.8)	515	(3.3)	204
El Salvador	246	(3.0)	268	(3.0)	309	(2.8)	358	(3.0)	416	(3.7)	473	(4.9)	506	(5.8)	204
Albania	235	(2.9)	260	(2.3)	302	(2.1)	354	(2.4)	411	(2.8)	465	(3.3)	498	(4.4)	205
Thailand	255	(3.4)	279	(3.0)	322	(3.0)	374	(3.1)	431	(3.8)	486	(5.2)	519	(6.2)	206
Kazakhstan	263	(2.6)	288	(2.0)	330	(1.6)	380	(1.8)	435	(2.1)	495	(3.2)	535	(3.9)	207
Dominican Republic	224	(3.0)	249	(2.5)	291	(2.6)	345	(3.0)	406	(3.3)	464	(4.1)	499	(5.2)	215
Georgia	245	(3.2)	270	(2.7)	314	(2.7)	370	(2.2)	429	(3.3)	486	(4.4)	519	(5.1)	216
Paraguay	242	(4.1)	268	(3.1)	315	(2.8)	370	(2.9)	430	(3.0)	484	(3.7)	515	(4.4)	216
Mexico	280	(4.0)	308	(3.7)	357	(3.1)	414	(3.2)	473	(3.9)	526	(4.8)	557	(5.6)	218
Philippines	226	(2.4)	246	(2.1)	283	(2.4)	335	(3.5)	403	(5.5)	466	(6.3)	502	(6.6)	220
Baku (Azerbaijan)	230	(3.3)	257	(2.7)	304	(2.8)	363	(2.8)	423	(2.8)	478	(3.4)	508	(3.7)	221
Costa Rica	277	(3.8)	305	(3.1)	354	(3.0)	414	(3.4)	474	(3.5)	528	(4.2)	558	(4.2)	222
Malaysia	248	(3.5)	275	(3.0)	326	(3.0)	389	(3.3)	449	(3.2)	499	(3.8)	529	(4.9)	224
Ireland	363	(4.7)	400	(3.8)	458	(3.2)	521	(2.6)	578	(2.8)	627	(2.6)	653	(2.9)	227
Türkiye	311	(3.4)	341	(2.9)	396	(3.1)	458	(2.6)	518	(2.3)	568	(2.6)	596	(3.0)	227
Moldova	269	(3.5)	297	(3.2)	349	(2.8)	410	(3.1)	472	(3.2)	525	(4.3)	555	(4.6)	228
Macao (China)	355	(4.0)	393	(2.9)	453	(2.4)	515	(1.5)	574	(1.9)	621	(2.6)	648	(3.2)	228
Montenegro	265	(2.6)	293	(2.2)	341	(2.1)	401	(2.1)	467	(2.0)	525	(2.8)	557	(3.6)	232
Croatia	324	(4.8)	358	(4.2)	415	(3.0)	477	(2.8)	539	(3.1)	590	(3.8)	619	(4.3)	232
Latvia	325	(5.0)	358	(3.9)	414	(3.4)	476	(2.7)	537	(3.0)	590	(3.5)	620	(4.1)	233
Serbia	292	(4.7)	323	(3.6)	377	(3.0)	440	(3.2)	504	(2.9)	558	(4.5)	589	(5.4)	236
Peru	261	(4.8)	291	(3.7)	343	(3.1)	406	(3.1)	472	(3.2)	529	(4.0)	559	(4.7)	238
Denmark	332	(4.1)	368	(3.5)	427	(3.4)	491	(3.1)	554	(3.0)	605	(3.6)	634	(3.6)	238
Argentina	257	(3.5)	285	(2.9)	334	(2.9)	397	(3.0)	462	(3.4)	523	(4.2)	559	(4.4)	239
Chile	296	(4.3)	329	(3.7)	384	(3.2)	448	(3.2)	513	(3.3)	568	(3.4)	599	(3.9)	239
Italy	322	(4.1)	357	(3.8)	420	(3.6)	487	(3.1)	547	(3.1)	597	(3.5)	626	(4.3)	240
Estonia	353	(4.7)	388	(4.0)	449	(3.3)	514	(2.6)	576	(2.4)	628	(3.0)	658	(3.7)	240
Ukrainian regions (18 of 27)	272	(6.4)	304	(6.6)	363	(5.8)	429	(4.4)	492	(3.8)	546	(4.1)	578	(5.4)	242
Portugal	316	(5.9)	352	(4.9)	413	(3.5)	480	(3.0)	543	(2.6)	594	(2.8)	623	(3.7)	243

Variation in student performance between percentiles: READING

| Country, province, or OECD average | Percentiles | | | | | | | | | | | | | | Difference in score points between the 10th and 90th percentiles |
| | 5th | | 10th | | 25th | | 50th | | 75th | | 90th | | 95th | | |
	Score	SE	Score	SE	Score	SE	Score	SE	Score	SE	Score	SE	Score	SE	
Panama	245	(4.6)	274	(3.8)	325	(3.8)	388	(4.6)	455	(4.5)	516	(5.4)	553	(6.6)	243
Colombia	262	(4.4)	291	(3.8)	342	(3.7)	404	(4.5)	473	(4.9)	534	(4.6)	568	(4.5)	243
Lithuania	312	(4.1)	348	(4.3)	408	(2.7)	474	(2.8)	538	(2.8)	592	(3.5)	623	(3.7)	244
Greece	283	(5.1)	315	(4.4)	372	(3.5)	439	(3.3)	505	(3.1)	561	(3.3)	592	(3.8)	245
Japan	348	(6.0)	387	(5.5)	451	(4.2)	522	(3.7)	585	(3.3)	636	(3.4)	665	(4.3)	249
Spain	309	(2.9)	346	(2.7)	409	(2.4)	478	(1.9)	542	(1.7)	597	(2.0)	628	(2.3)	250
Slovenia	301	(4.1)	340	(3.6)	404	(2.3)	473	(2.0)	536	(2.5)	591	(3.2)	621	(3.3)	252
Hong Kong (China)	324	(6.1)	366	(5.1)	437	(4.0)	507	(2.9)	569	(2.8)	621	(3.3)	649	(3.3)	255
Jamaica	254	(5.3)	284	(5.0)	340	(4.7)	407	(5.1)	480	(5.3)	540	(5.0)	573	(5.8)	255
Czech Republic	327	(4.2)	359	(3.5)	420	(3.1)	490	(2.7)	558	(2.7)	615	(3.0)	647	(3.4)	256
Saskatchewan	**317**	**(8.4)**	**353**	**(6.0)**	**416**	**(5.0)**	**488**	**(4.4)**	**554**	**(5.4)**	**611**	**(6.5)**	**643**	**(8.2)**	**257**
Brazil	253	(3.3)	284	(2.8)	339	(2.4)	407	(2.4)	478	(3.0)	544	(3.5)	581	(4.2)	260
Uruguay	267	(4.2)	299	(3.5)	359	(3.2)	432	(3.2)	502	(3.1)	559	(3.4)	592	(4.6)	260
Brunei Darussalam	267	(3.1)	300	(2.3)	358	(2.0)	429	(1.5)	500	(2.1)	561	(3.0)	591	(2.7)	261
Korea	335	(7.3)	379	(6.3)	451	(4.8)	523	(4.0)	587	(3.6)	641	(4.2)	672	(4.5)	262
Romania	263	(4.5)	297	(4.2)	357	(4.3)	430	(5.0)	500	(5.1)	559	(5.1)	591	(5.3)	262
Hungary	296	(4.9)	336	(4.3)	404	(4.2)	479	(3.9)	546	(3.3)	599	(3.5)	629	(4.4)	264
Manitoba	**314**	**(7.9)**	**352**	**(6.7)**	**417**	**(5.1)**	**487**	**(4.4)**	**556**	**(4.2)**	**617**	**(5.6)**	**652**	**(7.3)**	**265**
Newfoundland and Labrador	**307**	**(12.7)**	**347**	**(10.7)**	**406**	**(8.1)**	**478**	**(7.4)**	**549**	**(9.7)**	**612**	**(8.4)**	**646**	**(13.0)**	**266**
Prince Edward Island	**313**	**(21.5)**	**355**	**(17.8)**	**428**	**(13.8)**	**505**	**(11.9)**	**572**	**(14.5)**	**623**	**(20.8)**	**654**	**(23.3)**	**268**
Chinese Taipei	333	(6.4)	374	(5.3)	447	(4.4)	523	(3.6)	589	(3.7)	643	(4.5)	674	(4.3)	269
United Kingdom	318	(4.2)	357	(3.6)	425	(3.0)	496	(2.8)	567	(2.7)	626	(3.5)	661	(4.5)	269
Finland	306	(4.0)	350	(3.9)	421	(3.0)	497	(2.7)	565	(2.4)	619	(3.0)	650	(3.0)	270
Iceland	266	(4.7)	298	(4.3)	362	(2.9)	437	(3.4)	511	(3.0)	569	(3.8)	601	(3.8)	271
Singapore	355	(4.6)	400	(3.7)	474	(3.1)	551	(2.2)	619	(2.1)	671	(2.2)	702	(2.9)	271
Poland	308	(4.9)	347	(5.2)	418	(4.5)	495	(3.2)	563	(3.4)	619	(3.7)	650	(4.4)	272
Austria	304	(4.2)	340	(4.3)	406	(4.0)	485	(3.4)	557	(2.7)	613	(3.4)	644	(3.7)	273
Switzerland	308	(4.8)	345	(3.7)	409	(3.2)	486	(3.2)	560	(3.2)	618	(3.0)	650	(3.9)	273
Belgium	298	(4.6)	337	(3.9)	407	(3.4)	484	(3.2)	555	(2.7)	610	(3.2)	643	(3.8)	274
Nova Scotia	**316**	**(9.1)**	**351**	**(8.8)**	**415**	**(7.9)**	**488**	**(7.6)**	**564**	**(7.4)**	**625**	**(8.5)**	**661**	**(10.2)**	**274**
New Brunswick	**290**	**(9.4)**	**330**	**(8.2)**	**398**	**(6.6)**	**472**	**(5.6)**	**541**	**(5.3)**	**604**	**(6.8)**	**640**	**(8.8)**	**274**
Slovak Republic	269	(5.2)	306	(5.0)	372	(4.4)	451	(3.9)	524	(3.3)	580	(3.3)	611	(3.7)	275
Ontario	**328**	**(5.9)**	**371**	**(4.6)**	**438**	**(4.7)**	**516**	**(5.0)**	**587**	**(5.3)**	**646**	**(5.0)**	**683**	**(5.7)**	**276**
Germany	301	(5.6)	340	(5.1)	406	(4.5)	482	(4.5)	556	(3.7)	616	(3.8)	650	(4.6)	276
British Columbia	**329**	**(10.0)**	**370**	**(8.2)**	**439**	**(7.3)**	**514**	**(6.6)**	**587**	**(6.4)**	**646**	**(6.9)**	**681**	**(8.9)**	**276**
Qatar	254	(3.3)	284	(2.6)	342	(2.2)	415	(2.2)	492	(2.7)	561	(3.7)	601	(4.0)	277
France	292	(5.2)	331	(4.5)	400	(4.5)	479	(3.4)	549	(3.1)	608	(3.6)	641	(4.3)	277
Quebec	**318**	**(6.7)**	**358**	**(6.7)**	**429**	**(5.5)**	**506**	**(5.3)**	**577**	**(5.2)**	**635**	**(5.8)**	**669**	**(5.9)**	**277**
Canada	**324**	**(3.3)**	**365**	**(2.7)**	**434**	**(2.5)**	**511**	**(2.4)**	**583**	**(2.7)**	**643**	**(2.9)**	**680**	**(3.5)**	**278**

Variation in student performance between percentiles: READING

Country, province, or OECD average	5th		10th		25th		50th		75th		90th		95th		Difference in score points between the 10th and 90th percentiles
	Score	SE	Score	SE	Score	SE	Score	SE	Score	SE	Score	SE	Score	SE	
Cyprus	216	(2.6)	245	(2.2)	300	(1.8)	374	(2.3)	456	(2.3)	527	(2.7)	566	(3.7)	281
Bulgaria	237	(4.6)	268	(3.5)	326	(3.6)	399	(4.3)	479	(5.2)	550	(5.8)	589	(6.5)	282
New Zealand	316	(3.4)	354	(3.8)	424	(3.3)	504	(2.8)	580	(3.1)	641	(3.3)	673	(3.6)	287
Australia	310	(3.3)	351	(2.7)	422	(2.2)	502	(2.2)	576	(2.7)	638	(3.1)	674	(3.6)	288
Alberta	**333**	**(13.0)**	**378**	**(8.9)**	**449**	**(8.0)**	**528**	**(7.4)**	**605**	**(7.2)**	**666**	**(9.7)**	**702**	**(10.6)**	**288**
Sweden	296	(4.7)	337	(4.2)	410	(3.5)	493	(3.1)	568	(2.9)	627	(3.2)	660	(3.5)	290
United States	316	(5.7)	356	(6.1)	428	(5.6)	506	(4.5)	583	(5.0)	648	(5.5)	684	(6.4)	292
Malta	256	(4.6)	293	(4.0)	366	(3.4)	450	(2.8)	526	(2.4)	588	(3.5)	621	(4.4)	295
Norway	285	(3.8)	323	(3.7)	398	(3.7)	482	(3.2)	558	(3.1)	618	(3.0)	653	(4.1)	295
Netherlands	273	(4.9)	304	(6.6)	371	(7.3)	462	(5.7)	548	(4.5)	608	(3.8)	640	(3.7)	303
Israel	264	(5.3)	306	(4.6)	388	(5.0)	481	(4.3)	564	(3.4)	628	(3.7)	663	(4.3)	323
United Arab Emirates	221	(1.9)	256	(1.7)	324	(1.8)	414	(2.0)	508	(1.9)	584	(1.8)	626	(2.6)	328
OECD average	**305**	**(0.8)**	**342**	**(0.7)**	**406**	**(0.6)**	**479**	**(0.5)**	**547**	**(0.5)**	**603**	**(0.6)**	**634**	**(0.7)**	**262**

SE Standard error

Note: Countries and provinces have been sorted in ascending order by the difference in score points between the 10th and 90th percentiles. See OECD (2023a) for notes regarding Israeli statistical data, Cyprus, and Kosovo.

Variation in student performance between percentiles: SCIENCE

Country, province, or OECD average	Percentiles														Difference in score points between the 10th and 90th percentiles
	5th		10th		25th		50th		75th		90th		95th		
	Score	SE	Score	SE	Score	SE	Score	SE	Score	SE	Score	SE	Score	SE	
Cambodia	264	(3.6)	283	(2.5)	314	(2.1)	347	(2.2)	381	(2.5)	411	(3.2)	429	(4.2)	128
Uzbekistan	255	(2.7)	276	(2.3)	312	(1.9)	353	(2.2)	396	(2.8)	437	(3.0)	461	(3.8)	160
Guatemala	273	(3.4)	294	(2.6)	329	(2.3)	369	(2.3)	414	(2.7)	458	(4.4)	486	(6.1)	163
Kosovo	259	(2.1)	278	(1.6)	311	(1.5)	351	(1.5)	399	(1.9)	446	(3.2)	475	(4.0)	168
Morocco	264	(3.0)	283	(2.8)	318	(2.9)	360	(3.5)	408	(4.6)	456	(5.3)	485	(6.0)	173
Dominican Republic	254	(2.5)	275	(2.3)	312	(1.9)	356	(2.3)	405	(3.0)	452	(2.8)	481	(4.2)	177
Indonesia	272	(3.6)	296	(2.7)	336	(2.7)	381	(2.7)	429	(3.1)	474	(3.5)	502	(3.9)	178
Saudi Arabia	281	(3.4)	304	(3.1)	342	(2.2)	387	(2.3)	436	(2.6)	482	(3.1)	510	(3.6)	179
Palestinian Authority	258	(3.0)	280	(2.4)	319	(2.2)	365	(2.1)	416	(2.7)	464	(3.6)	494	(4.2)	184
El Salvador	260	(3.4)	284	(3.3)	322	(2.7)	367	(2.6)	419	(3.4)	472	(4.5)	505	(4.9)	188
Jordan	259	(2.8)	282	(2.5)	322	(2.3)	371	(2.5)	424	(2.9)	473	(3.7)	502	(4.3)	191
Mexico	291	(4.3)	315	(3.3)	357	(2.7)	408	(2.9)	461	(3.0)	508	(3.8)	536	(4.4)	193
Kazakhstan	305	(2.5)	329	(2.2)	371	(1.9)	419	(1.8)	471	(2.1)	524	(3.1)	559	(3.7)	195
Paraguay	251	(3.1)	273	(2.9)	314	(2.6)	364	(2.4)	419	(2.6)	469	(3.3)	501	(4.0)	196
Mongolia	291	(3.8)	316	(3.2)	359	(2.5)	410	(2.7)	464	(3.2)	513	(3.5)	542	(3.9)	197
Philippines	246	(2.6)	266	(2.4)	302	(2.4)	346	(2.7)	403	(4.6)	464	(6.4)	499	(6.5)	197
Viet Nam	342	(5.8)	372	(4.8)	420	(3.9)	473	(3.6)	525	(3.8)	572	(4.5)	599	(5.6)	199
Baku (Azerbaijan)	259	(2.9)	283	(2.8)	324	(2.5)	376	(2.5)	432	(2.7)	484	(3.4)	515	(4.0)	201
Malaysia	293	(2.5)	317	(2.9)	360	(2.7)	414	(2.6)	469	(3.0)	519	(4.5)	548	(5.6)	202
Costa Rica	284	(3.7)	309	(3.0)	355	(2.8)	408	(2.8)	464	(3.0)	515	(3.5)	548	(4.1)	206
Georgia	260	(2.8)	285	(2.4)	328	(2.3)	379	(2.3)	436	(2.8)	491	(5.1)	528	(6.9)	207
Thailand	285	(3.5)	309	(3.3)	352	(2.9)	403	(3.0)	462	(3.8)	518	(4.9)	553	(6.2)	209
Albania	249	(3.2)	275	(2.5)	318	(2.5)	371	(2.5)	429	(3.0)	485	(3.8)	520	(4.7)	210
North Macedonia	256	(2.1)	279	(1.8)	321	(1.4)	374	(1.5)	435	(1.9)	490	(2.4)	523	(3.1)	211
Moldova	288	(3.2)	314	(2.7)	358	(2.5)	412	(2.7)	473	(3.3)	528	(3.8)	561	(4.7)	214
Montenegro	274	(3.8)	298	(2.5)	343	(1.9)	399	(1.9)	461	(2.3)	515	(2.3)	546	(2.9)	217
Latvia	357	(3.9)	385	(3.3)	434	(2.8)	493	(2.7)	553	(2.9)	604	(3.2)	635	(3.8)	219
Argentina	274	(3.2)	301	(3.0)	345	(2.7)	401	(3.1)	463	(3.3)	521	(3.6)	556	(3.9)	221
Peru	274	(3.8)	300	(3.4)	347	(3.0)	404	(3.0)	466	(3.1)	522	(3.9)	554	(4.3)	222
Panama	253	(5.0)	281	(3.7)	327	(3.0)	382	(3.6)	444	(5.2)	504	(6.6)	542	(8.1)	224
Colombia	277	(3.9)	303	(3.6)	349	(3.3)	406	(3.7)	469	(4.4)	528	(4.7)	561	(4.8)	225
Macao (China)	389	(4.2)	426	(2.8)	487	(2.1)	549	(1.9)	604	(1.9)	651	(2.5)	678	(3.7)	225
Estonia	378	(3.8)	409	(3.2)	465	(2.8)	527	(2.4)	588	(3.0)	641	(3.2)	671	(4.1)	232
Ukrainian regions (18 of 27)	304	(5.9)	334	(5.4)	386	(5.0)	449	(5.0)	513	(4.2)	567	(4.4)	600	(5.8)	234
Türkiye	334	(3.1)	361	(2.7)	411	(2.8)	474	(2.7)	540	(2.3)	595	(3.1)	624	(2.8)	234
Saskatchewan	**346**	**(6.2)**	**377**	**(5.5)**	**430**	**(4.0)**	**494**	**(3.5)**	**557**	**(4.3)**	**611**	**(5.9)**	**644**	**(6.4)**	**234**
Serbia	302	(4.2)	332	(3.3)	383	(3.0)	445	(3.1)	510	(3.6)	567	(4.9)	600	(7.0)	235
Greece	293	(4.4)	323	(4.0)	376	(3.3)	441	(3.0)	505	(3.0)	560	(3.5)	590	(4.0)	236
Ireland	350	(3.8)	384	(3.9)	441	(3.1)	506	(2.7)	569	(2.5)	621	(2.8)	650	(3.2)	237
Chile	295	(4.5)	326	(3.5)	379	(3.4)	443	(3.0)	508	(3.0)	564	(3.1)	596	(3.2)	238

Variation in student performance between percentiles: SCIENCE

Country, province, or OECD average	Percentiles														Difference in score points between the 10th and 90th percentiles
	5th		10th		25th		50th		75th		90th		95th		
	Score	SE	Score	SE	Score	SE	Score	SE	Score	SE	Score	SE	Score	SE	
Spain	332	(2.7)	363	(2.3)	422	(2.0)	486	(2.0)	548	(1.8)	601	(1.9)	633	(2.5)	238
Uruguay	290	(4.0)	318	(3.4)	369	(3.1)	433	(2.8)	500	(2.9)	557	(3.9)	589	(4.2)	239
Portugal	333	(4.5)	364	(4.2)	419	(3.5)	485	(3.3)	550	(3.0)	603	(2.7)	632	(3.6)	239
Manitoba	**336**	**(7.6)**	**371**	**(6.5)**	**428**	**(5.7)**	**493**	**(4.3)**	**556**	**(4.2)**	**611**	**(4.7)**	**643**	**(5.7)**	**241**
Brazil	260	(2.6)	288	(2.2)	337	(1.9)	396	(2.1)	463	(2.6)	529	(3.5)	568	(4.2)	241
Italy	324	(3.8)	356	(3.9)	413	(3.8)	480	(3.8)	543	(4.3)	597	(4.3)	627	(4.7)	241
Lithuania	334	(3.8)	364	(3.3)	419	(3.0)	484	(2.7)	548	(2.8)	605	(3.4)	637	(4.0)	241
Japan	385	(4.3)	421	(4.6)	484	(4.3)	552	(3.2)	614	(3.1)	663	(3.4)	690	(3.8)	241
Hong Kong (China)	359	(4.9)	394	(4.8)	458	(4.3)	526	(3.4)	586	(3.0)	636	(3.2)	666	(3.8)	242
Croatia	330	(4.4)	362	(3.9)	417	(3.2)	482	(3.0)	548	(2.8)	605	(3.0)	637	(4.1)	243
Prince Edward Island	**337**	**(18.3)**	**372**	**(15.9)**	**428**	**(14.5)**	**499**	**(13.3)**	**564**	**(16.2)**	**616**	**(18.9)**	**650**	**(21.8)**	**244**
Brunei Darussalam	299	(3.4)	327	(2.7)	378	(2.0)	442	(1.7)	512	(2.2)	571	(2.6)	605	(3.0)	245
Jamaica	260	(4.7)	286	(4.1)	334	(4.1)	397	(4.8)	466	(5.1)	531	(5.8)	569	(6.3)	245
Denmark	338	(4.3)	370	(3.8)	427	(3.6)	495	(3.0)	560	(3.1)	615	(3.5)	649	(5.3)	246
Slovenia	345	(4.4)	376	(2.9)	434	(2.3)	500	(2.1)	566	(2.3)	622	(3.3)	654	(3.5)	246
Bulgaria	276	(3.7)	302	(3.1)	351	(3.3)	415	(4.0)	487	(4.7)	549	(5.0)	584	(5.6)	247
Newfoundland and Labrador	**336**	**(9.6)**	**367**	**(7.2)**	**423**	**(7.5)**	**493**	**(6.2)**	**556**	**(6.5)**	**614**	**(9.3)**	**648**	**(8.9)**	**247**
Iceland	294	(3.7)	324	(3.7)	378	(2.5)	446	(2.4)	514	(3.0)	571	(3.3)	603	(3.9)	248
New Brunswick	**324**	**(7.5)**	**358**	**(6.2)**	**417**	**(4.6)**	**482**	**(5.4)**	**549**	**(6.4)**	**608**	**(7.5)**	**645**	**(9.5)**	**250**
Qatar	287	(3.1)	313	(2.4)	361	(2.1)	425	(2.1)	496	(2.2)	564	(2.9)	604	(5.0)	250
Romania	276	(3.8)	303	(3.9)	356	(4.0)	426	(5.2)	496	(4.7)	556	(4.8)	588	(4.6)	252
Poland	336	(3.8)	370	(4.0)	432	(3.9)	502	(3.2)	568	(3.0)	623	(3.4)	652	(3.9)	253
Nova Scotia	**333**	**(7.2)**	**365**	**(6.5)**	**422**	**(5.4)**	**491**	**(5.1)**	**560**	**(5.1)**	**619**	**(7.1)**	**654**	**(9.0)**	**253**
Quebec	**342**	**(6.5)**	**382**	**(6.0)**	**446**	**(4.8)**	**516**	**(5.3)**	**581**	**(4.9)**	**635**	**(5.7)**	**666**	**(5.6)**	**254**
Hungary	327	(3.6)	357	(3.3)	417	(3.8)	487	(3.7)	555	(3.6)	611	(3.9)	642	(4.1)	254
British Columbia	**352**	**(7.7)**	**389**	**(6.5)**	**450**	**(6.5)**	**520**	**(5.2)**	**588**	**(5.8)**	**645**	**(6.7)**	**679**	**(8.0)**	**256**
Singapore	384	(3.2)	425	(3.1)	497	(2.7)	569	(2.0)	632	(1.6)	684	(2.2)	712	(3.1)	258
Czech Republic	336	(3.5)	368	(3.4)	427	(3.3)	498	(2.9)	568	(3.0)	628	(3.4)	661	(4.2)	260
Canada	**348**	**(2.9)**	**383**	**(2.6)**	**446**	**(2.2)**	**516**	**(2.3)**	**584**	**(2.4)**	**643**	**(2.9)**	**678**	**(3.3)**	**260**
Switzerland	340	(4.0)	370	(3.5)	429	(3.0)	504	(2.9)	575	(2.7)	631	(2.8)	662	(3.5)	261
Ontario	**350**	**(4.2)**	**384**	**(4.3)**	**447**	**(4.4)**	**518**	**(4.2)**	**586**	**(4.7)**	**646**	**(5.1)**	**681**	**(5.5)**	**261**
Austria	323	(4.2)	356	(3.6)	418	(3.8)	495	(3.3)	565	(3.4)	622	(3.1)	652	(2.8)	266
Belgium	318	(4.5)	352	(3.7)	419	(3.5)	496	(2.8)	564	(2.8)	618	(3.2)	648	(3.5)	266
Chinese Taipei	358	(5.4)	397	(4.8)	469	(4.0)	544	(3.5)	611	(3.9)	664	(5.0)	694	(6.3)	267
Slovak Republic	287	(5.7)	324	(5.1)	391	(4.1)	465	(3.6)	536	(3.6)	593	(3.6)	627	(4.9)	269
Malta	296	(3.8)	328	(3.6)	391	(3.1)	469	(2.8)	540	(2.7)	597	(4.1)	630	(4.4)	269
Korea	345	(6.9)	387	(6.4)	459	(4.9)	535	(4.1)	603	(4.1)	657	(5.0)	688	(5.1)	270
France	316	(4.0)	350	(4.0)	414	(4.0)	490	(3.4)	561	(3.1)	620	(3.4)	653	(3.6)	270
United Kingdom	330	(4.0)	363	(3.0)	427	(2.9)	500	(2.9)	572	(3.1)	634	(3.8)	669	(4.6)	271

Variation in student performance between percentiles: SCIENCE

Country, province, or OECD average	Percentiles														Difference in score points between the 10th and 90th percentiles
	5th		10th		25th		50th		75th		90th		95th		
	Score	SE	Score	SE	Score	SE	Score	SE	Score	SE	Score	SE	Score	SE	
Cyprus	251	(3.1)	280	(2.9)	332	(2.4)	404	(2.4)	485	(2.6)	553	(3.0)	591	(4.3)	272
Alberta	**358**	**(12.4)**	**397**	**(9.5)**	**462**	**(8.9)**	**535**	**(8.2)**	**608**	**(8.4)**	**669**	**(9.2)**	**703**	**(9.7)**	**273**
Norway	306	(3.4)	338	(3.2)	401	(3.2)	480	(3.0)	555	(3.2)	614	(3.1)	649	(3.9)	276
Finland	333	(3.3)	370	(3.2)	437	(3.1)	514	(3.2)	586	(2.9)	647	(3.3)	683	(3.7)	278
Germany	316	(4.7)	352	(5.0)	417	(4.6)	493	(4.5)	567	(3.8)	631	(4.2)	667	(4.4)	279
New Zealand	325	(4.6)	362	(4.1)	428	(3.6)	506	(2.7)	581	(3.0)	643	(3.1)	677	(3.5)	281
United States	321	(5.5)	357	(5.1)	421	(5.0)	502	(5.3)	577	(4.8)	639	(5.2)	674	(6.4)	282
Australia	328	(3.3)	364	(2.7)	430	(2.4)	508	(2.2)	583	(2.5)	647	(3.1)	685	(4.5)	283
Sweden	316	(4.1)	350	(4.0)	414	(3.7)	497	(3.0)	572	(2.7)	633	(3.3)	666	(4.2)	284
Israel	287	(4.6)	320	(4.3)	385	(4.1)	466	(4.1)	544	(3.9)	605	(4.6)	640	(5.8)	285
United Arab Emirates	265	(2.9)	296	(2.5)	350	(2.1)	424	(1.8)	510	(1.9)	582	(2.7)	621	(2.9)	287
Netherlands	310	(5.5)	340	(5.4)	401	(6.4)	489	(5.1)	574	(4.3)	636	(3.7)	669	(4.0)	296
OECD average	**324**	**(0.7)**	**356**	**(0.6)**	**416**	**(0.6)**	**486**	**(0.5)**	**554**	**(0.5)**	**611**	**(0.6)**	**643**	**(0.7)**	**254**

SE Standard error

Note: Countries and provinces have been sorted in ascending order by the difference in score points between the 10th and 90th percentiles. See OECD (2023a) for notes regarding Israeli statistical data, Cyprus, and Kosovo.

Proportion of students at each proficiency level in anglophone and francophone school systems: READING

Canada or province	Proficiency levels													
	Below Level 1a		Level 1a		Level 2		Level 3		Level 4		Level 5		Level 6	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Anglophone school systems														
Canada	**5.6**	**(0.4)**	**11.6**	**(0.5)**	**21.1**	**(0.6)**	**25.7**	**(0.7)**	**21.8**	**(0.6)**	**10.7**	**(0.6)**	**3.6**	**(0.4)**
Newfoundland and Labrador	8.3	(1.5)	16.9	(1.7)	25.9	(1.7)	25.1	(1.9)	16.2	(2.2)	6.2	(1.2)	U‡	(0.7)
Prince Edward Island	7.2‡	(2.0)	12.8	(3.0)	21.2	(3.0)	27.2	(3.6)	22.0	(3.9)	U‡	(3.5)	U‡	(0.9)
Nova Scotia	7.2	(1.2)	15.2	(1.4)	24.4	(2.1)	24.3	(1.7)	18.7	(1.7)	8.0	(1.2)	2.2‡	(0.6)
New Brunswick	8.4	(1.3)	15.9	(1.7)	26.1	(1.6)	25.9	(2.7)	16.2	(1.6)	6.2	(1.1)	1.3‡	(0.4)
Quebec	5.2	(0.9)	11.3	(1.3)	21.2	(1.6)	28.5	(2.2)	22.6	(2.0)	9.2	(1.8)	U‡	(0.9)
Ontario	5.2	(0.6)	11.1	(0.9)	20.4	(1.1)	25.9	(1.3)	22.8	(1.1)	10.9	(0.9)	3.7	(0.5)
Manitoba	7.1	(0.9)	14.5	(1.3)	25.4	(1.1)	26.6	(1.3)	17.9	(1.2)	6.9	(0.8)	1.7	(0.5)
Saskatchewan	7.1	(0.9)	15.2	(1.6)	24.8	(1.6)	27.3	(1.2)	18.2	(1.2)	5.9	(0.9)	U‡	(0.5)
Alberta	5.1	(1.1)	9.6	(1.2)	19.2	(2.1)	24.6	(1.9)	22.6	(1.6)	13.6	(1.5)	5.3	(1.1)
British Columbia	5.5	(0.9)	11.5	(1.2)	21.1	(1.5)	25.4	(1.5)	22.0	(1.4)	11.1	(1.2)	3.4	(0.7)
Francophone school systems														
Canada	**8.0**	**(0.8)**	**13.6**	**(0.9)**	**21.6**	**(1.1)**	**25.5**	**(1.2)**	**20.0**	**(1.2)**	**8.9**	**(0.8)**	**2.4**	**(0.4)**
Newfoundland and Labrador	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Prince Edward Island	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nova Scotia	14.2	(3.7)	21.6	(3.6)	27.7	(3.5)	21.7	(3.5)	11.2‡	(3.1)	U‡	(1.6)	U‡	(0.7)
New Brunswick	16.5	(2.7)	19.3	(2.3)	23.6	(2.6)	24.3	(2.7)	11.4	(2.0)	U‡	(1.8)	U‡	(0.7)
Quebec	7.0	(0.8)	12.6	(1.0)	21.3	(1.2)	26.0	(1.3)	21.0	(1.3)	9.4	(1.0)	2.6	(0.5)
Ontario	15.6	(1.3)	22.1	(1.9)	24.1	(1.6)	20.3	(1.6)	12.3	(1.3)	4.8	(1.1)	U‡	(0.4)
Manitoba	17.1	(2.8)	21.7	(3.3)	26.8	(4.4)	21.0	(3.4)	9.9‡	(2.3)	U‡	(1.3)	U‡	(0.7)
Saskatchewan	U‡	(5.4)	U‡	(8.5)	28.1‡	(9.1)	25.1‡	(7.8)	U‡	(5.6)	U‡	(3.5)	U‡	(1.5)
Alberta	13.3‡	(3.4)	17.0‡	(4.0)	21.8	(4.3)	22.9	(4.3)	16.5‡	(4.0)	U‡	(2.8)	U‡	(2.0)
British Columbia	U‡	(2.0)	U‡	(4.7)	27.7	(5.3)	31.6	(5.0)	17.0‡	(4.1)	U‡	(2.3)	U‡	(0.5)

SE Standard error
-- Not available.

‡ There are fewer than 30 observations.
U Too unreliable to be published.
Note: Because Newfoundland and Labrador and Prince Edward Island did not oversample students by language, results for only English-language schools are available for these provinces.

Proportion of students at each proficiency level in anglophone and francophone school systems: SCIENCE

Canada or province	Below Level 1a		Level 1a		Level 2		Level 3		Level 4		Level 5		Level 6	
	Proficiency levels													
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Anglophone school systems														
Canada	**3.5**	**(0.3)**	**11.4**	**(0.5)**	**22.1**	**(0.7)**	**28.5**	**(0.8)**	**21.9**	**(0.8)**	**9.8**	**(0.5)**	**2.8**	**(0.3)**
Newfoundland and Labrador	4.9	(1.0)	16.0	(1.7)	25.4	(1.8)	29.4	(2.2)	17.4	(1.8)	5.6	(1.1)	U‡	(0.5)
Prince Edward Island	U‡	(1.8)	14.3	(3.5)	25.9	(3.1)	28.0	(4.3)	19.8	(4.4)	U‡	(2.3)	U‡	(1.2)
Nova Scotia	5.2	(0.9)	15.6	(1.4)	26.2	(1.8)	27.1	(1.9)	18.0	(1.5)	6.4	(1.0)	U‡	(0.4)
New Brunswick	5.1	(1.3)	14.8	(1.8)	27.8	(2.1)	27.8	(2.4)	16.9	(2.4)	6.2	(1.2)	U‡	(0.6)
Quebec	3.4	(0.7)	10.2	(1.3)	23.0	(1.9)	30.3	(1.9)	23.9	(1.9)	7.9	(1.5)	U‡	(0.6)
Ontario	3.4	(0.4)	11.2	(0.8)	21.6	(1.2)	28.5	(1.4)	22.5	(1.2)	9.9	(0.8)	2.9	(0.5)
Manitoba	4.8	(0.8)	14.3	(1.3)	26.7	(1.3)	29.7	(1.4)	18.1	(1.3)	5.3	(0.8)	U‡	(0.4)
Saskatchewan	3.8	(0.6)	14.4	(1.2)	27.8	(1.3)	29.8	(1.8)	17.9	(1.2)	5.2	(0.7)	1.1‡	(0.3)
Alberta	3.0	(0.9)	9.2	(1.4)	19.5	(1.8)	27.4	(1.9)	23.2	(2.1)	13.3	(1.6)	4.6	(1.1)
British Columbia	3.3	(0.5)	11.1	(1.2)	21.6	(1.5)	28.8	(1.7)	22.8	(1.4)	9.8	(1.1)	2.6	(0.6)
Francophone school systems														
Canada	**4.7**	**(0.5)**	**11.8**	**(0.8)**	**23.2**	**(1.2)**	**28.5**	**(1.2)**	**22.0**	**(1.4)**	**8.3**	**(0.9)**	**1.4**	**(0.3)**
Newfoundland and Labrador	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Prince Edward Island	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nova Scotia	U‡	(1.6)	18.7	(4.1)	30.8	(3.6)	28.0	(3.5)	13.8	(3.1)	U‡	(1.6)	U‡	(0.8)
New Brunswick	9.8	(2.3)	19.5	(3.0)	29.5	(3.3)	25.8	(2.8)	12.2	(2.7)	U‡	(1.5)	U‡	(0.4)
Quebec	4.5	(0.6)	10.9	(0.9)	22.4	(1.3)	28.7	(1.3)	23.0	(1.6)	8.9	(1.1)	1.6	(0.3)
Ontario	5.6	(1.0)	18.9	(1.9)	28.8	(1.9)	26.3	(2.3)	15.2	(1.5)	4.5	(1.1)	U‡	(0.3)
Manitoba	5.0‡	(1.6)	19.5	(3.7)	31.1	(4.4)	29.1	(3.4)	11.9	(2.8)	U‡	(1.3)	U‡	(0.6)
Saskatchewan	U‡	(3.5)	U‡	(5.9)	33.8‡	(8.7)	29.2‡	(9.6)	U‡	(6.1)	U‡	(2.6)	0.0‡	(0.0)
Alberta	U‡	(2.5)	18.0‡	(4.5)	23.6	(4.8)	26.2	(5.1)	17.9‡	(4.2)	U‡	(2.8)	U‡	(1.8)
British Columbia	U‡	(1.3)	13.3‡	(3.9)	32.0	(5.3)	38.0	(5.8)	14.4‡	(3.8)	U‡	(1.0)	0.0‡	(0.0)

SE Standard error

-- Not available.

‡ There are fewer than 30 observations.

U Too unreliable to be published.

Note: Because Newfoundland and Labrador and Prince Edward Island did not oversample students by language, results for only English-language schools are available for these provinces.

Proportion of students in anglophone and francophone school systems who performed below Level 2, at Level 2 or above, and at Levels 5 and 6: READING

Canada or province	Below Level 2							Level 2 or above							Levels 5 and 6						
	Anglophone school systems		Francophone school systems		Difference (A - F)			Anglophone school systems		Francophone school systems		Difference (A - F)			Anglophone school systems		Francophone school systems		Difference (A - F)		
	%	SE	%	SE	Dif.	SE		%	SE	%	SE	Dif.	SE		%	SE	%	SE	Dif.	SE	
Canada	17.1	(0.6)	21.6	(1.3)	-4.4*	(1.5)		82.9	(0.6)	78.4	(1.3)	4.4*	(1.5)		14.3	(0.8)	11.2	(1.1)	3.0*	(1.4)	
Newfoundland and Labrador	25.1**	(2.5)	--	--	--	--		74.9**	(2.5)	--	--	--	--		7.7**	(1.4)	--	--	--	--	
Prince Edward Island	20.0	(3.2)	--	--	--	--		80.0	(3.2)	--	--	--	--		U	(3.7)	--	--	--	--	
Nova Scotia	22.4**	(2.2)	35.7**	(4.9)	-13.3*	(5.2)		77.6**	(2.2)	64.3**	(4.9)	13.3*	(5.2)		10.2**	(1.5)	U	(1.8)	--	--	
New Brunswick	24.3**	(2.1)	35.9**	(3.5)	-11.6*	(3.9)		75.7**	(2.1)	64.1**	(3.5)	11.6*	(3.9)		7.5**	(1.1)	U	(2.2)	--	--	
Quebec	16.5	(1.4)	19.7**	(1.5)	-3.2	(2.0)		83.5	(1.4)	80.3**	(1.5)	3.2	(2.0)		11.2	(2.0)	12.0**	(1.2)	-0.8	(2.2)	
Ontario	16.3	(1.1)	37.7**	(2.4)	-21.4*	(2.5)		83.7	(1.1)	62.3**	(2.4)	21.4*	(2.5)		14.7	(1.2)	5.7**	(1.2)	9.0*	(1.6)	
Manitoba	21.6**	(1.5)	38.8**	(4.2)	-17.2*	(4.7)		78.4**	(1.5)	61.2**	(4.2)	17.2*	(4.7)		8.6**	(1.0)	U	(1.3)	--	--	
Saskatchewan	22.4**	(1.5)	29.1	(8.5)	-6.7	(8.6)		77.6**	(1.5)	70.9	(8.5)	6.7	(8.6)		7.3**	(1.1)	U	(3.5)	--	--	
Alberta	14.7	(1.6)	30.3**	(4.3)	-15.6*	(4.3)		85.3	(1.6)	69.7**	(4.3)	15.6*	(4.3)		18.9**	(2.0)	U	(2.9)	--	--	
British Columbia	17.0	(1.6)	19.6	(4.9)	-2.6	(4.7)		83.0	(1.6)	80.4	(4.9)	2.6	(4.7)		14.5	(1.6)	U	(2.3)	--	--	

SE Standard error
Dif. Difference
-- Not available.
U Too unreliable to be published.
* Significant difference within Canada or province.
** Significant difference compared to Canada.
Note: Because Newfoundland and Labrador and Prince Edward Island did not oversample students by language, results for only English-language schools are available for these provinces.

Table B.3.8b

Proportion of students in anglophone and francophone school systems who performed below Level 2, at Level 2 or above, and at Levels 5 and 6: SCIENCE

Canada or provinces	Below Level 2						Level 2 or above						Levels 5 and 6					
	Anglophone school systems		Francophone school systems		Difference (A - F)		Anglophone school systems		Francophone school systems		Difference (A - F)		Anglophone school systems		Francophone school systems		Difference (A - F)	
	%	SE	%	SE	Dif.	SE	%	SE	%	SE	Dif.	SE	%	SE	%	SE	Dif.	SE
Canada	**14.9**	**(0.6)**	**16.5**	**(1.1)**	**-1.6**	**(1.3)**	**85.1**	**(0.6)**	**83.5**	**(1.1)**	**1.6**	**(1.3)**	**12.6**	**(0.7)**	**9.8**	**(1.1)**	**2.8***	**(1.3)**
Newfoundland and Labrador	21.0**	(2.0)	--	--	--	--	79.0**	(2.0)	--	--	--	--	6.8**	(1.1)	--	--	--	--
Prince Edward Island	19.0	(4.2)	--	--	--	--	81.0	(4.2)	--	--	--	--	U	(2.9)	--	--	--	--
Nova Scotia	20.9**	(1.6)	23.5	(3.8)	-2.6	(4.3)	79.1**	(1.6)	76.5	(3.8)	2.6	(4.3)	7.8**	(1.1)	U	(1.6)	--	--
New Brunswick	19.8**	(2.2)	29.3**	(4.4)	-9.4	(5.8)	80.2**	(2.2)	70.7**	(4.4)	9.4	(5.8)	7.5**	(1.5)	U	(1.7)	--	--
Quebec	13.6	(1.5)	15.4**	(1.3)	-1.8	(1.9)	86.4	(1.5)	84.6**	(1.3)	1.8	(1.9)	9.3	(1.6)	10.4**	(1.2)	-1.2	(2.0)
Ontario	14.7	(1.0)	24.5**	(2.5)	-9.8 *	(2.8)	85.3	(1.0)	75.5**	(2.5)	9.8*	(2.8)	12.8	(1.1)	5.2**	(1.1)	7.7*	(1.4)
Manitoba	19.1**	(1.7)	24.5	(4.3)	-5.4	(4.6)	80.9**	(1.7)	75.5	(4.3)	5.4	(4.6)	6.3**	(0.8)	U	(1.3)	--	--
Saskatchewan	18.1**	(1.3)	U	(6.6)	--	--	81.9**	(1.3)	80.9	(6.6)	1.0	(6.7)	6.3**	(0.8)	U	(2.6)	--	--
Alberta	12.1	(1.6)	22.3	(4.7)	-10.2 *	(5.0)	87.9	(1.6)	77.7	(4.7)	10.2*	(5.0)	17.8**	(2.0)	10.0	(3.3)	7.8*	(3.9)
British Columbia	14.3	(1.5)	14.6	(3.9)	-0.3	(4.1)	85.7	(1.5)	85.4	(3.9)	0.3	(4.1)	12.4	(1.4)	U	(1.0)	--	--

SE Standard error
Dif. Difference
-- Not available.
U Too unreliable to be published.
* Significant difference within Canada or province.
** Significant difference compared to Canada.
Note: Because Newfoundland and Labrador and Prince Edward Island did not oversample students by language, results for only English-language schools are available for these provinces.

Table B.3.9

Average scores by language of the school system: READING

Canada or province	Anglophone school systems		Francophone school systems		Difference (A - F)	
	Average	Standard error	Average	Standard error	Difference	Standard error
Canada	**511**	**(2.4)**	**494**	**(4.5)**	**16***	**(5.4)**
Newfoundland and Labrador	478**	(7.1)	--	--	--	--
Prince Edward Island	496	(10.3)	--	--	--	--
Nova Scotia	491**	(6.5)	446**	(11.0)	45*	(13.6)
New Brunswick	478**	(4.0)	447**	(9.8)	31*	(10.6)
Quebec	506	(5.1)	500**	(5.0)	6	(6.8)
Ontario	515	(3.9)	446**	(5.9)	68*	(6.8)
Manitoba	487**	(4.0)	438**	(9.2)	49*	(10.8)
Saskatchewan	484**	(4.1)	461**	(15.9)	23	(16.6)
Alberta	525**	(6.3)	471**	(10.6)	54*	(12.6)
British Columbia	511	(5.8)	482	(9.4)	29*	(10.5)

-- Not available.
* Significant difference within Canada or province.
** Significant difference compared to Canada.
Note: Because Newfoundland and Labrador and Prince Edward Island did not oversample students by language, results for only English-language schools are available for these provinces.

Table B.3.10

Average scores by language of the school system: SCIENCE

Canada or province	Anglophone school systems		Francophone school systems		Difference (A - F)	
	Average	Standard error	Average	Standard error	Difference	Standard error
Canada	**517**	**(2.4)**	**508**	**(4.1)**	**10**	**(5.2)**
Newfoundland and Labrador	491**	(5.2)	--	--	--	--
Prince Edward Island	496	(13.4)	--	--	--	--
Nova Scotia	493**	(4.1)	476**	(7.2)	16	(8.3)
New Brunswick	492**	(7.3)	461**	(11.6)	30	(17.0)
Quebec	514	(5.3)	512**	(4.7)	2	(7.3)
Ontario	519	(3.8)	479**	(5.8)	40*	(6.7)
Manitoba	493**	(4.1)	471**	(7.7)	22*	(8.6)
Saskatchewan	494**	(3.1)	479	(14.3)	14	(14.5)
Alberta	534**	(6.8)	497	(11.4)	37*	(12.3)
British Columbia	519	(5.0)	487**	(6.6)	32*	(8.6)

-- Not available.
* Significant difference within Canada or province.
** Significant difference compared to Canada.
Note: Because Newfoundland and Labrador and Prince Edward Island did not oversample students by language, results for only English-language schools are available for these provinces.

Table B.3.11a

Percentage of students at each proficiency level by gender: READING

Canada or province	Below Level 1a		Level 1a		Level 2		Level 3		Level 4		Level 5		Level 6	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Girls														
Canada	**4.1**	**(0.3)**	**10.3**	**(0.5)**	**20.3**	**(0.7)**	**26.8**	**(0.9)**	**23.2**	**(0.8)**	**11.5**	**(0.6)**	**3.8**	**(0.4)**
Newfoundland and Labrador	4.4‡	(1.4)	12.9	(2.1)	25.2	(2.7)	29.2	(2.7)	19.5	(3.2)	7.1	(1.9)	U‡	(0.9)
Prince Edward Island	U‡	(2.1)	10.8‡	(3.4)	20.5	(4.9)	31.1	(5.1)	25.4	(6.1)	U‡	(4.2)	U‡	(1.3)
Nova Scotia	4.2	(1.2)	13.0	(1.8)	24.0	(2.8)	26.6	(2.6)	20.3	(2.5)	9.0	(1.7)	U‡	(1.0)
New Brunswick	8.0	(1.5)	15.1	(2.1)	25.4	(2.3)	27.4	(3.3)	16.3	(2.1)	6.3	(1.4)	U‡	(0.6)
Quebec	5.3	(0.7)	11.3	(1.1)	20.5	(1.3)	27.4	(1.5)	22.4	(1.3)	10.2	(1.1)	3.0	(0.6)
Ontario	3.4	(0.6)	9.9	(0.9)	19.4	(1.3)	26.6	(1.5)	24.7	(1.6)	11.9	(1.0)	4.2	(0.6)
Manitoba	5.1	(0.8)	13.3	(1.5)	23.7	(1.7)	28.0	(2.1)	18.8	(1.5)	8.7	(1.4)	2.4	(0.7)
Saskatchewan	5.0	(1.1)	13.0	(1.9)	24.5	(2.0)	29.2	(2.0)	20.0	(1.8)	6.7	(1.5)	U‡	(0.8)
Alberta	3.3‡	(1.0)	7.7	(1.5)	18.9	(2.5)	26.3	(2.7)	23.8	(2.5)	14.4	(2.1)	5.6	(1.4)
British Columbia	3.7	(0.8)	9.9	(1.4)	20.2	(1.9)	25.5	(2.0)	24.1	(1.8)	12.9	(1.8)	3.7	(1.1)
Boys														
Canada	**8.1**	**(0.5)**	**13.7**	**(0.6)**	**22.0**	**(0.8)**	**24.5**	**(0.9)**	**19.7**	**(0.8)**	**9.2**	**(0.5)**	**2.8**	**(0.4)**
Newfoundland and Labrador	11.7	(2.2)	20.4	(2.4)	26.5	(2.6)	21.3	(2.5)	13.2	(2.4)	5.5‡	(1.5)	U‡	(0.9)
Prince Edward Island	U‡	(3.4)	14.7‡	(4.4)	21.4	(4.9)	23.6	(4.8)	19.1	(5.7)	U‡	(4.4)	U‡	(1.4)
Nova Scotia	10.6	(1.9)	17.8	(1.9)	24.9	(2.5)	22.1	(2.6)	16.6	(2.2)	6.7	(1.5)	U‡	(0.8)
New Brunswick	13.5	(1.7)	18.7	(2.3)	25.4	(2.4)	23.5	(2.4)	13.1	(1.7)	4.8	(1.1)	U‡	(0.5)
Quebec	8.3	(1.1)	13.8	(1.3)	22.0	(1.7)	25.2	(1.8)	20.1	(1.7)	8.7	(1.2)	2.0	(0.5)
Ontario	7.8	(0.8)	13.1	(1.2)	21.6	(1.6)	24.7	(1.7)	20.2	(1.4)	9.5	(1.1)	3.0	(0.5)
Manitoba	9.6	(1.4)	16.2	(2.0)	27.2	(1.8)	24.8	(1.8)	16.4	(1.6)	4.8	(1.0)	U‡	(0.4)
Saskatchewan	9.1	(1.2)	17.4	(2.0)	25.2	(2.2)	25.5	(1.8)	16.6	(1.6)	5.1	(0.9)	U‡	(0.6)
Alberta	7.0	(1.8)	11.7	(1.8)	19.6	(2.5)	22.8	(2.5)	21.2	(2.2)	12.7	(1.9)	5.0‡	(1.5)
British Columbia	7.4	(1.3)	13.0	(1.8)	22.1	(2.1)	25.4	(1.7)	19.9	(1.8)	9.3	(1.2)	3.0	(0.7)

SE Standard error
‡ There are fewer than 30 observations.
U Too unreliable to be published.

Percentage of students at each proficiency level by gender: SCIENCE

Canada or province	Proficiency levels												
	Below Level 1a		Level 1a		Level 2		Level 3		Level 4		Level 5		Level 6	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Girls													
Canada	**3.1**	**(0.3)**	**11.1**	**(0.5)**	**23.1**	**(0.7)**	**29.9**	**(0.8)**	**22.0**	**(0.9)**	**8.8**	**(0.5)**	**2.0**	**(0.2)**
Newfoundland and Labrador	3.2‡	(1.0)	14.3	(2.3)	26.3	(2.5)	31.3	(3.1)	18.1	(2.7)	5.6‡	(1.4)	U‡	(0.8)
Prince Edward Island	U‡	(2.0)	14.1‡	(3.9)	28.9	(4.6)	33.7	(5.3)	U‡	(6.1)	U‡	(2.2)	U‡	(0.8)
Nova Scotia	4.2	(1.2)	14.3	(1.9)	27.6	(2.5)	29.0	(2.7)	17.5	(2.2)	6.1	(1.2)	U‡	(0.7)
New Brunswick	5.7	(1.3)	14.6	(1.6)	29.6	(2.2)	28.8	(2.6)	15.4	(2.3)	4.9	(1.3)	U‡	(0.5)
Quebec	3.8	(0.7)	10.7	(1.2)	22.7	(1.7)	29.9	(1.6)	23.2	(1.9)	8.2	(1.3)	1.4‡	(0.4)
Ontario	2.6	(0.5)	11.4	(0.9)	22.7	(1.5)	29.6	(1.5)	22.6	(1.4)	9.0	(0.9)	2.1	(0.4)
Manitoba	4.1	(0.9)	14.3	(1.6)	27.8	(2.0)	29.5	(2.4)	17.8	(1.7)	5.6	(1.1)	U‡	(0.4)
Saskatchewan	3.1	(0.8)	13.7	(1.5)	29.1	(2.0)	31.2	(2.1)	17.3	(1.5)	4.6	(1.1)	U‡	(0.4)
Alberta	2.5‡	(0.8)	8.3	(1.6)	20.3	(2.6)	30.3	(3.1)	23.3	(2.8)	12.0	(2.0)	3.3‡	(1.0)
British Columbia	3.1‡	(0.9)	10.8	(1.4)	22.6	(2.0)	29.7	(2.5)	22.0	(2.0)	9.5	(1.6)	2.4‡	(0.8)
Boys													
Canada	**4.4**	**(0.4)**	**11.9**	**(0.6)**	**21.6**	**(0.7)**	**27.2**	**(1.0)**	**21.9**	**(0.9)**	**10.0**	**(0.5)**	**3.0**	**(0.4)**
Newfoundland and Labrador	6.5	(1.8)	17.6	(2.3)	24.6	(2.7)	27.7	(2.9)	16.8	(2.1)	5.7‡	(1.4)	U‡	(0.6)
Prince Edward Island	U‡	(2.6)	14.1‡	(4.6)	23.0	(4.5)	23.0	(5.5)	22.9	(4.9)	U‡	(3.5)	U‡	(1.9)
Nova Scotia	6.1	(1.3)	17.0	(2.1)	25.4	(2.3)	25.4	(2.2)	18.2	(2.1)	6.5	(1.6)	U‡	(0.6)
New Brunswick	7.2	(1.5)	17.5	(1.9)	27.2	(2.2)	25.7	(2.4)	15.7	(2.2)	5.6	(1.1)	U‡	(0.8)
Quebec	4.8	(0.8)	11.0	(1.0)	22.2	(1.4)	27.9	(1.7)	23.0	(1.6)	9.4	(1.2)	1.6	(0.4)
Ontario	4.4	(0.7)	11.7	(1.1)	21.1	(1.5)	27.4	(2.0)	21.7	(1.5)	10.3	(1.1)	3.5	(0.6)
Manitoba	5.5	(1.2)	14.6	(1.6)	25.9	(2.1)	30.0	(2.0)	18.0	(1.7)	4.9	(1.0)	U‡	(0.5)
Saskatchewan	4.4	(0.9)	15.0	(1.6)	26.7	(1.7)	28.4	(2.3)	18.3	(1.5)	5.8	(0.8)	1.3‡	(0.4)
Alberta	U‡	(1.3)	10.2	(1.9)	18.7	(2.3)	24.3	(2.5)	23.0	(2.6)	14.5	(2.2)	5.9	(1.5)
British Columbia	3.5	(1.0)	11.4	(1.6)	20.7	(1.9)	28.0	(1.9)	23.5	(1.9)	10.1	(1.4)	2.8‡	(0.8)

SE Standard error
‡ There are fewer than 30 observations.
U Too unreliable to be published.

Percentage of boys and girls who performed below Level 2 and at Levels 5 and 6: READING

Canada or province	Below Level 2						Levels 5 and 6					
	Boys		Girls		Difference (G - B)		Boys		Girls		Difference (G - B)	
	%	SE	%	SE	Dif.	SE	%	SE	%	SE	Dif.	SE
Canada	21.8	(0.8)	14.4	(0.6)	-7.4*	(0.9)	12.0	(0.7)	15.3	(0.8)	3.3*	(0.7)
Newfoundland and Labrador	32.1**	(3.5)	17.3	(2.5)	-14.8*	(3.4)	6.8**	(1.8)	8.7**	(1.9)	1.9	(2.4)
Prince Edward Island	25.0	(4.3)	14.7	(3.6)	-10.2*	(4.9)	U	(4.9)	U	(4.6)	--	--
Nova Scotia	28.4**	(2.9)	17.2	(2.2)	-11.2*	(2.8)	8.1**	(1.6)	11.9	(2.0)	3.7	(2.2)
New Brunswick	32.3**	(2.6)	23.0**	(2.4)	-9.2*	(3.3)	5.7**	(1.1)	7.8**	(1.6)	2.1	(1.9)
Quebec	22.1	(1.7)	16.6	(1.4)	-5.5*	(1.6)	10.7	(1.4)	13.2	(1.2)	2.5	(1.5)
Ontario	20.9	(1.5)	13.2	(1.1)	-7.6*	(1.5)	12.5	(1.3)	16.2	(1.3)	3.6*	(1.3)
Manitoba	25.8	(1.9)	18.3**	(1.7)	-7.5*	(2.3)	5.8**	(1.1)	11.1**	(1.5)	5.4*	(1.8)
Saskatchewan	26.5**	(1.9)	18.0	(1.8)	-8.5*	(2.2)	6.2**	(1.1)	8.3**	(1.6)	2.1	(1.6)
Alberta	18.7	(2.2)	11.0**	(1.9)	-7.6*	(2.5)	17.8**	(2.3)	20.0**	(2.4)	2.2	(2.7)
British Columbia	20.4	(2.4)	13.6	(1.6)	-6.8*	(2.6)	12.3	(1.6)	16.7	(2.4)	4.4	(2.5)

SE Standard error
Dif. Difference
-- Not available.
U Too unreliable to be published.
* Significant difference within Canada or province.
** Significant difference compared to Canada.

Percentage of boys and girls who performed below Level 2 and at Levels 5 and 6: SCIENCE

Canada or province	Below Level 2						Levels 5 and 6					
	Boys		Girls		Difference (G - B)		Boys		Girls		Difference (G - B)	
	%	SE	%	SE	Dif.	SE	%	SE	%	SE	Dif.	SE
Canada	16.3	(0.7)	14.2	(0.6)	-2.1*	(0.8)	13.0	(0.7)	10.8	(0.7)	-2.2*	(0.8)
Newfoundland and Labrador	24.0**	(2.8)	17.6	(2.2)	-6.5*	(3.2)	6.8**	(1.4)	6.7**	(1.6)	-0.2	(2.0)
Prince Edward Island	20.2	(5.2)	17.3	(4.7)	-2.9	(5.4)	U	(4.3)	U	(2.4)	--	--
Nova Scotia	23.1**	(2.3)	18.5**	(1.9)	-4.6	(2.9)	7.9**	(1.7)	7.4**	(1.3)	-0.5	(2.1)
New Brunswick	24.7**	(2.2)	20.4**	(1.8)	-4.3	(2.9)	6.8**	(1.3)	5.8**	(1.3)	-0.9	(1.8)
Quebec	15.9	(1.3)	14.5	(1.4)	-1.4	(1.4)	11.0	(1.4)	9.6	(1.5)	-1.4	(1.8)
Ontario	16.0	(1.3)	14.0	(1.1)	-2.0	(1.4)	13.8	(1.5)	11.1	(1.0)	-2.7*	(1.4)
Manitoba	20.1	(2.0)	18.4**	(2.0)	-1.7	(2.3)	6.0**	(1.1)	6.5**	(1.1)	0.5	(1.6)
Saskatchewan	19.4**	(1.6)	16.8	(1.7)	-2.6	(1.8)	7.1**	(0.9)	5.5**	(1.3)	-1.6	(1.5)
Alberta	13.6	(2.1)	10.8**	(1.7)	-2.8	(2.1)	20.4**	(2.6)	15.3**	(2.3)	-5.1	(3.0)
British Columbia	14.9	(2.0)	13.8	(1.6)	-1.1	(2.1)	12.9	(1.6)	11.8	(2.0)	-1.1	(2.2)

SE Standard error
Dif. Difference
U Too unreliable to be published.
* Significant difference within Canada or province.
** Significant difference compared to Canada.

Table B.3.13

Average scores by gender: READING

Canada, province, or OECD average	Girls		Boys		Difference (G - B)	
	Average	Standard error	Average	Standard error	Difference	Standard error
Canada	**519**	**(2.2)**	**495**	**(2.3)**	**24***	**(2.3)**
Newfoundland and Labrador	498**	(7.3)	461**	(8.9)	37*	(8.0)
Prince Edward Island	508	(10.5)	486	(13.9)	22	(13.7)
Nova Scotia	506**	(6.9)	473**	(7.3)	33*	(6.8)
New Brunswick	481**	(5.6)	457**	(5.6)	25*	(7.7)
Quebec	510**	(4.7)	492	(5.7)	19*	(4.7)
Ontario	525	(4.0)	499	(4.4)	26*	(3.7)
Manitoba	500**	(4.7)	471**	(4.6)	29*	(5.4)
Saskatchewan	496**	(4.8)	472**	(5.0)	24*	(5.4)
Alberta	535**	(6.8)	514**	(7.7)	22*	(7.3)
British Columbia	524	(6.7)	498	(7.0)	25*	(7.5)
OECD average	**488***	**(0.5)**	**464***	**(0.6)**	**24***	**(0.6)**

* Significant difference within Canada, province, or OECD.
** Significant difference compared to Canada.

Table B.3.14

Average scores by gender: SCIENCE

Canada, province, or OECD average	Gender differences					
	Girls		Boys		Difference (G - B)	
	Average	Standard error	Average	Standard error	Difference	Standard error
Canada	**515**	**(2.1)**	**515**	**(2.4)**	**-1**	**(2.3)**
Newfoundland and Labrador	497**	(5.4)	486**	(7.1)	11	(7.2)
Prince Edward Island	489	(14.4)	503	(15.3)	-14	(13.0)
Nova Scotia	495**	(5.0)	489**	(5.3)	6	(6.8)
New Brunswick	485**	(4.9)	481**	(6.1)	4	(7.1)
Quebec	512	(5.0)	511	(4.5)	1	(4.5)
Ontario	517	(3.7)	518	(4.4)	-1	(3.5)
Manitoba	494**	(4.7)	491**	(5.0)	3	(5.5)
Saskatchewan	494**	(4.0)	494**	(3.8)	0	(4.7)
Alberta	531**	(7.2)	537**	(7.8)	-5	(6.6)
British Columbia	518	(6.0)	520	(6.3)	-2	(7.2)
OECD average	**485***	**(0.5)**	**485***	**(0.6)**	**0**	**(0.6)**

* Significant difference within Canada, province, or OECD.
** Significant difference compared to Canada.

Table B.3.15

Average scores by index of economic, social, and cultural status (ESCS): READING

Canada, province, or OECD average	Bottom quarter		Second quarter		Third quarter		Top quarter		Difference (top quarter - bottom quarter)		Change in the reading score per one (integer) unit change in the ESCS index		Explained variance in student performance (r² x 100)	
	Av.	SE	Av.	SE	Av.	SE	Av.	SE	Dif.	SE	Dif.	SE	%	SE
Canada	**472**	**(2.8)**	**499**	**(2.6)**	**522**	**(2.4)**	**546**	**(3.6)**	**74***	**(4.3)**	**39**	**(2.1)**	**7.1**	**(0.7)**
Newfoundland and Labrador	449	(11.5)	476	(9.6)	489	(11.0)	508	(11.6)	59*	(14.8)	28	(6.1)	4.8	(2.1)
Prince Edward Island	469	(16.9)	486	(18.6)	532	(23.6)	532	(16.9)	63*	(19.9)	34	(9.9)	6.9	(3.8)
Nova Scotia	460	(9.9)	472	(9.1)	499	(8.5)	537	(10.5)	76*	(11.3)	36	(5.1)	6.7	(1.8)
New Brunswick	430	(8.1)	462	(6.7)	484	(7.4)	508	(7.7)	78*	(10.8)	39	(4.8)	8.0	(1.9)
Quebec	461	(5.9)	485	(7.2)	519	(6.5)	546	(6.2)	85*	(8.0)	46	(4.1)	9.6	(1.5)
Ontario	479	(6.1)	508	(4.8)	526	(5.0)	546	(5.9)	67*	(7.5)	35	(3.5)	5.8	(1.1)
Manitoba	457	(7.6)	480	(6.9)	500	(5.5)	513	(5.3)	56*	(8.2)	28	(3.7)	5.0	(1.3)
Saskatchewan	460	(6.2)	474	(5.9)	487	(6.6)	521	(7.1)	61*	(8.0)	30	(3.6)	5.3	(1.2)
Alberta	486	(7.0)	514	(9.7)	538	(8.9)	568	(13.5)	83*	(13.6)	42	(5.3)	8.0	(2.0)
British Columbia	475	(8.8)	509	(7.9)	527	(7.1)	544	(8.8)	69*	(10.0)	35	(4.2)	5.8	(1.4)
OECD average	**434**	**(0.6)**	**465**	**(0.7)**	**492**	**(0.7)**	**527**	**(0.7)**	**93***	**(0.9)**	**39**	**(0.3)**	**12.6**	**(0.2)**

Av. Average
SE Standard error
Dif. Difference
* Significant difference between top and bottom quarters.

Average scores by index of economic, social, and cultural status (ESCS): SCIENCE

Canada, province, or OECD average	Bottom quarter		Second quarter		Third quarter		Top quarter		Difference (top quarter - bottom quarter)		Change in the reading score per one (integer) unit change in the ESCS index		Explained variance in student performance (r² x 100)	
	Av.	SE	Av.	SE	Av.	SE	Av.	SE	Dif.	SE	Dif.	SE	%	SE
Canada	**479**	**(2.6)**	**506**	**(2.4)**	**530**	**(2.4)**	**552**	**(3.3)**	**72***	**(4.0)**	**38**	**(1.9)**	**8.1**	**(0.8)**
Newfoundland and Labrador	464	(7.9)	476	(7.8)	507	(9.0)	523	(9.6)	59*	(11.3)	30	(4.9)	6.5	(2.1)
Prince Edward Island	457	(18.1)	490	(17.9)	528	(23.2)	530	(19.7)	73*	(19.6)	37	(8.3)	9.3	(3.8)
Nova Scotia	464	(7.5)	475	(7.0)	501	(7.6)	535	(7.8)	70*	(9.9)	34	(4.6)	7.0	(1.8)
New Brunswick	447	(6.9)	476	(6.2)	489	(7.3)	526	(8.2)	79*	(10.0)	37	(4.2)	8.9	(1.9)
Quebec	475	(6.4)	498	(5.7)	532	(5.6)	550	(5.6)	74*	(7.5)	42	(3.7)	9.3	(1.5)
Ontario	484	(5.1)	511	(5.0)	530	(5.3)	551	(5.5)	67*	(6.7)	34	(2.9)	6.4	(1.1)
Manitoba	460	(6.8)	485	(6.9)	507	(5.5)	521	(6.2)	60*	(8.0)	29	(3.3)	6.7	(1.4)
Saskatchewan	472	(6.1)	482	(5.1)	498	(5.7)	528	(6.2)	56*	(8.4)	28	(3.7)	5.7	(1.5)
Alberta	489	(7.7)	522	(9.5)	549	(10.0)	578	(13.4)	89*	(13.5)	44	(5.7)	10.2	(2.6)
British Columbia	482	(8.3)	513	(6.6)	533	(6.8)	557	(7.7)	75*	(10.2)	38	(4.2)	8.2	(1.7)
OECD average	**442**	**(0.6)**	**473**	**(0.6)**	**501**	**(0.6)**	**538**	**(0.7)**	**96***	**(0.9)**	**41**	**(0.3)**	**14.2**	**(0.2)**

Av. Average
SE Standard error
Dif. Difference
* Significant difference between top and bottom quarters.

Table B.3.17a

Average scores by immigrant status: READING

Canada, provinces, or OECD average	Non-immigrant students		Immigrant students		Second-generation immigrant students		First-generation immigrant students		Difference (immigrant students - non-immigrant students)		Difference (second-generation students - non-immigrant students)		Difference (first-generation students - non-immigrant students)		Difference (second-generation students - first-generation students)	
	Av.	SE	Av.	SE	Av.	SE	Av.	SE	Dif.	SE	Dif.	SE	Dif.	SE	Dif.	SE
Canada	**508**	**(2.2)**	**520**	**(3.4)**	**536**	**(4.4)**	**501**	**(4.0)**	**11***	**(3.8)**	**28***	**(4.6)**	**-7**	**(4.5)**	**35***	**(5.2)**
Newfoundland and Labrador	482**	(7.5)	481	(22.9)	493‡	(79.3)	479	(22.7)	0	(22.2)	12	(79.6)	-2	(21.8)	14	(81.9)
Prince Edward Island	506	(12.1)	523‡	(24.7)	541‡	(38.3)	521‡	(27.4)	17	(25.2)	35	(37.4)	15	(28.0)	20	(51.0)
Nova Scotia	491**	(6.7)	529	(14.6)	550	(21.8)	518	(20.2)	38*	(14.2)	59*	(21.8)	27	(19.8)	33	(31.6)
New Brunswick	472**	(4.7)	491	(15.0)	495‡	(31.7)	491	(16.7)	20	(16.0)	23	(32.1)	19	(17.6)	4	(36.4)
Quebec	513	(4.7)	486**	(7.3)	498**	(8.8)	474**	(8.8)	-27*	(7.4)	-15	(8.4)	-39*	(9.5)	24*	(10.2)
Ontario	510	(4.3)	528**	(5.4)	542	(6.0)	505	(7.4)	18*	(6.1)	32*	(6.7)	-5	(7.8)	37*	(7.8)
Manitoba	490**	(4.7)	494**	(6.4)	498**	(9.5)	493	(7.7)	5	(7.4)	8	(10.1)	3	(8.6)	5	(11.6)
Saskatchewan	486**	(4.4)	495**	(7.4)	518	(13.3)	488	(8.9)	9	(7.0)	31*	(13.1)	2	(8.5)	30	(16.1)
Alberta	521	(7.4)	537	(10.8)	558	(13.1)	518	(11.7)	16	(12.4)	37*	(14.6)	-3	(12.9)	40*	(13.0)
British Columbia	512	(6.6)	526	(7.6)	541	(11.3)	511	(8.1)	14	(7.6)	30*	(10.8)	0	(8.8)	30*	(12.4)
OECD average	**483**	**(0.5)**	**442**	**(1.7)**	**462**	**(2.4)**	**425**	**(2.3)**	**-41***	**(1.7)**	**-21***	**(2.4)**	**-58***	**(2.3)**	**37***	**(3.2)**

Av. Average
SE Standard error
Dif. Difference
* Significant difference between the two groups.
** Significant difference compared to Canada.
‡ There are fewer than 30 observations.

Table B.3.17b

Percentage of non-immigrant students and immigrant students who performed below Level 2 and at Levels 5 and 6: READING

Below Level 2

Canada or province	Non-immigrant students		Immigrant students		Second-generation immigrant students		First-generation immigrant students		Difference (immigrant students - non-immigrant students)		Difference (second-generation students - non-immigrant students)		Difference (first-generation students - non-immigrant students)		Difference (second-generation students - first-generation students)	
	%	SE	%	SE	%	SE	%	SE	Dif.	SE	Dif.	SE	Dif.	SE	Dif.	SE
Canada	**17.4**	**(0.6)**	**16.0**	**(1.0)**	**11.7**	**(1.2)**	**20.8**	**(1.3)**	**-1.4**	**(1.1)**	**-5.7***	**(1.3)**	**3.4***	**(1.4)**	**-9.1***	**(1.7)**
Newfoundland and Labrador	23.7**	(2.7)	27.7	(9.1)	U‡	(28.6)	U	(9.5)	4.0	(9.3)	--	--	--	--	--	--
Prince Edward Island	17.6	(3.6)	U‡	(8.3)	U‡	(0.0)	U‡	(9.0)	--	--	--	--	--	--	--	--
Nova Scotia	22.6**	(2.1)	U	(5.2)	U	(4.1)	U	(7.6)	--	--	--	--	--	--	--	--
New Brunswick	26.5**	(2.1)	23.0	(5.8)	U‡	(12.9)	23.5	(6.6)	-3.5	(6.2)	--	--	-3.0	(6.9)	--	--
Quebec	15.8	(1.3)	24.2**	(2.5)	19.3**	(3.1)	29.1**	(3.3)	8.4*	(2.7)	3.5	(3.3)	13.3*	(3.5)	-9.8*	(4.1)
Ontario	17.3	(1.2)	13.7**	(1.5)	9.9	(1.7)	20.0	(2.1)	-3.6*	(1.7)	-7.4*	(2.0)	2.7	(2.2)	-10.1*	(2.6)
Manitoba	21.4**	(1.6)	19.4	(2.7)	20.0**	(4.2)	19.2	(3.2)	-1.9	(3.0)	-1.3	(4.4)	-2.2	(3.5)	0.8	(4.9)
Saskatchewan	21.5**	(1.7)	19.1	(2.6)	U	(5.3)	21.1	(3.0)	-2.5	(2.7)	--	--	-0.4	(3.1)	--	--
Alberta	14.8	(2.1)	13.4	(2.8)	U	(3.4)	16.9	(3.3)	-1.4	(3.5)	--	--	2.1	(3.9)	--	--
British Columbia	16.3	(2.0)	14.3	(2.1)	10.3	(2.4)	17.9	(3.0)	-2.0	(2.7)	-6.0*	(2.9)	1.6	(3.3)	-7.6*	(3.3)

Table B.3.17b (cont'd)

Percentage of non-immigrant students and immigrant students who performed below Level 2 and at Levels 5 and 6: READING

Levels 5 and 6

Canada or province	Non-immigrant students		Immigrant students		Second-generation immigrant students		First-generation immigrant students		Difference (immigrant students - non-immigrant students)		Difference (second-generation students - non-immigrant students)		Difference (first-generation students - non-immigrant students)		Difference (second-generation students - first-generation students)	
	%	SE	%	SE	%	SE	%	SE	Dif.	SE	Dif.	SE	Dif.	SE	Dif.	SE
Canada	**13.4**	**(0.7)**	**17.0**	**(1.1)**	**20.3**	**(1.8)**	**13.2**	**(1.1)**	**3.6***	**(1.2)**	**6.9***	**(1.7)**	**-0.2**	**(1.3)**	**7.1***	**(2.0)**
Newfoundland and Labrador	7.9**	(1.5)	U	(7.3)	U‡	(29.7)	U	(7.2)	--	--	--	--	--	--	--	--
Prince Edward Island	U	(4.2)	U‡	(12.2)	U‡	(14.3)	U‡	(12.9)	--	--	--	--	--	--	--	--
Nova Scotia	10.1**	(1.7)	U	(5.9)	U	(10.4)	U	(7.2)	--	--	--	--	--	--	--	--
New Brunswick	6.8**	(1.1)	U	(4.7)	U‡	(11.1)	U	(5.1)	--	--	--	--	--	--	--	--
Quebec	14.0	(1.4)	9.7**	(1.6)	10.2**	(2.3)	9.2	(1.9)	-4.3*	(1.9)	-3.7	(2.3)	-4.8*	(2.3)	1.1	(2.6)
Ontario	13.7	(1.4)	18.1	(1.7)	20.9	(2.3)	13.6	(2.1)	4.5*	(1.8)	7.2*	(2.3)	-0.1	(2.3)	7.3*	(2.9)
Manitoba	9.3**	(1.5)	9.8**	(1.6)	10.9**	(3.2)	9.4	(1.9)	0.5	(2.3)	1.6	(3.3)	0.1	(2.5)	1.5	(3.6)
Saskatchewan	7.5**	(1.3)	8.6**	(2.3)	U	(5.0)	7.4**	(2.2)	1.1	(2.4)	--	--	-0.1	(2.4)	--	--
Alberta	17.0	(2.4)	23.5**	(3.2)	U	(4.8)	17.6	(3.8)	6.5	(3.7)	--	--	0.6	(4.3)	--	--
British Columbia	14.2	(1.7)	17.7	(2.6)	21.5	(4.2)	14.3	(2.7)	3.5	(2.4)	7.3	(3.9)	0.1	(2.8)	7.2	(4.8)

SE Standard error
Dif. Difference
-- Not available.
U Too unreliable to be published.
‡ There are fewer than 30 observations.
* Significant difference between the two groups.
** Significant difference compared to Canada.

Table B.3.18a

Average scores by immigrant status: SCIENCE

Canada, province, or OECD average	Non-immigrant students		Immigrant students		Second-generation immigrant students		First-generation immigrant students		Difference (immigrant students - non-immigrant students)		Difference (second-generation students - non-immigrant students)		Difference (first-generation students - non-immigrant students)		Difference (first-generation students - second-generation students)	
	Av.	SE	Av.	SE	Av.	SE	Av.	SE	Dif.	SE	Dif.	SE	Dif.	SE	Dif.	SE
Canada	**517**	**(2.1)**	**522**	**(3.4)**	**534**	**(4.1)**	**508**	**(4.0)**	**5**	**(3.5)**	**17***	**(4.1)**	**-9***	**(4.1)**	**26***	**(4.6)**
Newfoundland and Labrador	495**	(5.3)	478**	(17.0)	503‡	(46.1)	474	(18.9)	-17	(16.8)	8	(46.8)	-21	(18.4)	29	(51.4)
Prince Edward Island	501	(15.1)	512‡	(23.1)	486‡	(61.3)	514‡	(24.3)	10	(22.7)	-16	(61.5)	13	(23.8)	-29	(65.3)
Nova Scotia	493**	(4.3)	516	(13.1)	520	(23.8)	514	(16.6)	23	(13.4)	27	(24.1)	21	(16.8)	6	(29.8)
New Brunswick	484**	(4.5)	503	(15.8)	505‡	(28.1)	503	(17.9)	19	(15.8)	21	(28.3)	19	(17.8)	3	(34.7)
Quebec	524	(4.2)	494**	(7.1)	505**	(8.5)	483**	(8.8)	-30*	(7.1)	-19*	(8.6)	-41*	(8.8)	22*	(10.2)
Ontario	516	(4.3)	528	(5.1)	539	(5.9)	510	(6.7)	12*	(5.5)	23*	(6.2)	-6	(6.9)	29*	(7.0)
Manitoba	498**	(4.5)	490**	(7.0)	490**	(10.6)	490**	(8.1)	-7	(7.4)	-7	(10.7)	-7	(8.6)	0	(12.1)
Saskatchewan	498**	(3.7)	496**	(6.0)	520	(13.8)	489**	(7.5)	-1	(6.9)	23	(13.6)	-9	(8.5)	31	(17.0)
Alberta	534**	(7.1)	538	(11.1)	553	(13.3)	523	(12.0)	4	(10.9)	19	(13.2)	-11	(11.9)	30*	(12.9)
British Columbia	520	(5.4)	530	(6.7)	538	(9.0)	523	(8.1)	10	(6.6)	18*	(9.1)	3	(7.9)	15	(10.5)
OECD average	**492**	**(0.4)**	**454**	**(1.5)**	**467**	**(2.8)**	**442**	**(2.0)**	**-38***	**(1.5)**	**-25***	**(2.8)**	**-51***	**(2.0)**	**25***	**(3.3)**

Av. Average
SE Standard error
Dif. Difference
‡ There are fewer than 30 observations.
* Significant difference between the two groups.
** Significant difference compared to Canada.

Table B.3.18b

Percentage of non-immigrant students and immigrant students who performed below Level 2 and at Levels 5 and 6: SCIENCE

Canada or province	Non-immigrant students		Immigrant students		Below Level 2 Second-generation immigrant students		First-generation immigrant students		Difference (immigrant students - non-immigrant students)		Difference (second-generation students - non-immigrant students)		Difference (first-generation students - non-immigrant students)		Difference (second-generation students - first-generation students)	
	%	SE	%	SE	%	SE	%	SE	Dif.	SE	Dif.	SE	Dif.	SE	Dif.	SE
Canada	14.5	(0.6)	14.6	(0.9)	11.0	(1.1)	18.8	(1.2)	0.2	(1.0)	-3.4*	(1.1)	4.3*	(1.3)	-7.8*	(1.5)
Newfoundland and Labrador	19.8**	(2.1)	24.7	(7.6)	U‡	(20.5)	26.6	(7.8)	4.9	(7.7)	--	--	6.8	(7.9)	--	--
Prince Edward Island	17.5	(4.8)	U‡	(8.9)	U‡	(31.0)	U‡	(9.1)	--	--	--	--	--	--	--	--
Nova Scotia	21.1**	(1.7)	U	(4.7)	U	(9.4)	U	(5.2)	--	--	--	--	--	--	--	--
New Brunswick	21.9**	(1.7)	17.8	(5.6)	U‡	(11.9)	U	(6.4)	-4.1	(5.8)	--	--	--	--	--	--
Quebec	12.0**	(1.2)	21.5**	(2.2)	17.7**	(2.5)	25.3**	(3.2)	9.5*	(2.3)	5.7*	(2.7)	13.4*	(3.2)	-7.6*	(3.8)
Ontario	15.1	(1.2)	12.9	(1.3)	9.4	(1.4)	18.8	(2.0)	-2.1	(1.7)	-5.6*	(1.6)	3.7	(2.4)	-9.4*	(2.3)
Manitoba	18.4**	(1.8)	19.4	(2.8)	19.5	(4.4)	19.3	(3.2)	1.0	(2.7)	1.2	(4.6)	1.0	(3.1)	0.2	(5.1)
Saskatchewan	16.9	(1.5)	17.3	(2.5)	U	(5.0)	19.5	(3.1)	0.4	(2.9)	-6.9	(5.3)	2.6	(3.3)	-9.5	(6.2)
Alberta	11.6	(1.8)	12.8	(3.0)	U	(3.6)	15.6	(3.7)	1.2	(3.2)	-1.9	(3.8)	4.0	(3.8)	-5.9	(4.2)
British Columbia	14.0	(1.7)	11.9	(1.8)	9.0	(2.1)	14.4	(2.5)	-2.1	(2.0)	-5.0*	(2.5)	0.4	(2.5)	-5.4	(3.0)

Table B.3.18b (cont'd)

Percentage of non-immigrant students and immigrant students who performed below Level 2 and at Levels 5 and 6: SCIENCE

Levels 5 and 6

Canada or province	Non-immigrant students		Immigrant students		Second-generation immigrant students		First-generation immigrant students		Difference (immigrant students - non-immigrant students)		Difference (second-generation students - non-immigrant students)		Difference (first-generation students - non-immigrant students)		Difference (second-generation students - first-generation students)	
	%	SE	%	SE	%	SE	%	SE	Dif.	SE	Dif.	SE	Dif.	SE	Dif.	SE
Canada	**11.9**	**(0.6)**	**14.5**	**(1.0)**	**16.6**	**(1.3)**	**12.1**	**(1.3)**	**2.6***	**(1.0)**	**4.7***	**(1.3)**	**0.2**	**(1.3)**	**4.5***	**(1.6)**
Newfoundland and Labrador	7.3**	(1.3)	U	(4.6)	0.0‡**	(0.0)	U	(5.4)	--	--	-7.3*	(1.3)	--	--	--	--
Prince Edward Island	U	(3.1)	U‡	(7.9)	U‡	(17.8)	U‡	(8.7)	--	--	--	--	--	--	--	--
Nova Scotia	7.9**	(1.2)	U	(5.4)	U	(11.3)	U	(5.5)	--	--	--	--	--	--	--	--
New Brunswick	6.3**	(1.1)	U	(3.9)	U‡	(10.9)	U	(4.5)	--	--	--	--	--	--	--	--
Quebec	12.1	(1.3)	8.9**	(1.6)	10.3**	(2.3)	7.6**	(1.8)	-3.1*	(1.6)	-1.8	(2.2)	-4.5*	(1.9)	2.7	(2.6)
Ontario	12.1	(1.3)	15.4	(1.7)	17.0	(1.9)	12.6	(2.5)	3.3	(1.8)	5.0*	(2.0)	0.5	(2.5)	4.5	(2.7)
Manitoba	7.5**	(1.0)	5.6**	(1.8)	U	(2.4)	U	(2.0)	-1.8	(2.0)	--	--	--	--	--	--
Saskatchewan	6.7**	(1.0)	6.7**	(1.5)	U	(4.4)	U	(1.8)	0.0	(1.7)	--	--	--	--	--	--
Alberta	17.1**	(2.3)	20.2**	(3.1)	24.1	(4.3)	16.7	(3.7)	3.1	(3.3)	7.0	(4.3)	-0.4	(3.9)	7.4	(5.1)
British Columbia	12.0	(1.5)	15.7	(2.2)	16.3	(3.2)	15.1	(2.7)	3.7	(2.1)	4.3	(3.0)	3.1	(2.6)	1.2	(3.8)

SE Standard error
Dif. Difference
U Too unreliable to be published.
‡ There are fewer than 30 observations.
-- Not available.
* Significant difference between the two groups.
** Significant difference compared to Canada.

Table B.3.19a

Average scores by language spoken at home: READING

Canada or province	English		French		Official language		Other		Difference (English - French)		Difference (English - Other)		Difference (French - Other)		Difference (Official language - Other)	
	Av.	SE	Av.	SE	Av.	SE	Av.	SE	Dif.	SE	Dif.	SE	Dif.	SE	Dif.	SE
Canada	**511**	**(2.4)**	**503**	**(4.2)**	**509**	**(2.1)**	**511**	**(4.0)**	**8**	**(4.9)**	**0**	**(4.3)**	**-8**	**(5.6)**	**-1**	**(4.2)**
Newfoundland and Labrador	481**	(7.3)	356‡**	(46.6)	480**	(7.2)	468	(26.4)	125*	(47.1)	13	(24.9)	-112*	(52.6)	12	(24.9)
Prince Edward Island	506	(12.1)	437‡	(35.5)	505	(12.3)	499‡	(31.4)	69*	(34.6)	7	(32.3)	-62	(43.8)	6	(32.0)
Nova Scotia	491**	(6.9)	461**	(18.7)	490**	(6.8)	509	(19.7)	30	(19.6)	-19	(20.0)	-49	(26.9)	-19	(20.0)
New Brunswick	477**	(4.2)	445**	(10.5)	469**	(4.4)	483	(17.5)	32*	(10.9)	-6	(18.3)	-39	(20.8)	-14	(18.4)
Quebec	497	(7.5)	508**	(4.7)	506	(4.6)	484**	(9.8)	-11	(7.1)	13	(12.2)	24*	(9.5)	22*	(9.6)
Ontario	515	(4.1)	467**	(10.5)	514	(4.1)	519	(6.3)	49*	(10.6)	-3	(6.6)	-52*	(11.7)	-5	(6.6)
Manitoba	489**	(4.2)	438**	(14.7)	488**	(4.2)	481**	(9.0)	52*	(14.5)	9	(9.4)	-43*	(16.9)	8	(9.3)
Saskatchewan	488**	(4.2)	433‡**	(25.8)	487**	(4.2)	477**	(8.8)	54*	(25.5)	11	(8.3)	-43	(25.7)	10	(8.3)
Alberta	526**	(6.5)	496	(32.9)	526**	(6.5)	526	(12.9)	30	(31.5)	0	(12.9)	-30	(36.3)	0	(13.0)
British Columbia	514	(6.6)	469‡	(40.1)	513	(6.6)	515	(7.3)	45	(40.8)	-2	(7.3)	-47	(41.2)	-2	(7.3)

Av. Average
SE Standard error
Dif. Difference
U Too unreliable to be published.
‡ There are fewer than 30 observations.
* Significant differences between language groups.
** Significant difference compared to Canada.

Table B.3.19b

Proportion of students who performed below Level 2 by language spoken at home: READING

| Canada or province | Below Level 2 | | | | | | | | | |
| | English | | French | | Official language | | Other language | | Official language - other language | |
	%	Standard error	%	Standard error	%	Standard error	%	Standard error	Score difference	Standard error
Canada	**17.2**	**(0.6)**	**19.3**	**(1.3)**	**17.7**	**(0.6)**	**18.0**	**(1.2)**	**-0.3**	**(1.2)**
Newfoundland and Labrador	24.3**	(2.6)	U‡	(30.4)	24.5**	(2.6)	U	(10.8)	--	--
Prince Edward Island	17.5	(3.3)	U‡	(19.3)	18.1	(3.5)	U‡	(11.3)	--	--
Nova Scotia	22.7**	(2.1)	29.5	(8.3)	22.8**	(2.0)	U	(7.3)	--	--
New Brunswick	25.0**	(2.1)	36.3**	(4.2)	27.8**	(2.0)	23.6	(7.3)	4.2	(7.6)
Quebec	19.5	(2.7)	17.7**	(1.4)	18.0	(1.3)	24.6**	(3.0)	-6.6*	(3.1)
Ontario	16.5	(1.2)	32.8**	(4.2)	17.0	(1.2)	15.0**	(1.6)	2.1	(1.9)
Manitoba	21.7**	(1.5)	37.6**	(8.4)	22.0**	(1.5)	24.1	(3.4)	-2.1	(3.6)
Saskatchewan	21.1**	(1.5)	43.9‡**	(12.5)	21.4**	(1.5)	25.2	(4.0)	-3.8	(4.0)
Alberta	14.0**	(1.7)	U	(12.0)	14.1**	(1.7)	16.6	(3.8)	-2.4	(4.0)
British Columbia	16.1	(1.7)	U‡	17	16.3	(1.7)	17.7	(2.4)	-1.4	(2.5)

U Too unreliable to be published.
‡ There are fewer than 30 observations.
-- Not available.
* Significant difference between those speaking an official language and those speaking another language.
** Significant difference compared to Canada.

Table B.3.20a

Average scores by language spoken at home: SCIENCE

Canada or province	English		French		Official language		Other		Difference (English - French)		Difference (English - Other)		Difference (French - Other)		Difference (Official language - Other)	
	Av.	SE	Av.	SE	Av.	SE	Av.	SE	Dif.	SE	Dif.	SE	Dif.	SE	Dif.	SE
Canada	**517**	**(2.3)**	**515**	**(4.2)**	**517**	**(1.9)**	**515**	**(4.0)**	**2**	**(5.1)**	**2**	**(3.6)**	**0**	**(5.6)**	**1**	**(3.5)**
Newfoundland and Labrador	493**	(5.2)	411‡**	(32.5)	493**	(5.2)	472	(23.1)	83*	(31.6)	22	(22.7)	-61	(38.9)	21	(22.7)
Prince Edward Island	502	(15.3)	464‡	(38.8)	501	(15.0)	492‡	(25.2)	38	(42.0)	10	(24.4)	-28	(44.9)	9	(24.2)
Nova Scotia	492**	(4.3)	484**	(15.0)	492**	(4.3)	501	(17.4)	9	(15.8)	-9	(17.3)	-18	(24.3)	-9	(17.4)
New Brunswick	490**	(6.3)	459**	(11.4)	483**	(4.3)	498	(20.3)	31*	(15.3)	-8	(19.1)	-39	(26.8)	-16	(20.3)
Quebec	507	(6.2)	519**	(4.5)	517	(4.2)	495**	(8.3)	-12	(6.9)	12	(9.5)	24*	(7.8)	22*	(7.7)
Ontario	519	(3.9)	490**	(8.2)	518	(3.8)	521	(6.0)	29*	(8.8)	-2	(5.5)	-31*	(9.8)	-2	(5.5)
Manitoba	496**	(4.1)	460**	(12.3)	495**	(4.1)	477**	(8.7)	36*	(11.3)	19*	(8.5)	-17	(14.7)	18*	(8.5)
Saskatchewan	498**	(3.4)	451‡**	(19.5)	497**	(3.4)	483**	(7.9)	47*	(19.7)	15	(8.5)	-32	(20.2)	14	(8.5)
Alberta	536**	(6.8)	531	(25.1)	535**	(6.8)	530	(12.7)	4	(24.9)	6	(11.2)	2	(27.7)	6	(11.2)
British Columbia	521	(5.2)	482‡	(36.4)	521	(5.2)	523	(7.0)	38	(36.5)	-2	(7.0)	-40	(35.4)	-2	(6.9)

Av. Average
SE Standard error
Dif. Difference
‡ There are fewer than 30 observations.
* Significant differences between language groups.
** Significant difference compared to Canada.

Proportion of students who performed below Level 2 by language spoken at home: SCIENCE

Canada or province	Below Level 2									
	English		French		Official language		Other language		Official language - other language	
	%	Standard error	%	Standard error	%	Standard error	%	Standard error	Score difference	Standard error
Canada	**14.9**	**(0.6)**	**14.8**	**(1.1)**	**14.9**	**(0.6)**	**16.5**	**(1.2)**	**-1.6**	**(1.2)**
Newfoundland and Labrador	20.5**	(1.9)	U‡	(37.6)	20.6**	(1.9)	U	(9.5)	--	--
Prince Edward Island	17.6	(4.8)	U‡	(17.3)	17.9	(4.8)	U‡	(10.9)	--	--
Nova Scotia	21.5**	(1.7)	U	(6.8)	21.4**	(1.7)	17.6	(5.7)	3.8	(5.9)
New Brunswick	20.3**	(2.1)	29.7**	(4.8)	22.6**	(1.6)	U	(7.1)	--	--
Quebec	17.3	(2.3)	13.7**	(1.2)	14.3	(1.2)	20.7	(2.6)	-6.4*	(2.5)
Ontario	14.6	(1.1)	21.7**	(3.1)	14.8	(1.0)	14.9	(1.7)	-0.1	(1.9)
Manitoba	18.7**	(1.8)	27.3	(8.3)	18.9**	(1.8)	24.3	(4.0)	-5.4	(4.0)
Saskatchewan	16.9	(1.4)	U‡	(14.3)	17.1	(1.3)	21.6	(3.1)	-4.6	(3.0)
Alberta	11.4**	(1.6)	U	(10.6)	11.5**	(1.6)	16.0	(4.1)	-4.5	(4.2)
British Columbia	13.8	(1.7)	U‡	(18.6)	14.0	(1.7)	13.8	(2.3)	0.2	(2.6)

U Too unreliable to be published.
‡ There are fewer than 30 observations.
-- Not available.
* Statistically significant difference between those speaking an official language and those speaking another language.
** Significant difference compared to Canada.

Table B.3.21a

Comparisons of performance, PISA 2000, 2003, 2006, 2009, 2012, 2015, 2018, and 2022: READING

Canada, province, or OECD average	2000 Av.	SE	2003 Av.	SE	2006 Av.	SE	2009 Av.	SE	2012 Av.	SE	2015 Av.	SE	2018 Av.	SE	2022 Av.	SE
Canada	**534**	**(1.6)**	**528**	**(5.6)**	**527**	**(5.5)**	**524**	**(5.2)**	**523**	**(6.2)**	**527**	**(7.2)**	**520***	**(4.4)**	**507***	**(7.0)**
Newfoundland and Labrador	517	(2.8)	521	(6.2)	514	(5.9)	506	(6.1)	503	(7.0)	505	(7.6)	512	(5.9)	478*	(9.7)
Prince Edward Island	517	(2.4)	495*	(5.8)	497*	(5.7)	486*	(5.5)	490*	(6.5)	515	(9.1)	503	(9.2)	496	(12.2)
Nova Scotia	521	(2.3)	513	(5.8)	505*	(6.1)	516	(5.6)	508	(6.7)	517	(8.4)	516	(5.6)	489*	(9.1)
New Brunswick	501	(1.8)	502	(5.6)	497	(5.5)	499	(5.5)	497	(6.5)	505	(8.6)	489*	(5.3)	469*	(7.8)
Quebec	536	(3.0)	525	(6.8)	522	(7.1)	522*	(5.8)	520*	(6.9)	532	(8.3)	519*	(5.4)	501*	(8.1)
Ontario	533	(3.3)	530	(6.4)	534	(6.8)	531	(5.8)	528	(7.4)	527	(8.1)	524	(5.4)	512*	(7.7)
Manitoba	529	(3.5)	520	(6.3)	516	(6.1)	495*	(6.1)	495*	(6.8)	498*	(8.4)	494*	(5.3)	486*	(7.7)
Saskatchewan	529	(2.7)	512*	(6.8)	507*	(6.5)	504*	(6.0)	505*	(6.5)	496*	(7.7)	499*	(5.0)	484*	(7.8)
Alberta	550	(3.3)	543	(6.8)	535*	(6.5)	533*	(6.8)	525*	(7.2)	533	(8.6)	532*	(5.9)	525*	(9.1)
British Columbia	538	(2.9)	535	(5.9)	528	(7.5)	525	(6.5)	535	(7.4)	536	(8.8)	519*	(6.0)	511*	(8.9)
OECD average	**500**	**(0.6)**	**494**	**(5.4)**	**492**	**(5.0)**	**493**	**(5.0)**	**496**	**(5.9)**	**493**	**(6.8)**	**487***	**(4.1)**	**477***	**(6.7)**

Av. Average
SE Standard error
* Statistically significant differences compared with PISA 2000.
Note: The linkage error is incorporated into the standard error for 2003, 2006, 2009, 2012, 2015, 2018 and 2022. The composition of OECD countries varies from cycle to cycle; therefore, in trend analyses, the OECD average is adjusted to reflect changes in that composition.

Table B.3.21b

Comparisons of performance, PISA 2009, 2012, 2015, 2018, and 2022: READING

Canada, province, or OECD average	2009		2012		2015		2018		2022	
	Av.	SE	Av.	SE	Av.	SE	Av.	SE	Av.	SE
Canada	**524**	**(1.5)**	**523**	**(3.2)**	**527**	**(4.1)**	**520**	**(4.0)**	**507***	**(5.1)**
Newfoundland and Labrador	506	(3.7)	503	(4.5)	505	(4.9)	512	(5.6)	478*	(8.5)
Prince Edward Island	486	(2.4)	490	(3.7)	515*	(7.0)	503	(9.0)	496	(11.3)
Nova Scotia	516	(2.7)	508	(4.0)	517	(6.0)	516	(5.2)	489*	(7.7)
New Brunswick	499	(2.5)	497	(3.7)	505	(6.3)	489	(5.0)	469*	(6.2)
Quebec	522	(3.1)	520	(4.4)	532	(5.8)	519	(5.0)	501*	(6.6)
Ontario	531	(3.0)	528	(5.1)	527	(5.6)	524	(5.0)	512*	(6.0)
Manitoba	495	(3.6)	495	(4.2)	498	(6.0)	494	(4.9)	486	(6.0)
Saskatchewan	504	(3.3)	505	(3.8)	496	(4.9)	499	(4.6)	484*	(6.2)
Alberta	533	(4.6)	525	(4.8)	533	(6.2)	532	(5.5)	525	(7.8)
British Columbia	525	(4.2)	535	(5.2)	536	(6.5)	519	(5.7)	511	(7.5)
OECD average	**493**	**(0.5)**	**496**	**(2.7)**	**493**	**(3.5)**	**487**	**(3.5)**	**477***	**(4.7)**

Av. Average
SE Standard error
* Statistically significant differences compared with PISA 2009.
Note: The linkage error is incorporated into the standard error for 2012, 2015, 2018 and 2022. The composition of OECD countries varies from cycle to cycle; therefore, in trend analyses, the OECD average is adjusted to reflect changes in that composition.

Table B.3.21c

Comparisons of performance in PISA 2018 and 2022: READING

Canada, province, or OECD average	2018		2022	
	Average	Standard error	Average	Standard error
Canada	**520**	**(1.8)**	**507***	**(2.5)**
Newfoundland and Labrador	512	(4.3)	478*	(7.2)
Prince Edward Island	503	(8.3)	496	(10.4)
Nova Scotia	516	(3.9)	489*	(6.4)
New Brunswick	489	(3.5)	469*	(4.3)
Quebec	519	(3.5)	501*	(4.9)
Ontario	524	(3.5)	512*	(4.1)
Manitoba	494	(3.4)	486	(4.1)
Saskatchewan	499	(3.0)	484*	(4.3)
Alberta	532	(4.3)	525	(6.4)
British Columbia	519	(4.5)	511	(6.0)
OECD average	**487**	**(0.4)**	**477***	**(1.5)**

* Statistically significant differences compared with PISA 2018.
Note: The linkage error is incorporated into the standard error for 2022. The composition of OECD countries varies from cycle to cycle; therefore, in trend analyses, the OECD average is adjusted to reflect changes in that composition.

Comparisons of performance, PISA 2006, 2009, 2012, 2015, 2018, and 2022: SCIENCE

Canada, province, or OECD average	2006		2009		2012		2015		2018		2022	
	Av.	SE	Av.	SE	Av.	SE	Av.	SE	Av.	SE	Av.	SE
Canada	**534**	**(2.0)**	**529**	**(3.0)**	**525***	**(4.0)**	**528**	**(4.9)**	**518***	**(4.1)**	**515***	**(4.2)**
Newfoundland and Labrador	526	(2.5)	518	(4.0)	514*	(5.0)	506*	(5.5)	506*	(7.3)	491*	(6.4)
Prince Edward Island	509	(2.7)	495*	(3.5)	490*	(4.4)	515	(7.0)	502	(9.5)	496	(13.9)
Nova Scotia	520	(2.5)	523	(3.7)	516	(4.6)	517	(6.3)	508	(5.8)	492*	(5.4)
New Brunswick	506	(2.3)	501	(3.5)	507	(4.4)	506	(6.3)	492	(6.7)	483*	(5.6)
Quebec	531	(4.2)	524	(4.1)	516*	(4.8)	537	(6.5)	522	(5.1)	512*	(5.6)
Ontario	537	(4.2)	531	(4.2)	527	(5.6)	524	(6.0)	519*	(5.3)	517*	(5.2)
Manitoba	523	(3.2)	506*	(4.7)	503*	(4.8)	499*	(6.5)	489*	(5.0)	492*	(5.5)
Saskatchewan	517	(3.6)	513	(4.5)	516	(4.6)	496*	(5.5)	501*	(5.2)	494*	(4.8)
Alberta	550	(3.8)	545	(5.0)	539	(5.8)	541	(6.0)	534*	(5.6)	534	(7.7)
British Columbia	539	(4.7)	535	(4.8)	544	(5.3)	539	(6.2)	517*	(6.4)	519*	(6.2)
OECD average	**500**	**(0.5)**	**501**	**(2.6)**	**496**	**(3.5)**	**493**	**(4.5)**	**489***	**(3.5)**	**487***	**(3.7)**

Av. Average
SE Standard error
* Statistically significant differences compared with PISA 2006.
Note: The linkage error is incorporated into the standard error for 2009, 2012, 2015, 2018 and 2022. The composition of OECD countries varies from cycle to cycle; therefore, in trend analyses, the OECD average is adjusted to reflect changes in that composition.

Comparisons of performance in PISA 2015, 2018 and 2022: SCIENCE

Canada, province, or OECD average	2015		2018		2022	
	Average	Standard error	Average	Standard error	Average	Standard error
Canada	**528**	**(2.1)**	**518***	**(2.6)**	**515***	**(2.4)**
Newfoundland and Labrador	506	(3.2)	506	(6.5)	491*	(5.4)
Prince Edward Island	515	(5.4)	502	(9.0)	496	(13.4)
Nova Scotia	517	(4.5)	508	(4.9)	492*	(4.1)
New Brunswick	506	(4.5)	492	(5.9)	483*	(4.5)
Quebec	537	(4.7)	522*	(4.0)	512*	(4.4)
Ontario	524	(3.9)	519	(4.3)	517	(3.9)
Manitoba	499	(4.7)	489	(4.0)	492	(4.3)
Saskatchewan	496	(3.1)	501	(4.1)	494	(3.4)
Alberta	541	(4.0)	534	(4.6)	534	(6.9)
British Columbia	539	(4.3)	517*	(5.6)	519*	(5.1)
OECD average	**493**	**(0.4)**	**489**	**(2.7)**	**487***	**(1.5)**

* Statistically significant differences compared with PISA 2015.
Note: The linkage error is incorporated into the standard error for 2018 and 2022. The composition of OECD countries varies from cycle to cycle; therefore, in trend analyses, the OECD average is adjusted to reflect changes in that composition.

Table B.3.22c

Comparisons of performance, PISA 2018 and 2022: SCIENCE

Canada, province, or OECD average	2018		2022	
	Average	Standard error	Average	Standard error
Canada	**518**	**(2.2)**	**515**	**(2.5)**
Newfoundland and Labrador	506	(6.4)	491	(5.4)
Prince Edward Island	502	(8.9)	496	(13.5)
Nova Scotia	508	(4.7)	492*	(4.2)
New Brunswick	492	(5.7)	483	(4.6)
Quebec	522	(3.7)	512	(4.5)
Ontario	519	(4.0)	517	(4.0)
Manitoba	489	(3.7)	492	(4.3)
Saskatchewan	501	(3.9)	494	(3.5)
Alberta	534	(4.4)	534	(6.9)
British Columbia	517	(5.4)	519	(5.2)
OECD average	**489**	**(0.4)**	**487**	**(1.7)**

* Statistically significant differences compared with PISA 2018.
Note: The linkage error is incorporated into the standard error for 2022. The composition of OECD countries varies from cycle to cycle; therefore, in trend analyses, the OECD average is adjusted to reflect changes in that composition.

Table B.3.23

Comparison of average scores by gender in PISA 2018 and 2022: READING

Canada or province	2018				2022				2018 - 2022			
	Boys		Girls		Boys		Girls		Boys		Girls	
	Av.	SE	Av.	SE	Av.	SE	Av.	SE	Dif.	SE w/ LE	Dif.	SE w/ LE
Canada	**506**	**(2.1)**	**535**	**(2.0)**	**495**	**(2.3)**	**519**	**(2.2)**	**-11***	**(3.5)**	**-15***	**(3.3)**
Newfoundland and Labrador	499	(6.0)	525	(5.3)	461	(8.9)	498	(7.3)	-38*	(10.8)	-27*	(9.1)
Prince Edward Island	487	(12.1)	518	(8.7)	486	(13.9)	508	(10.5)	-1	(18.5)	-10	(13.7)
Nova Scotia	495	(5.0)	535	(4.2)	473	(7.3)	506	(6.9)	-22*	(9.0)	-29*	(8.2)
New Brunswick	472	(4.9)	506	(4.5)	457	(5.6)	481	(5.6)	-15*	(7.6)	-25*	(7.4)
Quebec	505	(3.4)	534	(4.2)	492	(5.7)	510	(4.7)	-13	(6.8)	-23*	(6.5)
Ontario	511	(4.4)	537	(3.7)	499	(4.4)	525	(4.0)	-12	(6.4)	-12*	(5.6)
Manitoba	482	(3.7)	508	(4.8)	471	(4.6)	500	(4.7)	-10	(6.1)	-7	(6.9)
Saskatchewan	484	(3.9)	515	(3.3)	472	(5.0)	496	(4.8)	-12	(6.5)	-19*	(6.0)
Alberta	516	(5.1)	548	(4.3)	514	(7.7)	535	(6.8)	-2	(9.4)	-12	(8.1)
British Columbia	503	(5.0)	536	(4.9)	498	(7.0)	524	(6.7)	-5	(8.7)	-12	(8.4)

Av. Average
SE Standard error
Dif. Difference
SE w/ LE Standard error with linking error
* Significant difference with PISA 2018.

Comparison of average scores by gender in PISA 2018 and 2022: SCIENCE

| Canada or province | 2018 | | | | 2022 | | | | 2018 - 2022 | | | |
| | Boys | | Girls | | Boys | | Girls | | Boys | | Girls | |
	Av.	SE	Av.	SE	Av.	SE	Av.	SE	Dif.	SE w/ LE	Dif.	SE w/ LE
Canada	**516**	**(2.7)**	**520**	**(2.5)**	**515**	**(2.4)**	**515**	**(2.1)**	**-1**	**(3.9)**	**-5**	**(3.6)**
Newfoundland and Labrador	506	(8.1)	506	(7.0)	486	(7.1)	497	(5.4)	-20	(10.9)	-8	(9.0)
Prince Edward Island	499	(11.6)	504	(10.0)	503	(15.3)	489	(14.4)	4	(19.2)	-15	(17.6)
Nova Scotia	502	(5.4)	514	(6.0)	489	(5.3)	495	(5.0)	-13	(7.7)	-19*	(8.0)
New Brunswick	488	(6.9)	496	(6.2)	481	(6.1)	485	(4.9)	-8	(9.4)	-11	(8.1)
Quebec	520	(4.4)	523	(4.3)	511	(4.5)	512	(5.0)	-8	(6.5)	-11	(6.8)
Ontario	518	(4.7)	519	(4.6)	518	(4.4)	517	(3.7)	-1	(6.6)	-2	(6.2)
Manitoba	490	(3.9)	489	(5.1)	491	(5.0)	494	(4.7)	0	(6.6)	5	(7.1)
Saskatchewan	497	(4.6)	505	(4.4)	494	(3.8)	494	(4.0)	-4	(6.2)	-11	(6.2)
Alberta	530	(5.3)	538	(4.2)	537	(7.8)	531	(7.2)	7	(9.6)	-7	(8.5)
British Columbia	514	(6.4)	519	(5.7)	520	(6.3)	518	(6.0)	5	(9.1)	-1	(8.4)

Av. Average
SE Standard error
Dif. Difference
SE w/ LE Standard error with linking error
* Significant difference with PISA 2018.

Proportion of students who performed below Level 2 and at Levels 5 and 6, in PISA 2018 and 2022: READING

| Canada or province | Below Level 2 | | | | | | Levels 5 and 6 | | | | | |
| | 2018 | | 2022 | | Difference 2018 - 2022 | | 2018 | | 2022 | | Difference 2018 - 2022 | |
	%	SE	%	SE	Dif.	SE w/ LE	%	SE	%	SE	Dif.	SE w/ LE
Canada	**13.8**	**(0.5)**	**18.1**	**(0.6)**	**4.4***	**(0.9)**	**15.0**	**(0.6)**	**13.6**	**(0.6)**	**-1.4**	**(0.9)**
Newfoundland and Labrador	15.3	(1.6)	25.1	(2.5)	9.8*	(3.0)	12.6	(1.3)	7.7	(1.4)	-4.9*	(2.0)
Prince Edward Island	18.4	(2.6)	20.0	(3.2)	1.6	(4.1)	11.9	(2.2)	9.7	(3.7)	-2.2	(4.3)
Nova Scotia	15.1	(1.3)	23.0	(2.1)	7.9*	(2.5)	14.0	(1.6)	9.9	(1.4)	-4.0	(2.1)
New Brunswick	22.0	(1.4)	27.6	(1.9)	5.7*	(2.4)	9.3	(1.3)	6.8	(1.0)	-2.5	(1.7)
Quebec	12.3	(0.9)	19.4	(1.3)	7.1*	(1.7)	12.8	(1.1)	11.9	(1.1)	-0.9	(1.6)
Ontario	13.2	(1.0)	17.2	(1.1)	4.0*	(1.5)	16.4	(1.1)	14.3	(1.2)	-2.1	(1.6)
Manitoba	19.7	(1.3)	22.1	(1.4)	2.4	(2.0)	9.3	(1.0)	8.4	(1.0)	-0.9	(1.4)
Saskatchewan	16.8	(1.1)	22.4	(1.5)	5.6*	(1.9)	8.8	(1.0)	7.3	(1.1)	-1.5	(1.5)
Alberta	11.9	(1.2)	14.8	(1.6)	2.8	(2.0)	18.3	(1.4)	18.9	(1.9)	0.6	(2.4)
British Columbia	15.1	(1.2)	17.0	(1.6)	1.9	(2.1)	15.8	(1.2)	14.4	(1.6)	-1.4	(2.0)

SE Standard error
Dif. Difference
SE w/ LE Standard error with linking error
* Significant difference with PISA 2018.

Proportion of students who performed below Level 2 and at Levels 5 and 6, in PISA 2018 and 2022: SCIENCE

Canada or province	Below Level 2						Levels 5 and 6					
	2018		2022		Difference 2018 - 2022		2018		2022		Difference 2018 - 2022	
	%	SE	%	SE	Dif.	SE w/ LE	%	SE	%	SE	Dif.	SE w/ LE
Canada	13.4	(0.5)	15.3	(0.5)	1.8*	(0.9)	11.3	(0.6)	12.0	(0.6)	0.6	(0.9)
Newfoundland and Labrador	15.4	(2.2)	21.0	(2.0)	5.5	(3.0)	9.2	(1.4)	6.8	(1.1)	-2.4	(1.8)
Prince Edward Island	18.8	(2.5)	19.0	(4.2)	0.3	(5.0)	8.3	(2.5)	7.2	(2.9)	-1.1	(3.8)
Nova Scotia	15.4	(1.6)	21.0	(1.5)	5.6*	(2.2)	9.3	(1.1)	7.6	(1.0)	-1.7	(1.5)
New Brunswick	19.4	(1.8)	22.6	(1.5)	3.1	(2.4)	7.0	(1.3)	6.3	(1.0)	-0.8	(1.7)
Quebec	11.7	(1.1)	15.2	(1.2)	3.5*	(1.6)	10.4	(0.9)	10.3	(1.1)	-0.1	(1.5)
Ontario	12.9	(1.1)	15.1	(1.0)	2.1	(1.5)	11.5	(1.0)	12.5	(1.0)	1.0	(1.5)
Manitoba	20.7	(1.5)	19.3	(1.6)	-1.4	(2.3)	6.4	(0.6)	6.3	(0.8)	-0.2	(1.0)
Saskatchewan	16.0	(1.4)	18.1	(1.3)	2.2	(2.0)	6.9	(0.9)	6.3	(0.8)	-0.6	(1.2)
Alberta	11.0	(1.2)	12.2	(1.6)	1.2	(2.1)	14.9	(1.6)	17.8	(2.0)	2.8	(2.6)
British Columbia	15.5	(1.6)	14.3	(1.5)	-1.1	(2.2)	12.9	(1.4)	12.4	(1.4)	-0.5	(2.0)

SE Standard error
Dif. Difference
SE w/ LE Standard error with linking error
* Significant difference with PISA 2018.

Table B.3.27

Proportion of students who performed below Level 2 and at Levels 5 and 6, in PISA 2000, 2003, 2006, 2009, 2012, 2015, 2018 and 2022: MATHEMATICS, READING, and SCIENCE

Below Level 2

	2000		2003		2006		2009		2012		2015		2018		2022	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Mathematics	n.a.	n.a.	10.1	(0.5)	10.8	(0.6)	11.5	(0.5)	13.8	(0.5)	14.4	(0.7)	16.3	(0.7)	21.6	(0.6)
Reading	9.6	(0.4)	9.5	(0.6)	11.0	(0.7)	10.3	(0.5)	10.9	(0.5)	10.7	(0.6)	13.8	(0.5)	18.1	(0.6)
Science	n.a.	n.a.	n.a.	n.a.	10.0	(0.6)	9.6	(0.5)	10.4	(0.5)	11.1	(0.5)	13.4	(0.5)	15.3	(0.5)

Levels 5 and 6

	2000		2003		2006		2009		2012		2015		2018		2022	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Mathematics	n.a.	n.a.	20.3	(0.7)	17.9	(0.7)	18.3	(0.6)	16.4	(0.6)	15.1	(0.8)	15.3	(0.7)	12.5	(0.5)
Reading	16.8	(0.5)	12.6	(0.5)	14.5	(0.7)	12.8	(0.5)	12.9	(0.6)	14.0	(0.7)	15.0	(0.6)	13.6	(0.6)
Science	n.a.	n.a.	n.a.	n.a.	14.4	(0.5)	12.1	(0.5)	11.3	(0.5)	12.4	(0.6)	11.3	(0.6)	12.0	(0.6)

SE Standard error

Note: When comparing between cycles, a linkage error needs to be added to the standard errors.
n.a. Data not available because the domain was not tested at the time.