Pan-Canadian Assessment Program

# PCAP 2016

## Report on the Pan-Canadian Assessment of Reading, Mathematics, and Science

cmec

# PCAP 2016
# Public Report

**April 30, 2018**

**Toronto, Ontario**

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Council of Ministers of Education, Canada

Conseil des ministres de l'Éducation (Canada)

# What is PCAP?

Approximately 27,000 Grade 8/Secondary II students from close to 1,500 schools

Developed by CMEC and provinces/territories

10 provinces

Initiated in 2007, administered every three years

Administered in English and French

Based on common curriculum outcomes across Canada

Includes contextual questionnaires for students, teachers, and school principals

# What does PCAP assess?

- The assessment is not tied to the curriculum of a particular province or territory but is instead a fair measurement of students' abilities to use their learning skills to solve real-life situations.
- It measures how well students are doing; it does not attempt to assess approaches to learning.
- PCAP 2016 was the fourth cycle of PCAP to be completed, and it focused on reading literacy, defined through four subdomains: understanding texts, interpreting texts, responding personally to texts, and responding critically to texts.

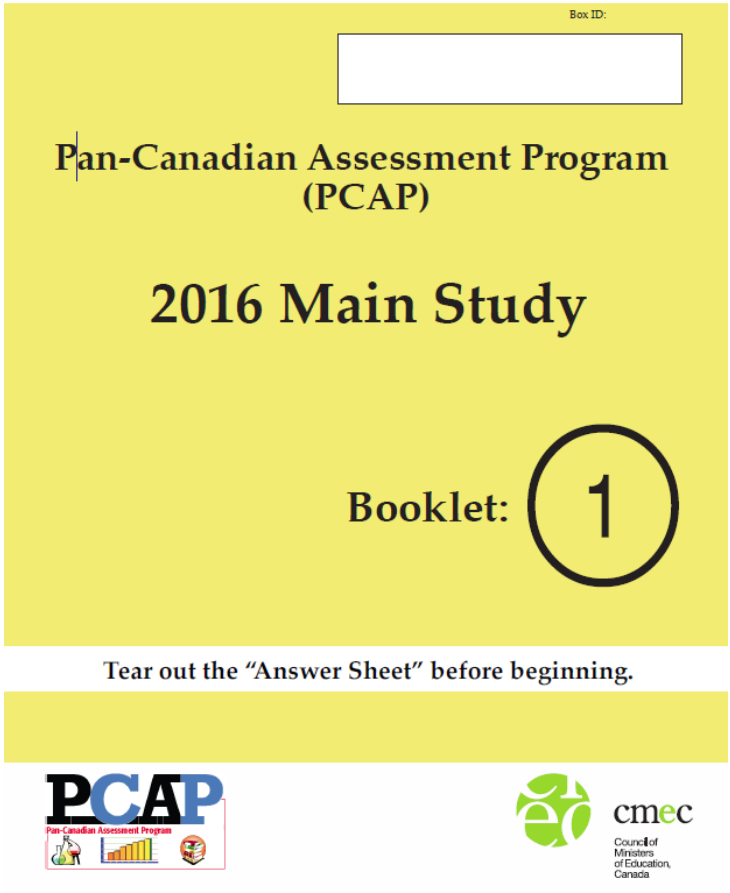
# PCAP administration

90-minute paper-based test

Major Domain:
Reading

Minor Domains:
Mathematics
Science

30-minute background questionnaire



# Close to 90 per cent of Canadian students meet or exceed the expected level* of reading performance

At the pan-Canadian level, 88 per cent of students are achieving at or above the expected level of performance for their grade.

Across provinces, between 82 and 91 per cent of students achieve at or above the expected level.

| Province | Levels 2 and 3 (%) |
|---|---|
| British Columbia | 88 |
| Alberta | 88 |
| Saskatchewan | **84** |
| Manitoba | **83** |
| Ontario | 89 |
| Quebec | 89 |
| New Brunswick | **82** |
| Nova Scotia | **85** |
| Prince Edward Island | **91** |
| Newfoundland and Labrador | **82** |
| **Canada** | **88** |

*Bold font denotes a significant difference compared to Canada*

*The level at which students demonstrate the reading skills and competencies needed to participate effectively in school and in everyday life.

# 14 per cent of Canadian students read above the expected level of performance

In Canada overall, 14 per cent of students are above the expected (or baseline) level of performance.

Across provinces, between 9 and 16 per cent of students perform at the highest level of reading achievement

Performance at the Canadian average:

- BC, AB, ON, NS, PE

| Jurisdiction | Above Expected Level of Performance (Level 3) (%) |
|---|---|
| British Columbia | 15 |
| Alberta | 16 |
| Saskatchewan | **9** |
| Manitoba | **9** |
| Ontario | 16 |
| Quebec | **11** |
| New Brunswick | **9** |
| Nova Scotia | 12 |
| Prince Edward Island | 13 |
| Newfoundland and Labrador | **11** |
| **Canada** | **14** |

*Bold font denotes a significant difference compared to Canada*

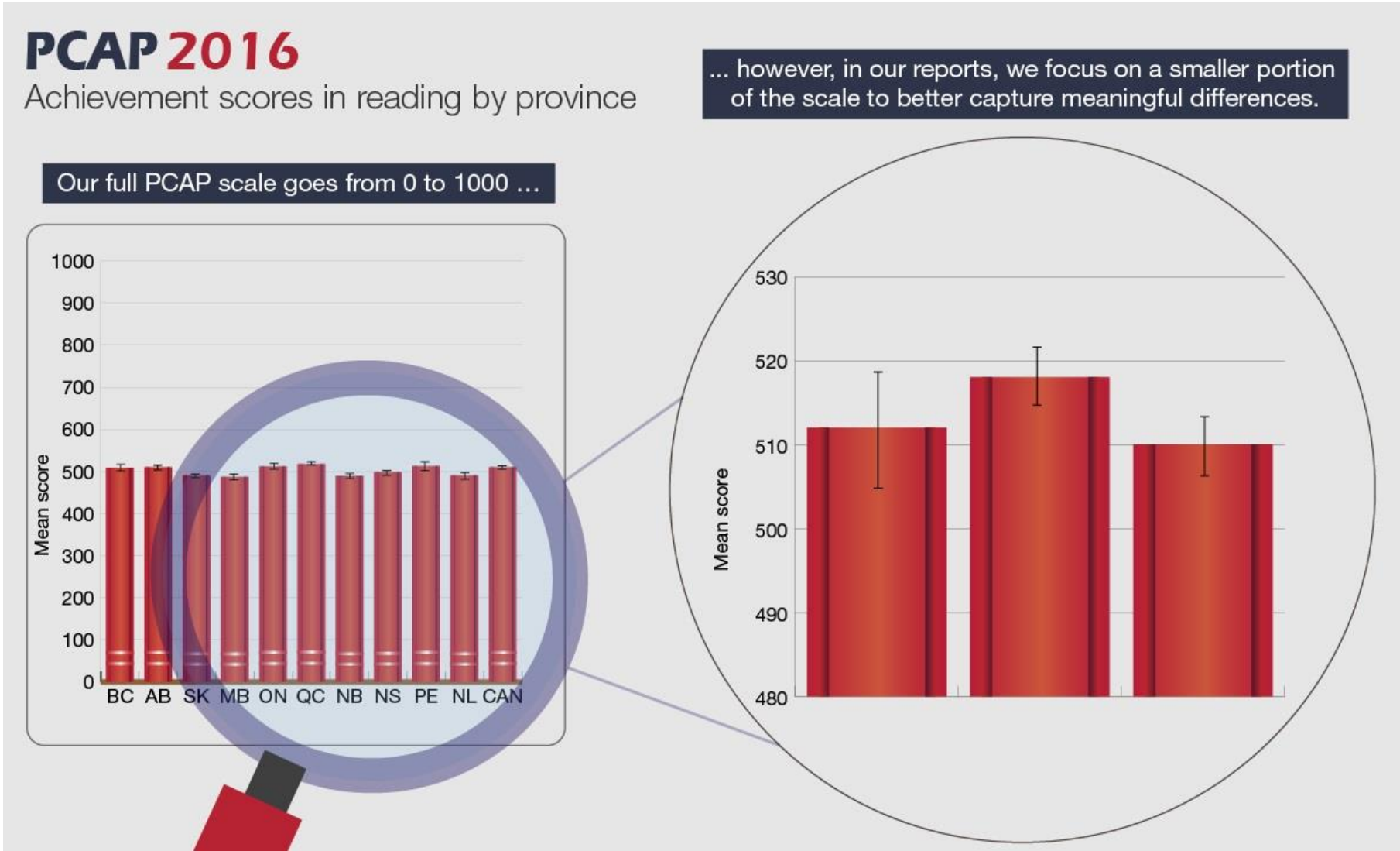
# Provincial achievement was compared to overall Canadian results

The highest achievement was found in Quebec for mathematics and in Alberta for science.

| | Above the Canadian average | At the Canadian average | Below the Canadian average |
|---|---|---|---|
| **Reading** | | BC, AB, ON, QC, PE | SK, MB, NB, NS, NL |
| **Mathematics** | QC | ON, PE | BC, AB, SK, MB, NB, NS, NL |
| **Science** | AB | BC, ON, QC, PE, NL | SK, MB, NB, NS |

# PCAP 2016 – a note on graphs

## The axis scale for mean scores is chosen to show differences

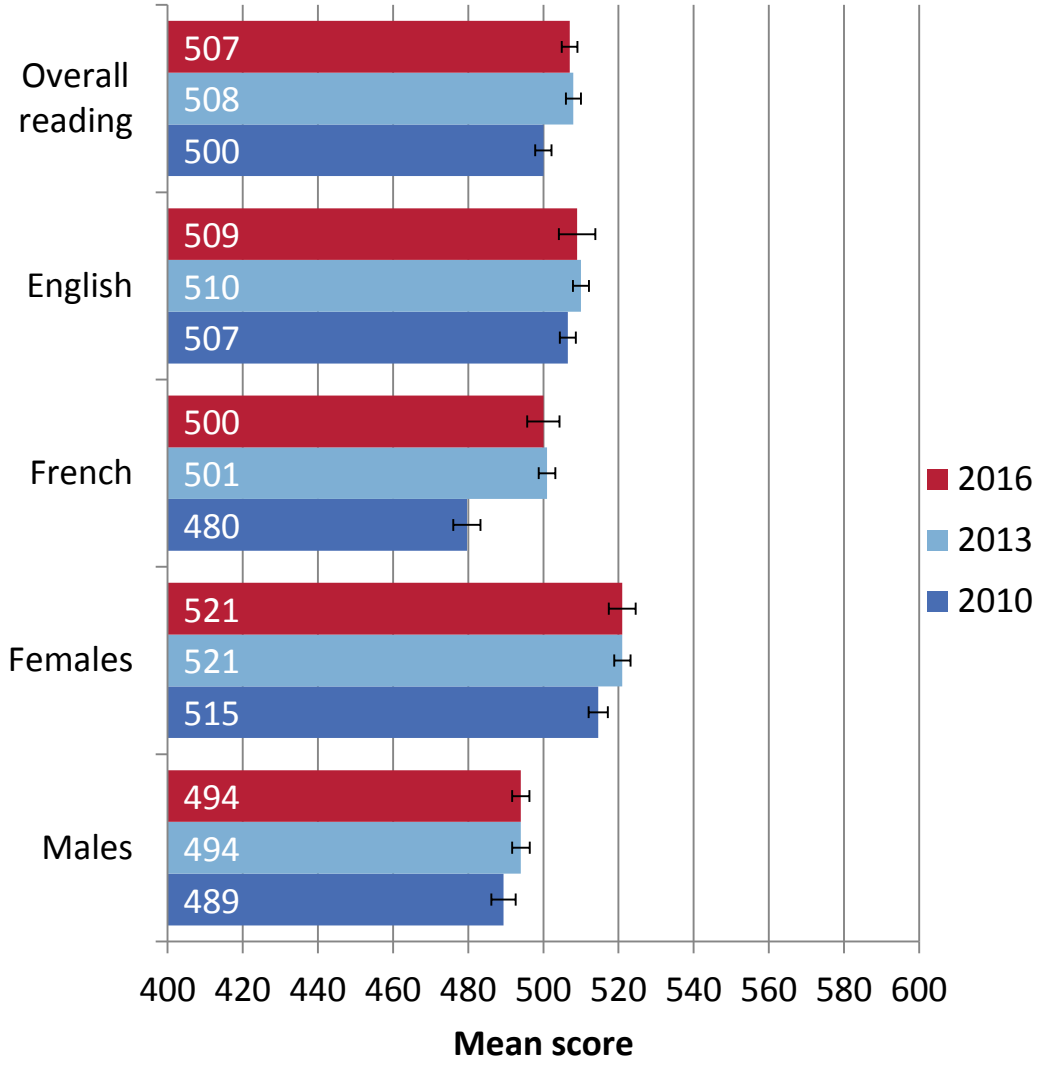


# Pan-Canadian reading results have been generally positive over time

Between 2010 and 2016, a positive change occurred overall in reading in Canada.

Results improved during this time in French-language schools and remained stable in English-language schools.

Reading achievement improved for girls while remaining stable for boys.



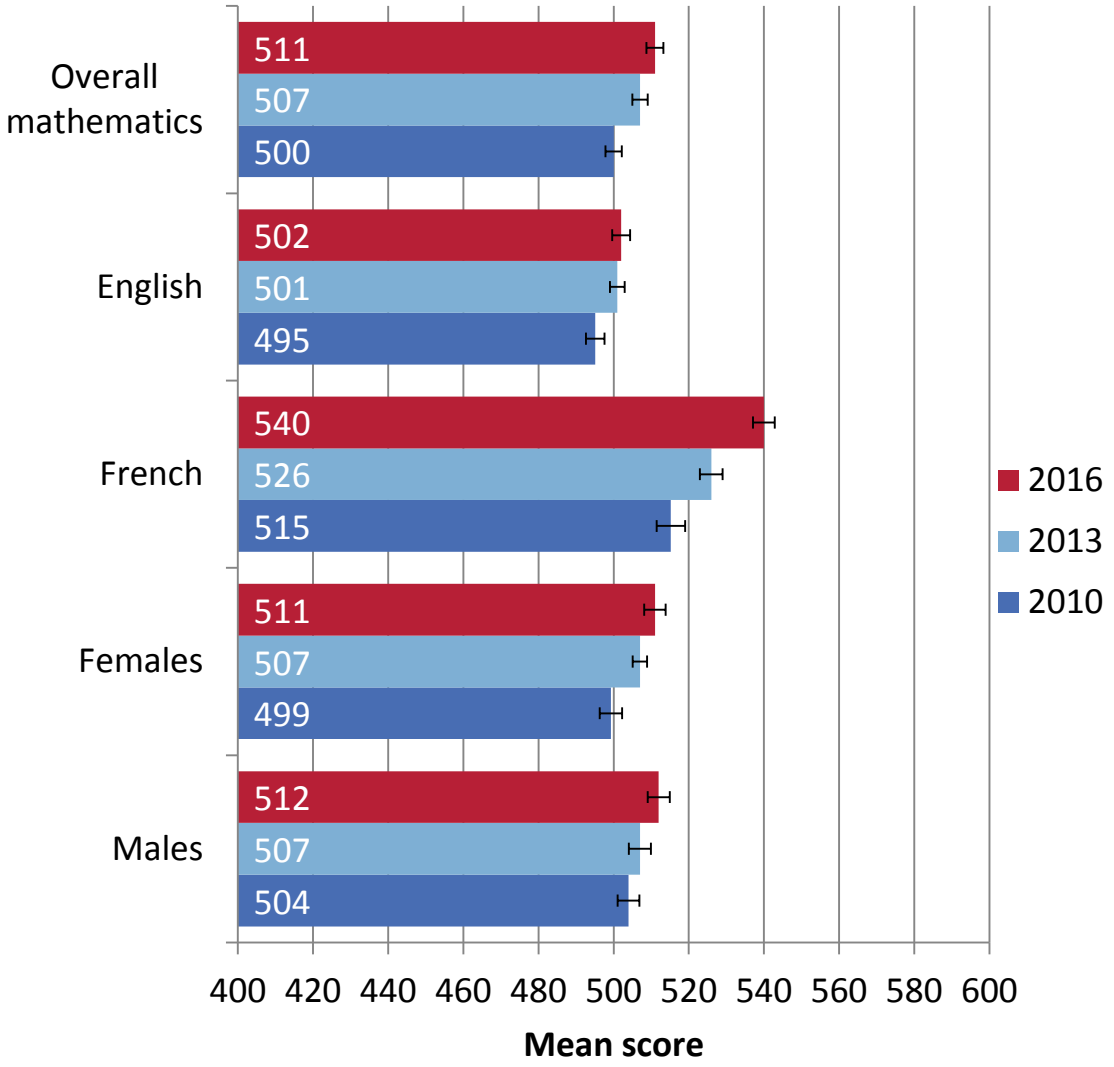
# Reading comparison – 2010 and 2016

Compared to the adjusted baseline year in 2010, provincial reading achievement has improved or remained stable in 2016.

| Positive change over time | Negative change over time | No change over time |
|---|---|---|
| **Reading overall** | | |
| British Columbia, Manitoba, Quebec, New Brunswick, Nova Scotia, Prince Edward Island | | Alberta, Saskatchewan, Ontario, Newfoundland and Labrador |

# In Canada as a whole, mathematics achievement is improving

Between 2010 and 2016, there is a positive change for mathematics overall, in both English- and French-language schools, and for girls and boys at the pan-Canadian level.



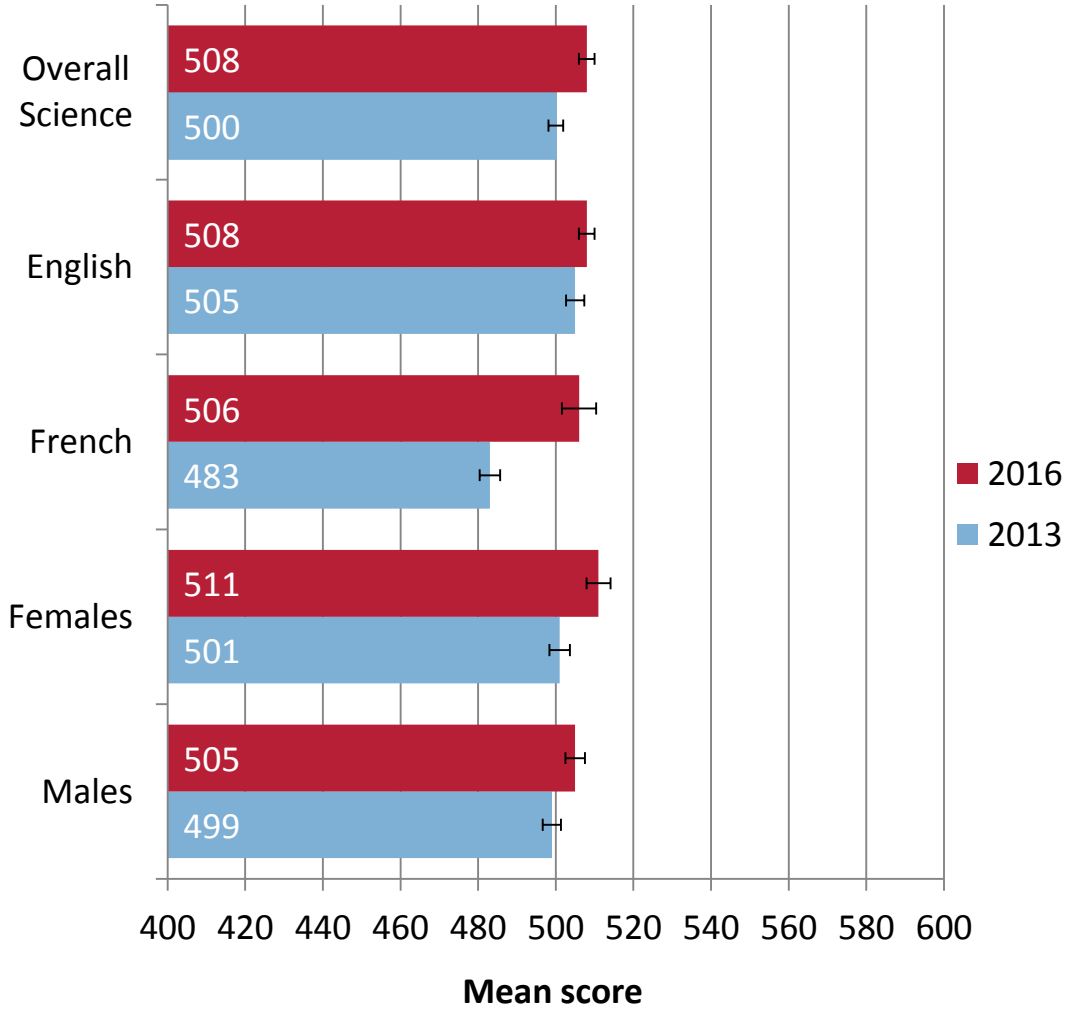
# Mathematics comparison – 2010 and 2016

Between 2010 and 2016, improvement in mathematics achievement was shown in most provinces.

| Positive change over time | Negative change over time | No change over time |
|---|---|---|
| **Mathematics overall** | | |
| British Columbia, Alberta, Saskatchewan, Manitoba, Quebec, New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland and Labrador | | Ontario |

# Science achievement has also shown improvement across Canada

Between 2013 and 2016, there was a positive change for science overall, in both English- and French-language schools, and for girls and boys at the pan-Canadian level.



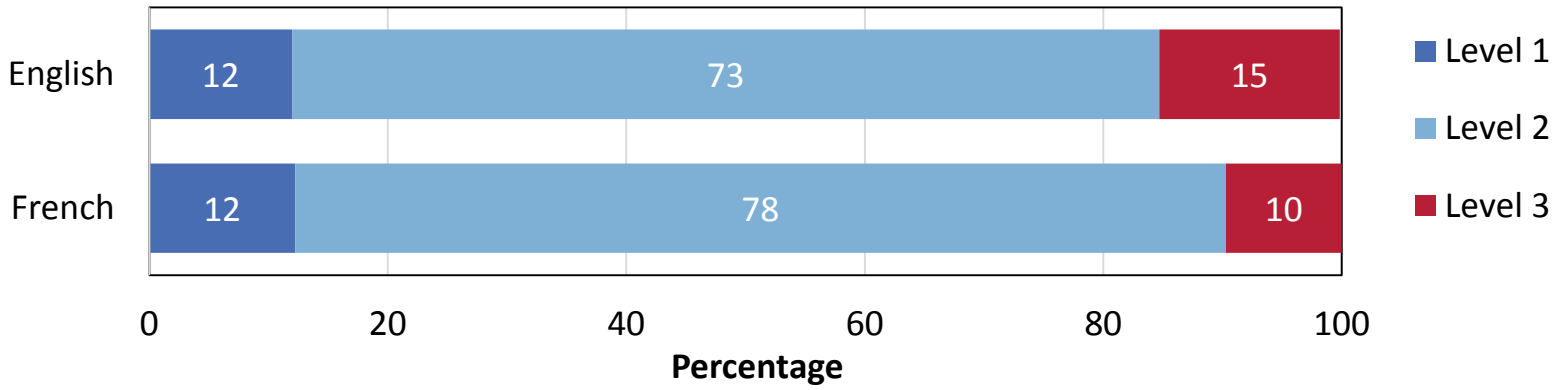
# Science comparison – 2013 and 2016

Between 2013 and 2016, science achievement has improved or remained stable at the provincial level.

| Positive change over time | Negative change over time | No change over time |
|---|---|---|
| **Science overall** | | |
| Manitoba, Quebec, New Brunswick, Nova Scotia, Prince Edward Island | | British Columbia, Alberta, Saskatchewan, Ontario, Newfoundland and Labrador |

# Pan-Canadian results in reading by language

In Canada overall, the same proportion of students in French-language schools and English-language schools achieved Level 2 or above. English-language school systems had a greater proportion of students attain Level 3.



# Provincial results by language of the school system

At the pan-Canadian level, higher achievement was found in reading in English-language schools and in mathematics in French-language schools; more variation in performance was found between the two language groups in science.

| | Anglophone schools performed significantly better than francophone schools | Francophone schools performed significantly better than anglophone schools | No significant difference between school systems |
|---|---|---|---|
| **Reading** | British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Quebec, New Brunswick, Nova Scotia | | |
| **Mathematics** | | British Columbia, Saskatchewan, Ontario, Quebec, New Brunswick, Nova Scotia | Alberta, Manitoba |
| **Science** | Alberta, Manitoba, Ontario, Nova Scotia | Saskatchewan, Quebec | British Columbia, New Brunswick |

# Provincial reading results by subdomain

There is variation in the results across jurisdictions when viewed by subdomain. In provinces that showed significant differences, English-language school systems and girls showed higher achievement.

| **Jurisdiction strengths** (at or **above** the Canadian mean) | **Language equity** | **Gender equity** |
|---|---|---|
| Understanding texts – BC, **AB**, ON, QC, NS, PE | QC | PE |
| Interpreting texts – BC, AB, **ON**, PE | | |
| Responding personally to texts – BC, AB, ON, QC, PE | BC, AB, ON, QC | |
| Responding critically to texts – BC, AB, **ON**, QC, PE | AB, QC | |

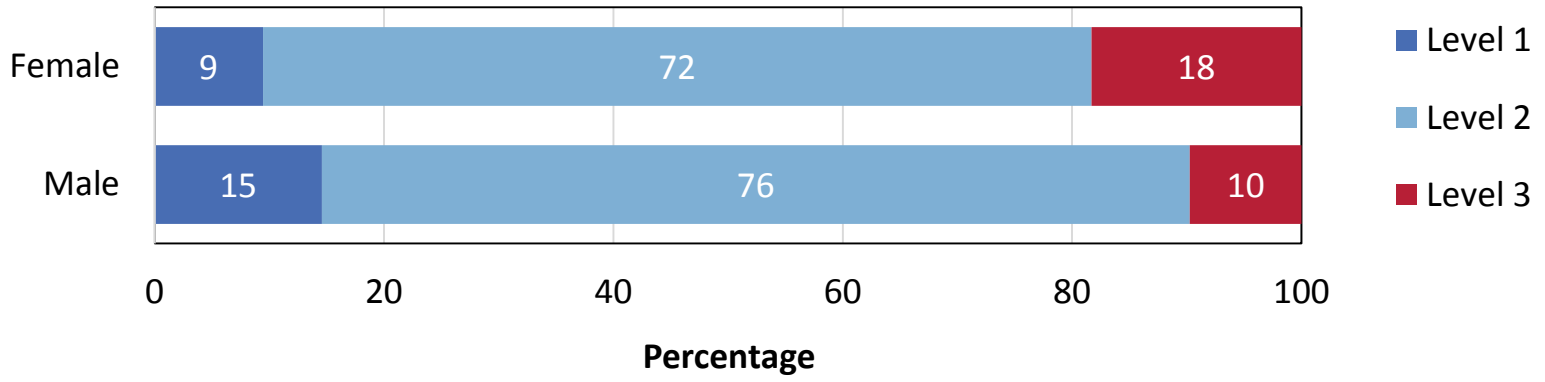
# There are significant differences between majority- and minority-language systems

In most provinces with a significant difference between the two systems, students in majority-language schools have higher achievement in reading and science. In mathematics, students in French-language schools show higher achievement in both majority- and minority-language settings.

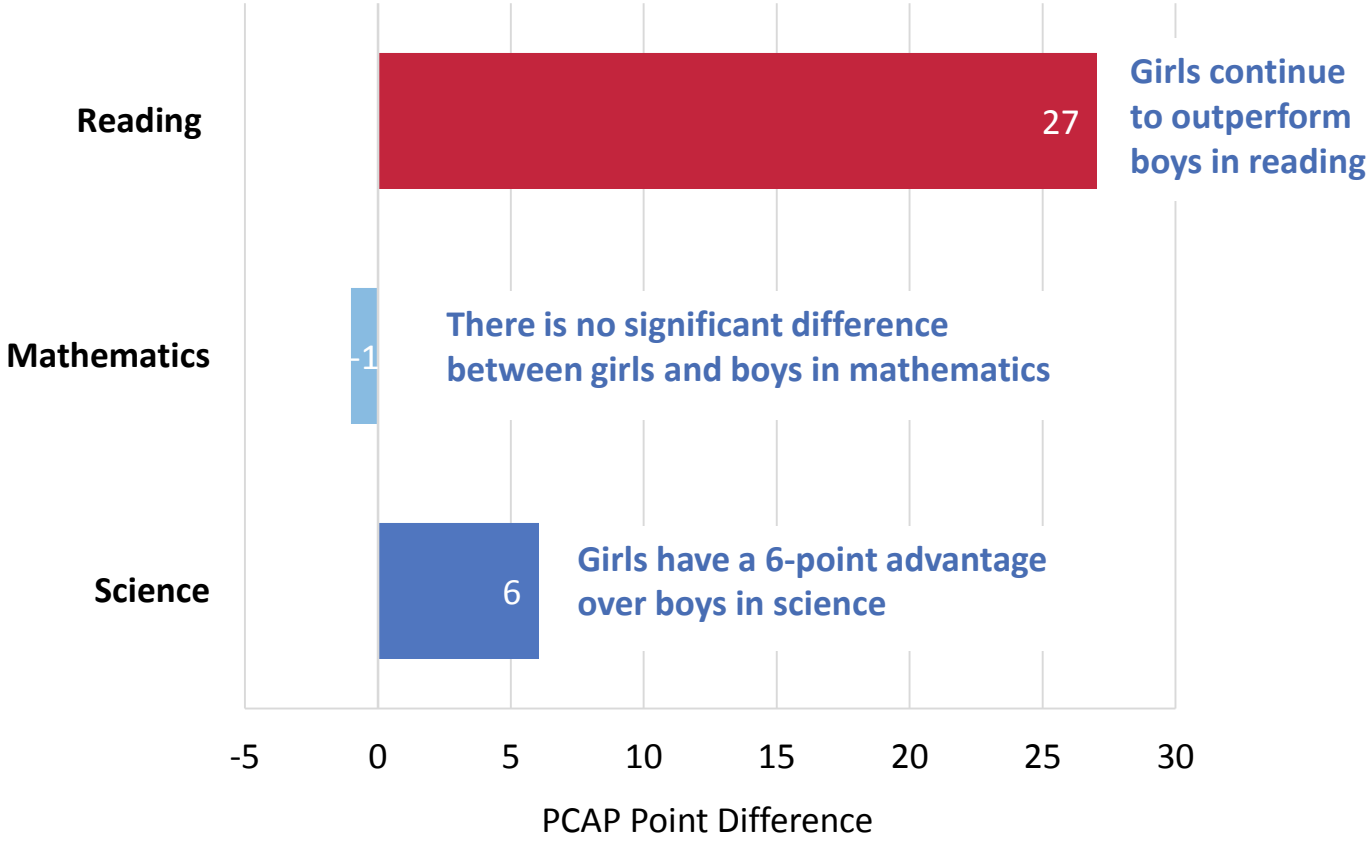
| | Majority-language system performs significantly better | Minority-language system performs significantly better | Equity between language systems |
|---|---|---|---|
| **Reading** | BC, AB, SK, MB, ON, QC, NB, NS, **CAN** | | |
| **Mathematics** | QC | BC, SK, ON, NB, NS, **CAN** | AB, MB |
| **Science** | AB, MB, ON, QC, NS | SK | BC, NB, **CAN** |

# There continues to be a persistent gender gap in reading

A higher percentage of girls than boys achieved at or above Level 2 in Canada as a whole. Boys were more likely to perform at Level 1—that is, below expected levels of reading proficiency— and were less likely than girls to achieve Level 3.



# There is no gender gap in mathematics and a small gap favouring girls in science



# Provincial results by gender

The gender gap in reading in favour of girls persists across all provinces. There are few significant differences between the achievement of girls and boys mathematics, but there is more variability for science.

| | Girls perform significantly better than boys | Boys perform significantly better than girls | No significant difference between girls and boys |
|---|---|---|---|
| **Reading** | All provinces | | |
| **Mathematics** | | Saskatchewan | British Columbia, Alberta, Manitoba, Ontario, Quebec, New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland and Labrador |
| **Science** | Alberta, Manitoba, New Brunswick, Nova Scotia | | British Columbia, Saskatchewan, Ontario, Quebec, Prince Edward Island, Newfoundland and Labrador |

# PCAP 2016

## Conclusions

- Overall in Canada, 88 per cent of students are achieving at or above the expected level of performance (baseline proficiency) in reading.
- 14 per cent of Grade 8/Secondary II students are achieving above their expected level.
- Overall in Canada, females are outperforming males in reading and science; there is no significant gender difference for math.
- In most jurisdictions:
  - English-language school systems have higher achievement in science and reading;
  - French-language school systems have higher achievement in mathematics.
- In reading, mathematics, and science PCAP data show that student achievement has improved or remained stable across Canada compared to the respective baseline years.

## Conclusions (continued)

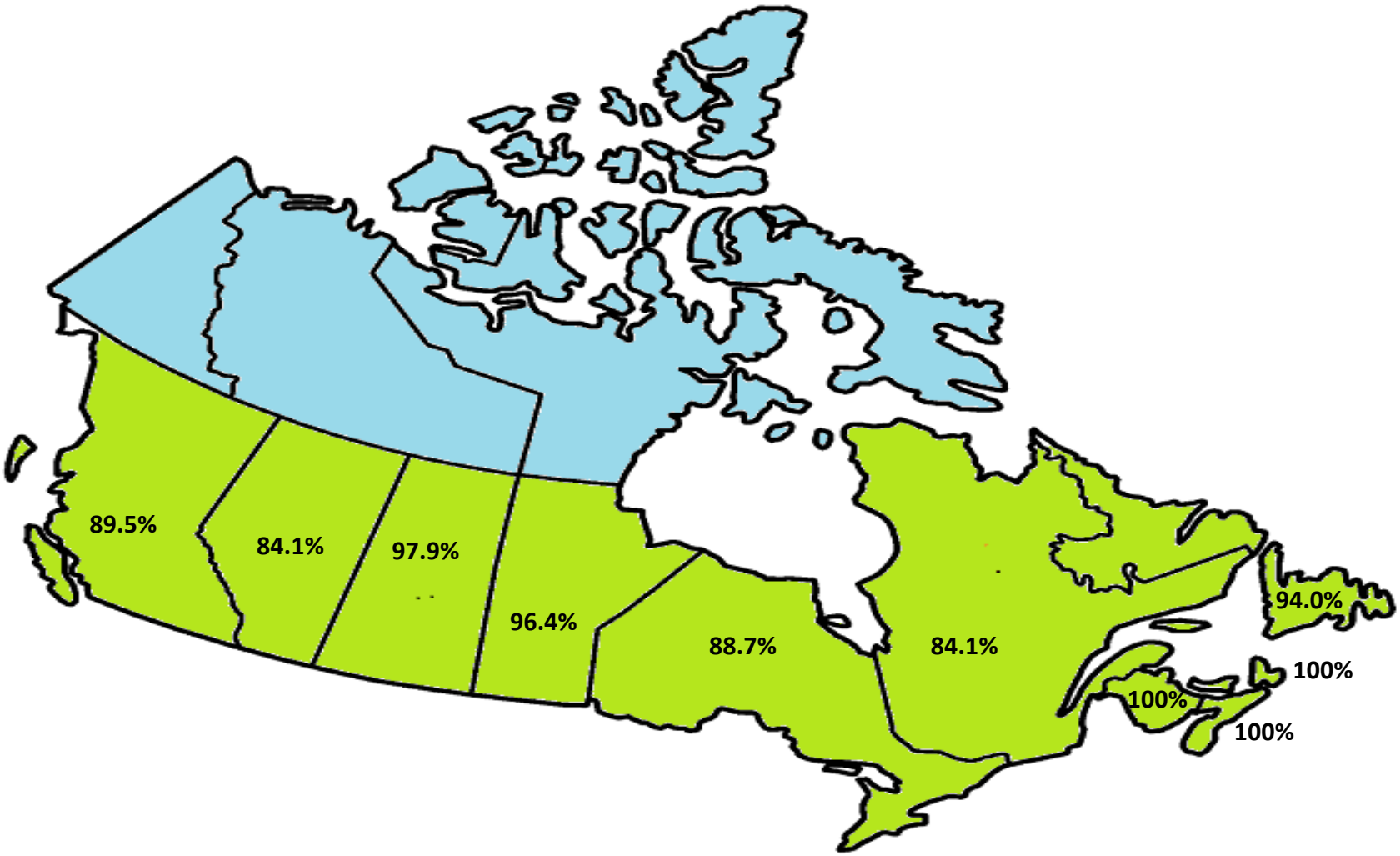
- The forthcoming PCAP 2016 Contextual Report will provide more information about how the context of learning impacts the results of students in Canada.
- The results of this assessment suggest that Canadian jurisdictions are addressing the demands and practices in reading, and that the majority of students know and use their knowledge and skills in practical day-to-day activities.
- Overall, the PCAP testing reaffirms that CMEC's large-scale assessment projects offer innovative and contemporary direction on education policy, curriculum, and classroom practices.

# Canadian student participation rate

# 91.8 per cent

# Canadian school participation rate

# 92.0 per cent



# PCAP 2016

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***Assessment Matters!***

In a forthcoming issue, a PCAP reading passage and accompanying items will be released

- Items will be accompanied by keys or sample student responses and item classification information
- Performance level descriptors and provincial item data will be included in the issue

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