Pan-Canadian Assessment Program

PCAP 2019 FAQ

cmec
Council of Ministers of Education, Canada
Conseil des ministres de l'Éducation (Canada)

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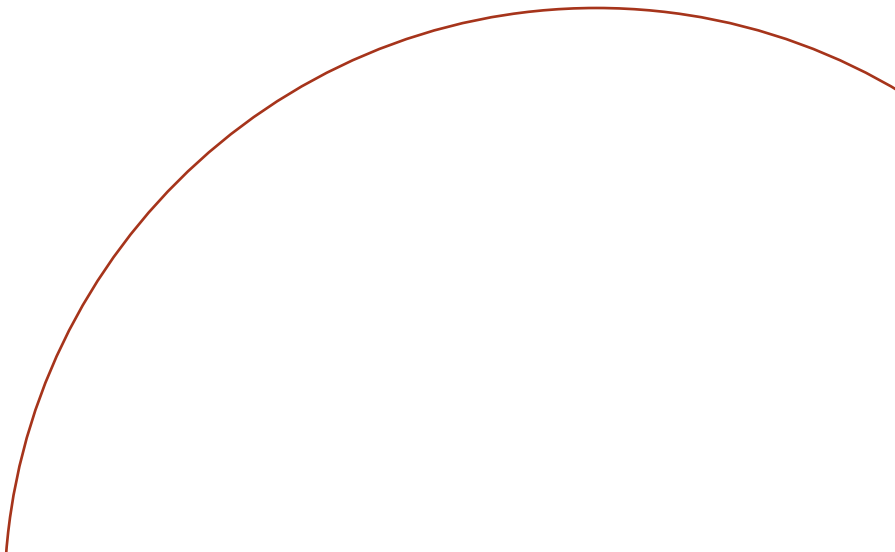


What is PCAP?

The Pan-Canadian Assessment Program (PCAP) is a survey of the knowledge and skills of Canadian students in three core learning areas — mathematics, reading, and science. It was developed and is administered by the Council of Ministers of Education, Canada (CMEC) with the active involvement of all participating ministries and departments of education.

Why was PCAP developed?

CMEC developed PCAP to ensure the availability of statistically valid, comparable data on student achievement in Canada. PCAP data will be used by education researchers, policy-makers, and government officials to understand and make improvements to provincial and territorial education systems.

Which students are assessed in PCAP?

For PCAP 2019, approximately 30,000 students in Grade 8 (Secondary II in Quebec) from close to 1,600 schools across the country were tested. Mathematics was the major focus of the assessment. Reading and science were also assessed. Approximately 22,000 students were tested in English and 7,500 in French.

Students from all provinces participated in PCAP 2019.

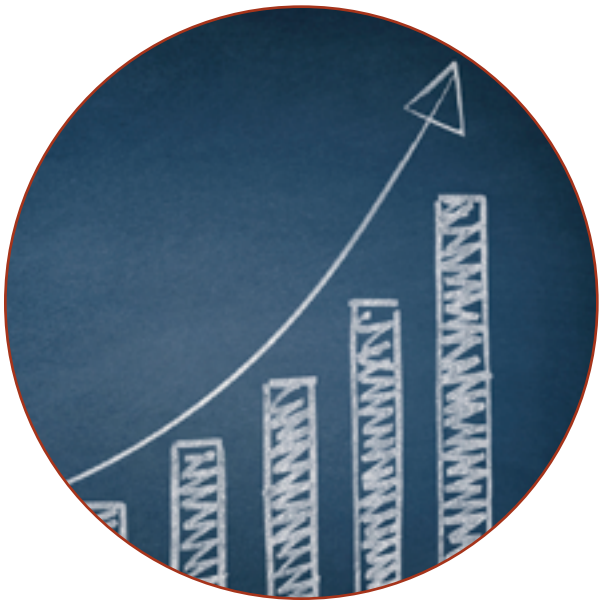
Who funds PCAP and how much does it cost?

PCAP is funded by provinces and territories through their long-standing intergovernmental body, the Council of Ministers of Education, Canada (CMEC). On average, PCAP costs approximately $1.2 million annually.

How often is PCAP administered?

PCAP is administered every three years on a nine-year cycle that allows for comparison of results over time in all three domains — mathematics, reading, and science. These data help provinces and territories understand how the performance of their education systems may have changed over time.

2007	**Reading**	Math	Science
2010	Reading	**Math**	Science
2013	Reading	Math	**Science**
2016	**Reading**	Math	Science
2019	Reading	**Math**	Science
2023	Reading	Math	**Science**



Each PCAP assessment has a major domain, or focus, and two minor domains. The major domain (in yellow) changes every three years. A major-domain assessment can be compared over time with another minor- or major-domain assessment in the same subject. Both PISA 2021 and PCAP 2022 were put on pause for one year because of the pandemic.

Why does PCAP have one major domain and two minor domains?

This particular structure was chosen to align PCAP with the Organisation for Economic Co-operation and Development's (OECD's) Programme for International Student Assessment (PISA). It is expected that a significant portion of the Grade 8/ Secondary II student cohort from PCAP will take the PISA assessment when those students are 15 years old. PISA 2022 will also have mathematics as its major domain, so it will be possible to compare performance patterns between the two assessments.

Can performance among different provinces and territories really be compared?

Education systems and school programs differ from one province or territory to another, so comparing results can be a complex task. PCAP allows a variety of education systems to be compared according to a set of common benchmarks in mathematics, reading, and science. The benchmarks have been established through extensive consultation among provinces and territories and with the guidance of statisticians, psychometricians, and education experts.

By agreeing to common benchmarks, provinces and territories are able to determine their relative performance in relation to each other, even if their approaches to education may differ.

Is the assessment fair to students in each province and territory?

The assessment is not tied to the curriculum of a particular province or territory but is instead a fair measurement of students' abilities to apply their skills to real-life situations. It measures how well students are doing; it does not attempt to assess approaches to learning.

Provinces and territories also work to ensure that the unique qualities of our country's education systems are taken into account. Factors such as linguistic differences, rural and urban school locations, and cultural influences are all considered in both the assessment itself and in related context questionnaires. In addition, the common curricular framework for each subject incorporated an agreed-upon perspective for all provinces and territories that was based upon the latest pedagogical research.

PCAP 2019 marks the beginning of the transition from a paper-based assessment to an online assessment. Students today interact extensively with technology — both in the classroom and in their daily lives. Digital interaction and engagement are now ubiquitous; therefore, the move to an online assessment aligns with current educational and social practices, and also supports increased student engagement.

How are the results from PCAP determined?

PCAP uses four equivalent versions of the test to ensure both broad content coverage and a fair and accurate means of comparing student performance across provinces. To render the scores obtained from the various versions comparable, assessment experts developed a statistically valid "common language." This was done by converting the raw scores from the four versions of the test to a standard scale. Students' total scores in each subject area were transposed onto a common scale, ranging from 0 to 1,000, with the average for the pan-Canadian population set at 500. The resulting scores are called "scale scores."

As a result of this conversion, the scores of two-thirds of the students participating in PCAP 2019 fell within the range of 400 to 600 points, which represents a "statistically normal distribution" of scores.

How does PCAP define mathematical literacy?

For the purpose of the PCAP assessment, mathematics is broadly defined as the study of patterns and relationships, and as a discipline that involves conceptual understanding, procedural knowledge, and processes. The mathematics domain is divided into four strands or sub-domains: numbers and operations; geometry and measurement; patterns and relationships; and data management and probability.

In recent years, much attention in the education field has been focused on the development of 21st-century skills, which are usually described as skills that individuals will have to master in order to succeed in the current century. The four mathematics sub-domains incorporate several processes that require these 21st-century skills, such as critical thinking and problem solving; creativity and innovation; communication and collaboration; information and communications technology (ICT) literacy; flexibility and adaptability; and initiative and self-direction. The limitations of a large-scale assessment reduce the number of processes or skills that can be reliably assessed. Therefore, only five processes that reflect 21st-century skills have been selected for this assessment: problem solving, reasoning and proof, communication, connections, and representation.

A forthcoming issue of *Assessment Matters!*, a series of articles and research notes available on the CMEC website, will show the types of knowledge and skills that are accessible to students at different levels of performance.

What do the performance levels in mathematics mean?

Performance levels represent how well students are doing based on the cognitive demand and degree of difficulty of the test items. Cognitive demand is defined by the level of reasoning required by the student to correctly answer an item, from high demand to low demand; degree of difficulty is defined by a statistical determination of the collective performance of the students on the assessment.

There were four levels of performance in the mathematics component of PCAP 2019:

Level 4	Students who scored 645 and above
Level 3	Students who scored between 498 and 644
Level 2	Students who scored between 386 and 497
Level 1	Students who scored 385 and below

Level 2 is the expected level of performance for Grade 8/Secondary II students. Level 1 represents the performance of students at a level below that expected of students in their grade. Levels 3 and 4 represent higher levels of performance. The defined expected levels of performance were established by a panel of assessment and education experts from across Canada, and confirmed by actual student test responses.

When will the next PCAP assessment take place?

PCAP will be administered again in 2023. PCAP 2023 will have science as its major focus; reading and mathematics will be assessed as minor domains.