Measuring up: Canadian Results of the OECD PISA Study

The Performance of Canada's Youth in Science, Reading and Mathematics

2015 First Results for Canadians Aged 15

cmec

Canada

PISA 2015

A Summary of Canadian Results

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Council of Ministers of Education, Canada

Conseil des ministres de l'Éducation (Canada)

PISA 2015 by the numbers

Over 510,000 15-year-old students

72 countries and economies

47 languages

35 OECD countries

PISA 2015 in Canada

Over 20,000 15-year-old students from over 850 schools

Partnership between provincial ministries and departments of Education, CMEC, and ESDC

Administered in English and French

10 provinces

What is in a PISA test?

A two-hour computer-based test

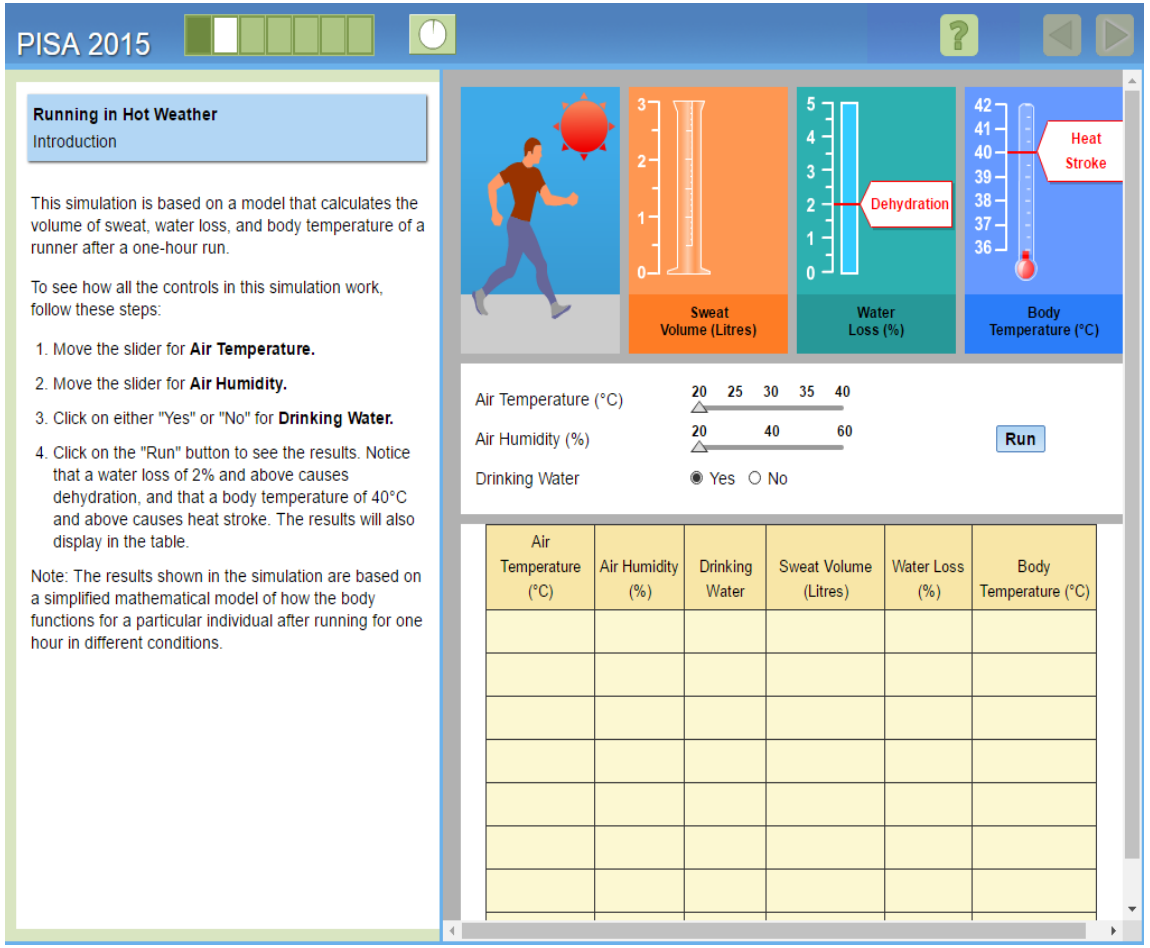
Major domain:
Science

Minor domains:
Reading
Mathematics
Collaborative problem solving

Optional domain:
Financial literacy

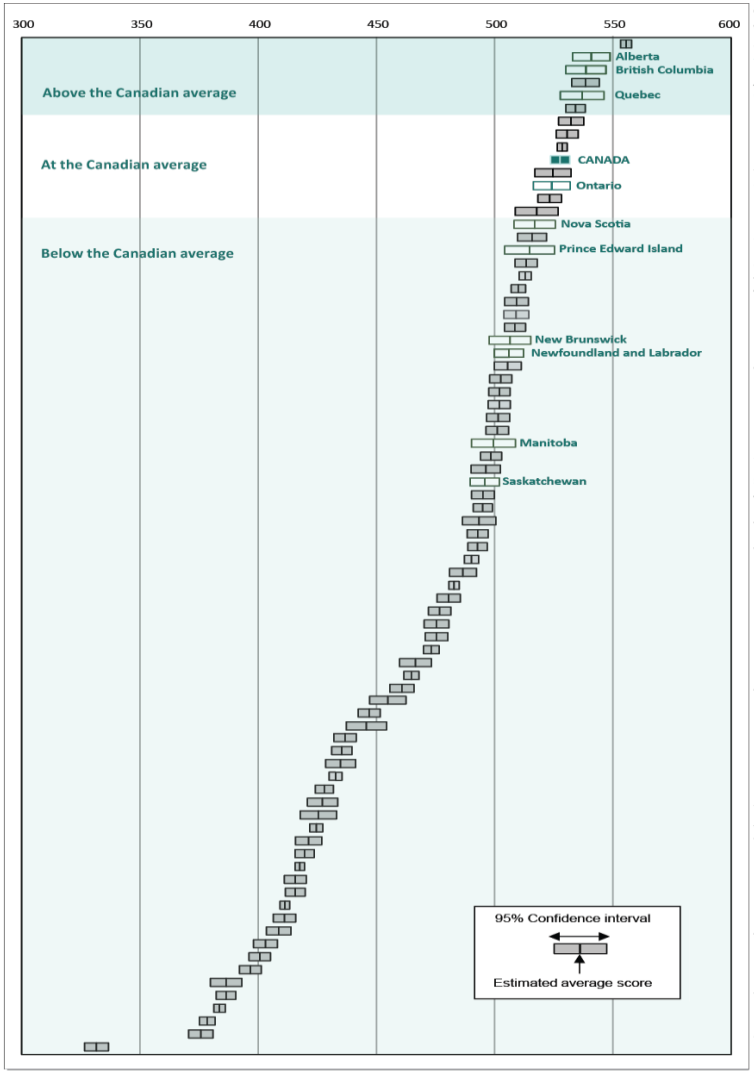
Selected-response and short open-response questions

30-minute
Background questionnaire



Canadian students continue to perform well in a global context.

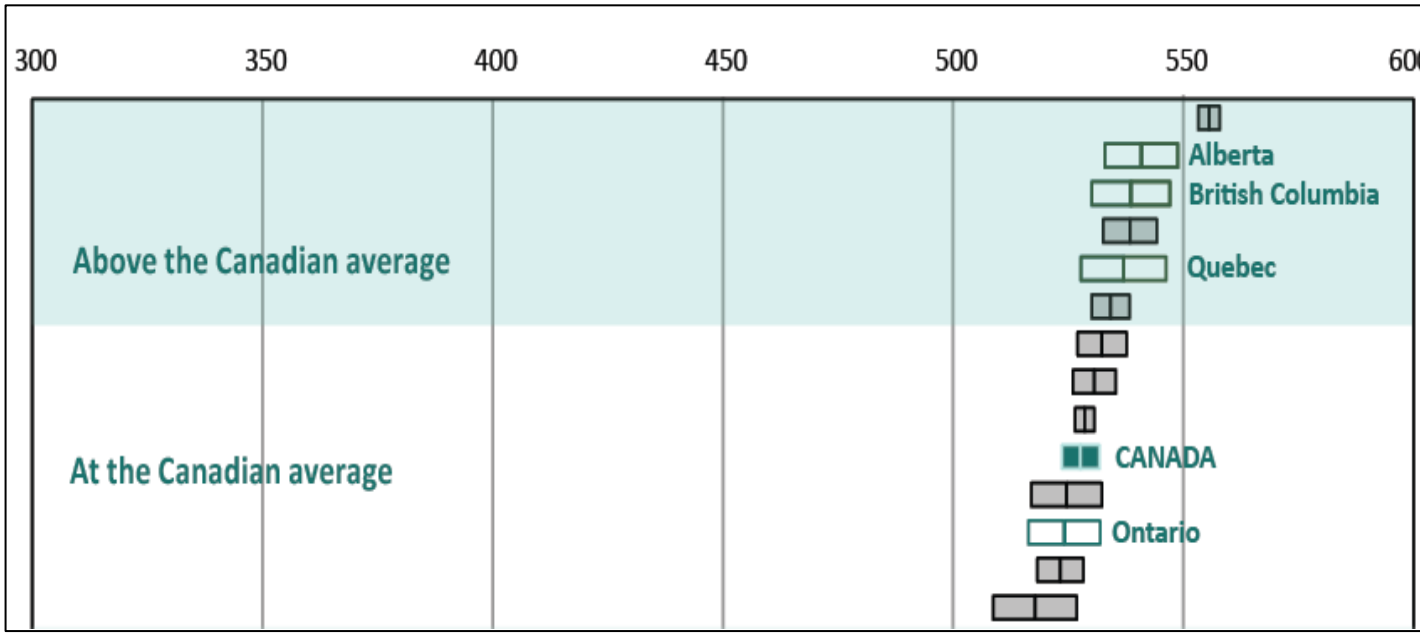
PISA 2015 Science Results



Countries and provinces	Average	S.E.
Singapore	556	(1.2)
Alberta	541	(4.0)
British Columbia	539	(4.3)
Japan	538	(3.0)
Quebec	537	(4.7)
Estonia	534	(2.1)
Chinese Taipei	532	(2.7)
Finland	531	(2.4)
Macao-China	529	(1.1)
CANADA	528	(2.1)
Vietnam	525	(3.9)
Ontario	524	(3.9)
Hong Kong-China	523	(2.5)
BSJG-China	518	(4.6)
Nova Scotia	517	(4.5)
Korea	516	(3.1)
Prince Edward Island	515	(5.4)
New Zealand	513	(2.4)
Slovenia	513	(1.3)
Australia	510	(1.5)
United Kingdom	509	(2.6)
Germany	509	(2.7)
The Netherlands	509	(2.3)
New Brunswick	506	(4.5)
Newfoundland and Labrador	506	(3.2)
Switzerland	506	(2.9)
Ireland	503	(2.4)
Belgium	502	(2.3)
Denmark	502	(2.4)
Poland	501	(2.5)
Portugal	501	(2.4)
Manitoba	499	(4.7)
Norway	498	(2.3)
United States	496	(3.2)
Saskatchewan	496	(3.1)
Austria	495	(2.4)
France	495	(2.1)
Sweden	493	(3.6)
Czech Republic	493	(2.3)
Spain	493	(2.1)
Latvia	490	(1.6)
Russian Federation	487	(2.9)
Luxembourg	483	(1.1)
Italy	481	(2.5)
Hungary	477	(2.4)
Lithuania	475	(2.7)
Croatia	475	(2.5)
Iceland	473	(1.7)
Israel	467	(3.4)
Malta	465	(1.6)
Slovak Republic	461	(2.6)
Greece	455	(3.9)
Chile	447	(2.4)
Bulgaria	446	(4.4)
United Arab Emirates	437	(2.4)
Uruguay	435	(2.2)
Romania	435	(3.2)
Cyprus	433	(1.4)
Moldova	428	(2.0)
Albania	427	(3.3)
Turkey	425	(3.9)
Trinidad and Tobago	425	(1.4)
Thailand	421	(2.8)
Costa Rica	420	(2.1)
Qatar	418	(1.0)
Colombia	416	(2.4)
Mexico	416	(2.1)
Montenegro	411	(1.0)
Georgia	411	(2.4)
Jordan	409	(2.7)
Indonesia	403	(2.6)
Brazil	401	(2.3)
Peru	397	(2.4)
Lebanon	386	(3.4)
Tunisia	386	(2.1)
Republic of Macedonia	384	(1.2)
Kosovo	378	(1.7)
Algeria	376	(2.6)
Dominican Republic	332	(2.6)

Results for the province of Quebec should be treated with caution due to a possible non-response bias.

Three provinces are near the very top in science.



Countries and provinces	Average
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Quebec	537
Estonia	534
Chinese Taipei	532
Finland	531
Macao-China	529
CANADA	528
Vietnam	525
Ontario	524
Hong Kong-China	523
BSJG-China	518

Results for the province of Quebec should be treated with caution due to a possible non-response bias.

In Canada, there are variations between provinces in science.

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Above Canadian average

- British Columbia
- Alberta
- Quebec

At the Canadian average

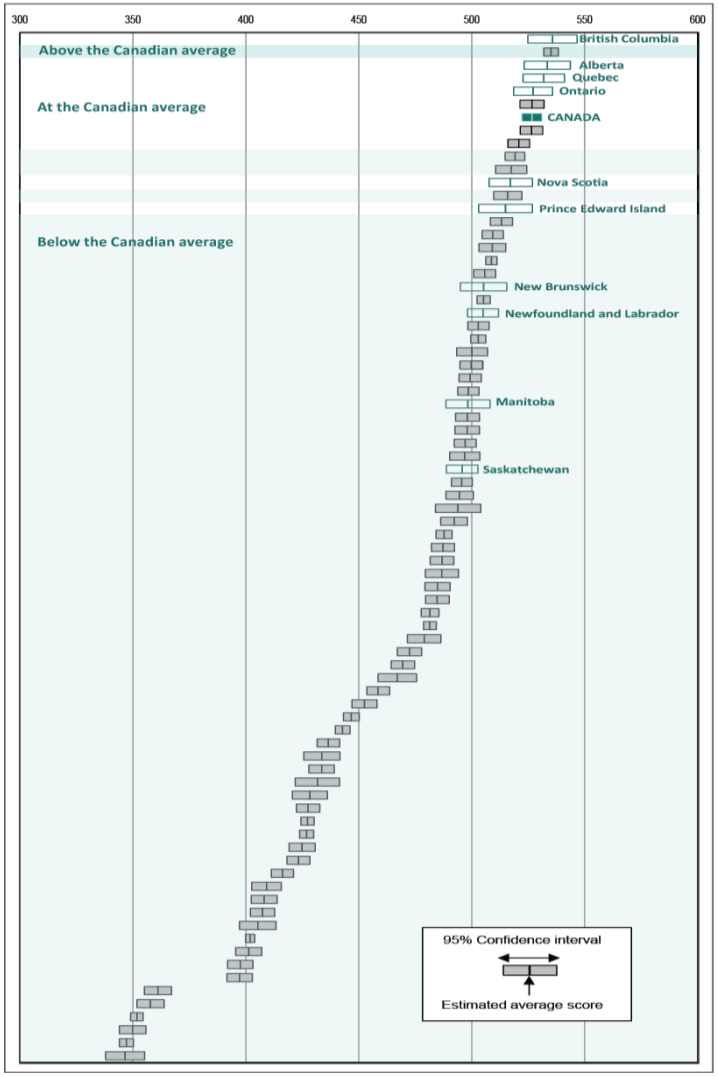
- Ontario

Below the Canadian average

- Saskatchewan
- Manitoba
- New Brunswick
- Nova Scotia
- Prince Edward Island
- Newfoundland and Labrador

As was the case in previous PISA cycles …

PISA 2015 Reading Results

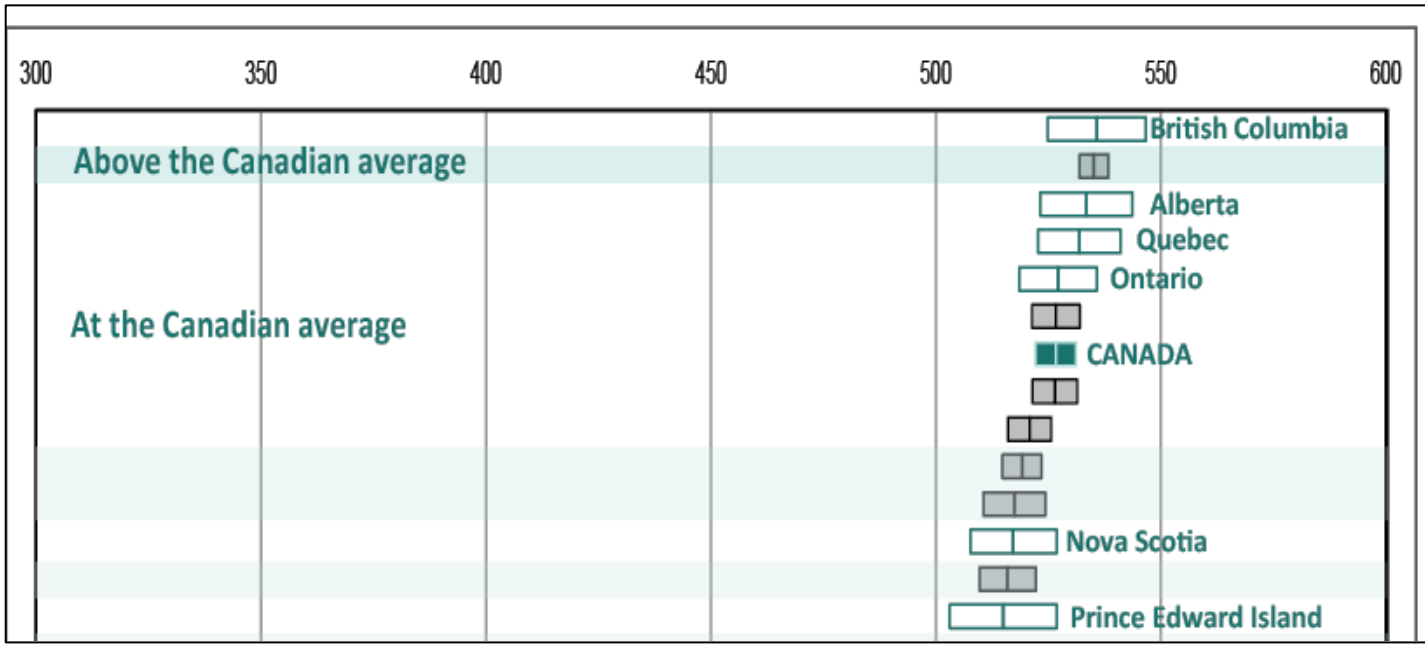


Countries and provinces	Average	S.E.
British Columbia	536	(5.6)
Singapore	535	(1.6)
Alberta	533	(5.2)
Quebec	532	(4.7)
Ontario	527	(4.4)
Hong Kong-China	527	(2.7)
CANADA	527	(2.3)
Finland	526	(2.5)
Ireland	521	(2.5)
Estonia	519	(2.2)
Korea	517	(3.5)
Nova Scotia	517	(4.9)
Japan	516	(3.2)
Prince Edward Island	515	(6.1)
Norway	513	(2.5)
New Zealand	509	(2.4)
Germany	509	(3.0)
Macao-China	509	(1.3)
Poland	506	(2.5)
New Brunswick	505	(5.2)
Slovenia	505	(1.5)
Newfoundland and Labrador	505	(3.5)
The Netherlands	503	(2.4)
Australia	503	(1.7)
Sweden	500	(3.5)
Denmark	500	(2.5)
France	499	(2.5)
Belgium	499	(2.4)
Manitoba	498	(5.0)
Portugal	498	(2.7)
United Kingdom	498	(2.8)
Chinese Taipei	497	(2.5)
United States	497	(3.4)
Saskatchewan	496	(3.6)
Spain	496	(2.4)
Russian Federation	495	(3.1)
BSJG-China	494	(5.1)
Switzerland	492	(3.0)
Latvia	488	(1.8)
Czech Republic	487	(2.6)
Croatia	487	(2.7)
Vietnam	487	(3.7)
Austria	485	(2.8)
Italy	485	(2.7)
Iceland	482	(2.0)
Luxembourg	481	(1.4)
Israel	479	(3.8)
Lithuania	472	(2.7)
Hungary	470	(2.7)
Greece	467	(4.3)
Chile	459	(2.6)
Slovak Republic	453	(2.8)
Malta	447	(1.8)
Cyprus	443	(1.7)
Uruguay	437	(2.5)
Romania	434	(4.1)
United Arab Emirates	434	(2.9)
Bulgaria	432	(5.0)
Turkey	428	(4.0)
Costa Rica	427	(2.6)
Trinidad and Tobago	427	(1.5)
Montenegro	427	(1.6)
Colombia	425	(2.9)
Mexico	423	(2.6)
Moldova	416	(2.5)
Thailand	409	(3.3)
Jordan	408	(2.9)
Brazil	407	(2.8)
Albania	405	(4.1)
Qatar	402	(1.0)
Georgia	401	(3.0)
Peru	398	(2.9)
Indonesia	397	(2.9)
Tunisia	361	(3.1)
Dominican Republic	358	(3.1)
Republic of Macedonia	352	(1.4)
Algeria	350	(3.0)
Kosovo	347	(1.6)
Lebanon	347	(4.4)

Results for the province of Quebec should be treated with caution due to a possible non-response bias.

…Canadian students performed near the very top in reading.

PISA 2015 Reading Results

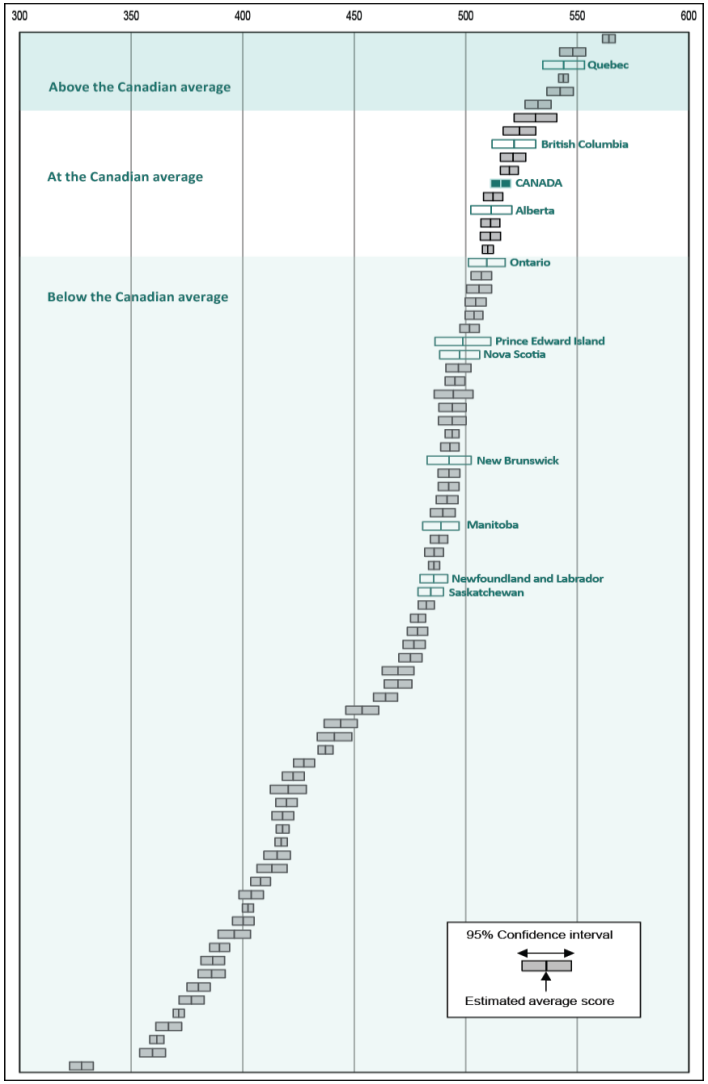


Countries and provinces	Average
British Columbia	536
Singapore	535
Alberta	533
Quebec	532
Ontario	527
Hong Kong-China	527
CANADA	527
Finland	526
Ireland	521
Estonia	519
Korea	517
Nova Scotia	517
Japan	516
Prince Edward Island	515

Results for the province of Quebec should be treated with caution due to a possible non-response bias.

In mathematics, Canadian students also performed very well…

PISA 2015 Mathematics



Countries and provinces	Average	S.E.
Singapore	564	(1.5)
Hong Kong-China	548	(3.0)
Quebec	**544**	**(4.8)**
Macao-China	544	(1.1)
Chinese Taipei	542	(3.0)
Japan	532	(3.0)
BSJG-China	531	(4.9)
Korea	524	(3.7)
British Columbia	**522**	**(5.0)**
Switzerland	521	(2.9)
Estonia	520	(2.0)
CANADA	**516**	**(2.3)**
The Netherlands	512	(2.2)
Alberta	**511**	**(4.7)**
Denmark	511	(2.2)
Finland	511	(2.3)
Slovenia	510	(1.3)
Ontario	**509**	**(4.2)**
Belgium	507	(2.4)
Germany	506	(2.9)
Poland	504	(2.4)
Ireland	504	(2.1)
Norway	502	(2.2)
Prince Edward Island	**499**	**(6.4)**
Nova Scotia	**497**	**(4.6)**
Austria	497	(2.9)
New Zealand	495	(2.3)
Vietnam	495	(4.5)
Russian Federation	494	(3.1)
Sweden	494	(3.2)
Australia	494	(1.6)
France	493	(2.1)
New Brunswick	**493**	**(5.1)**
United Kingdom	492	(2.5)
Czech Republic	492	(2.4)
Portugal	492	(2.5)
Italy	490	(2.8)
Manitoba	**489**	**(4.2)**
Iceland	488	(2.0)
Spain	486	(2.2)
Luxembourg	486	(1.3)
Newfoundland and Labrador	**486**	**(3.2)**
Saskatchewan	**484**	**(2.9)**
Latvia	482	(1.9)
Malta	479	(1.7)
Lithuania	478	(2.3)
Hungary	477	(2.5)
Slovak Republic	475	(2.7)
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Peru	387	(2.7)
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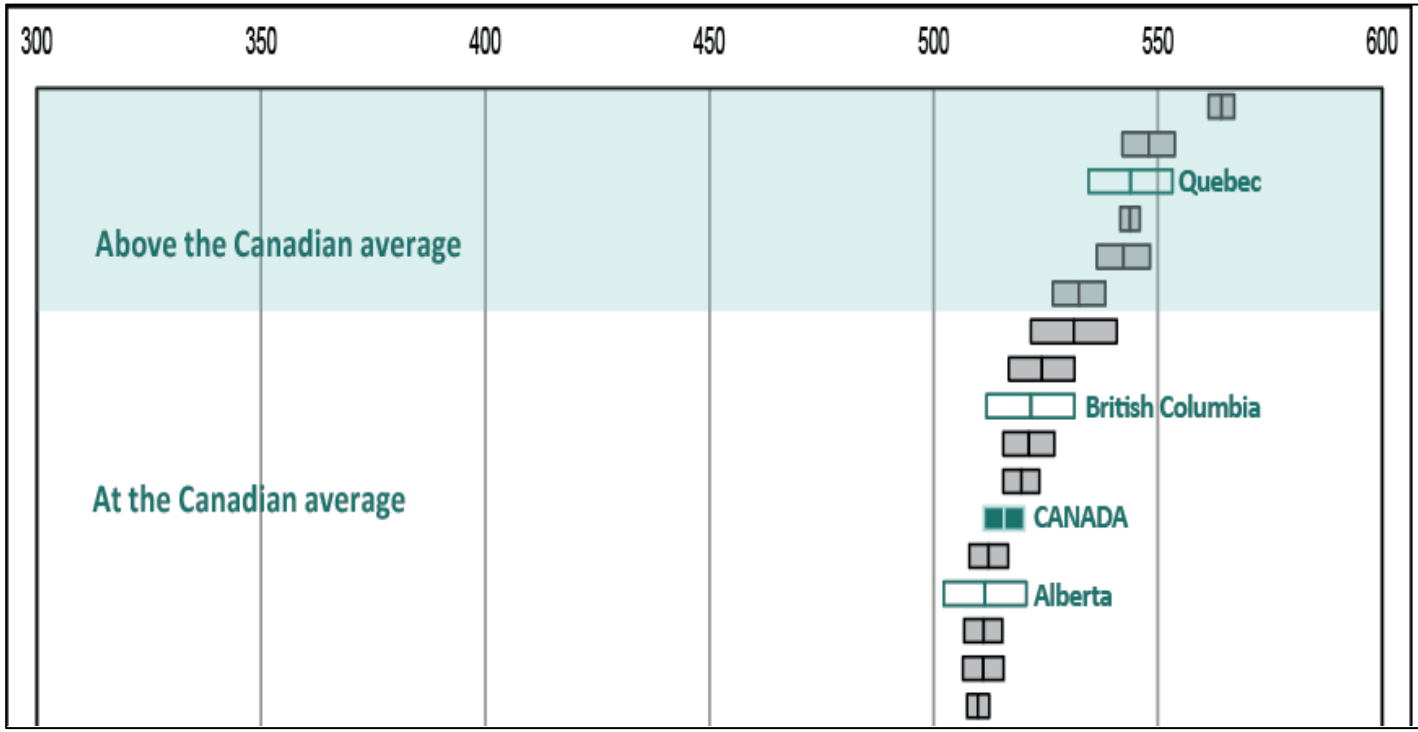
Jordan	380	(2.7)
Brazil	377	(2.9)
Republic of Macedonia	371	(1.3)
Tunisia	367	(3.0)
Kosovo	362	(1.6)
Algeria	360	(3.0)
Dominican Republic	328	(2.7)

Results for the province of Quebec should be treated with caution due to a possible non-response bias.

… but there was more variability between provinces.



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Switzerland	521
Estonia	520
CANADA	**516**
The Netherlands	512
Alberta	**511**
Denmark	511
Finland	511
Slovenia	510

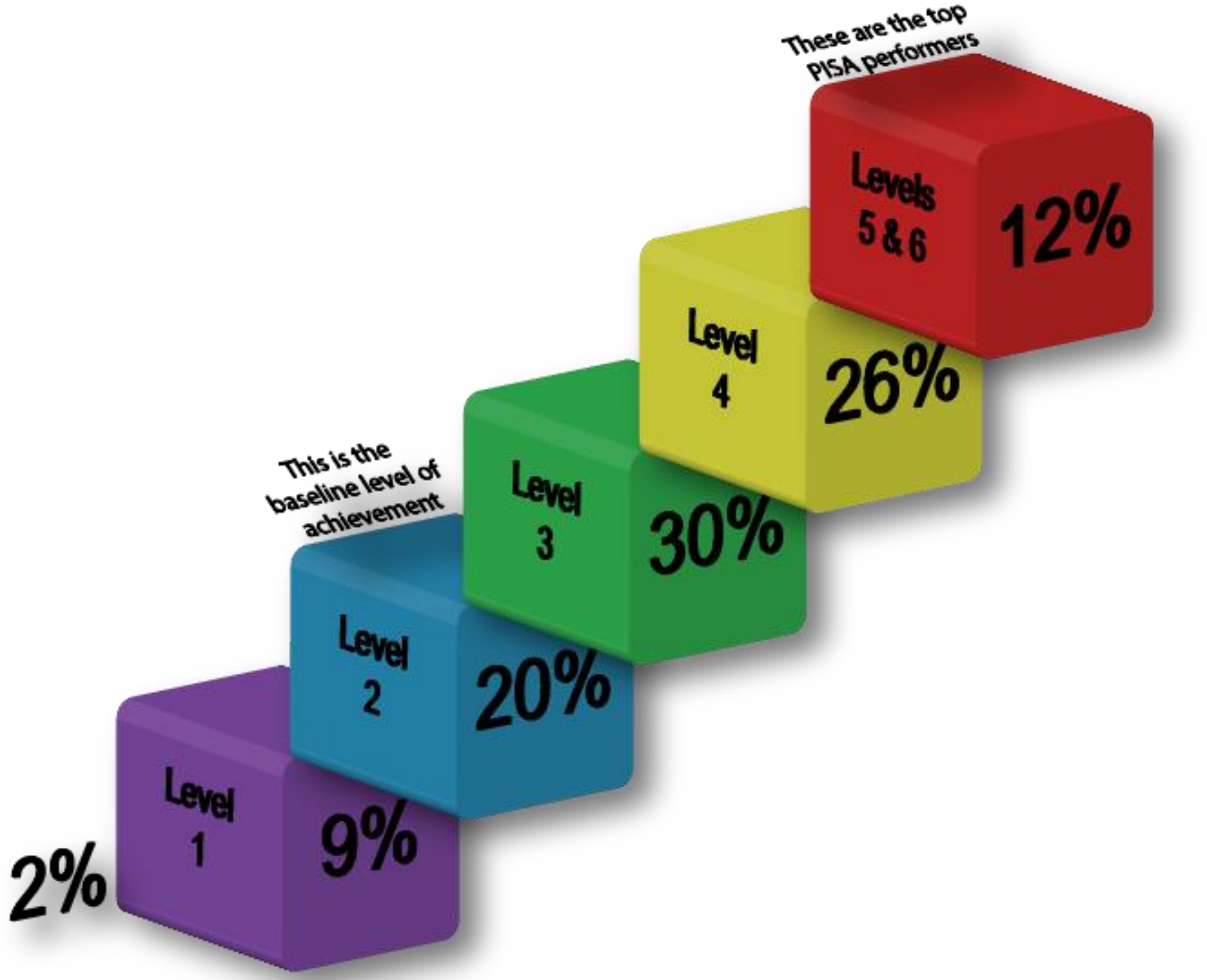
Results for the province of Quebec should be treated with caution due to a possible non-response bias.

Only three countries achieved higher results than Canada in science, one in reading, and six in mathematics.

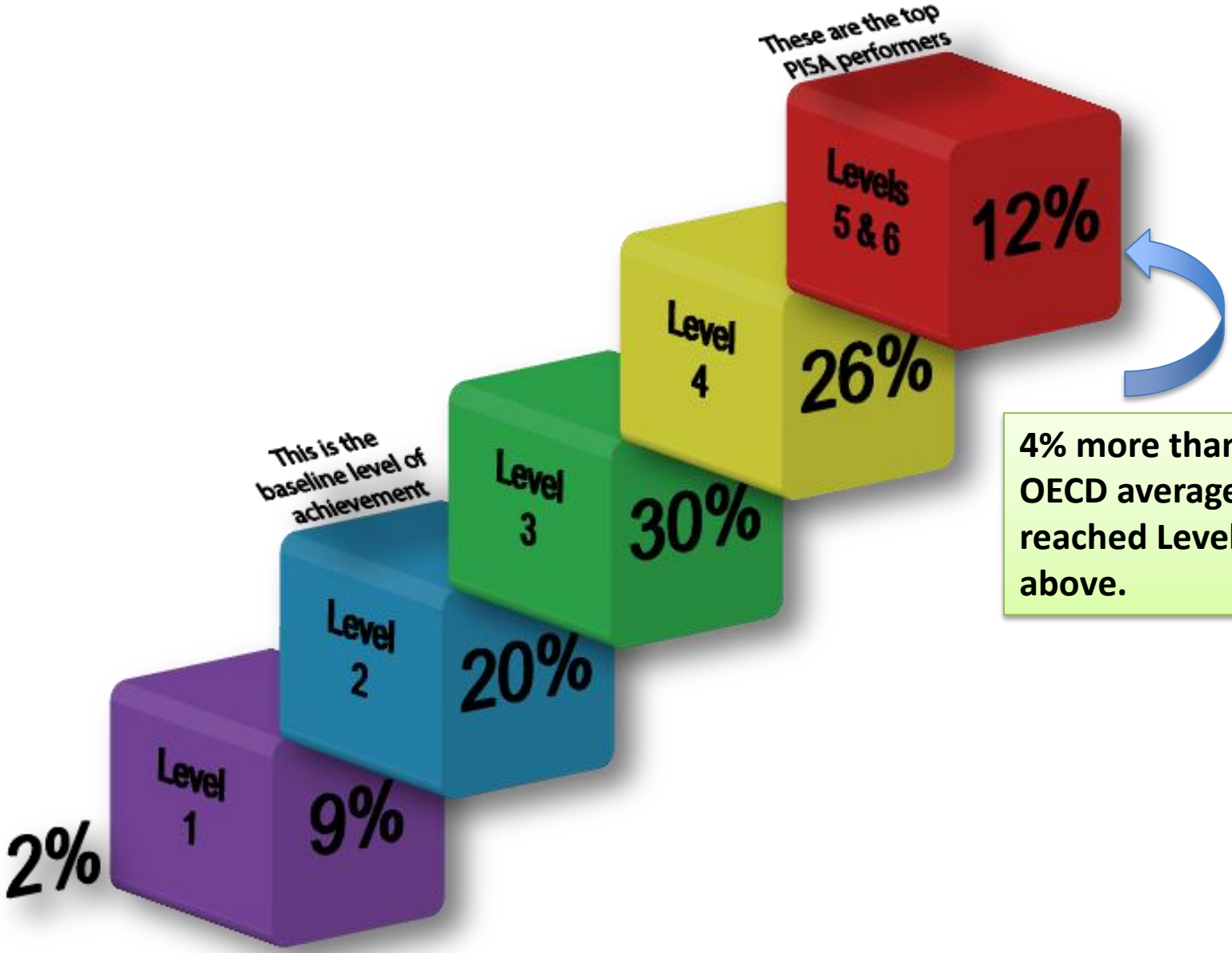
Countries performing better than or as well as Canada in science, reading, and mathematics

	Better than Canada	As well as Canada
Science	Singapore, Japan, Estonia	Chinese Taipei, Finland, Macao-China, Vietnam, Hong Kong-China, BSJG-China
Reading	Singapore	Hong Kong-China, Finland, Ireland
Mathematics	Singapore, Hong Kong-China, Macao-China, Chinese Taipei, Japan, BSJG-China	Korea, Switzerland, Estonia, the Netherlands, Denmark, Finland

Almost 90% of Canadian students achieve the baseline level in science.

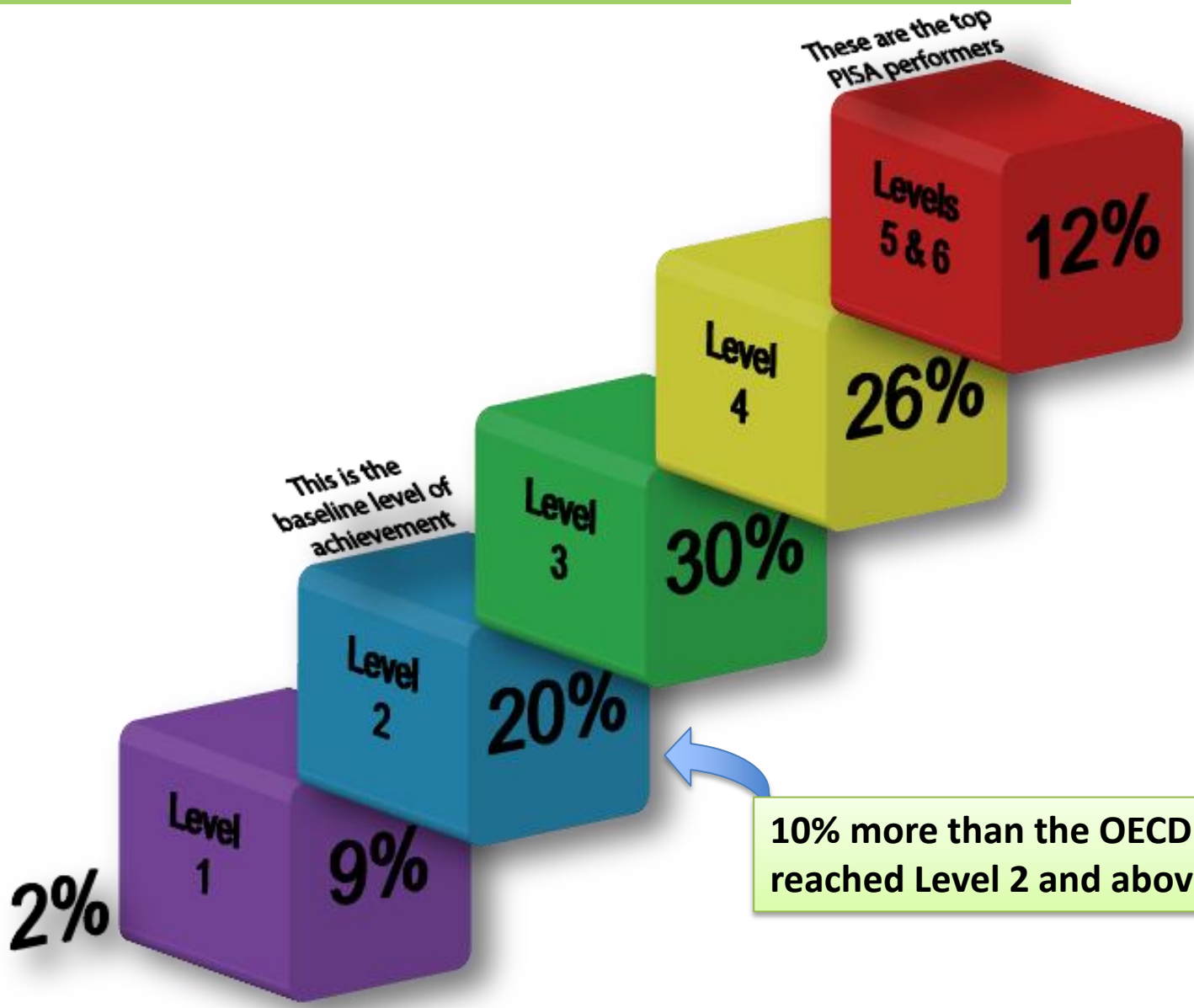


Almost 90% of Canadian students achieve the baseline level in science.



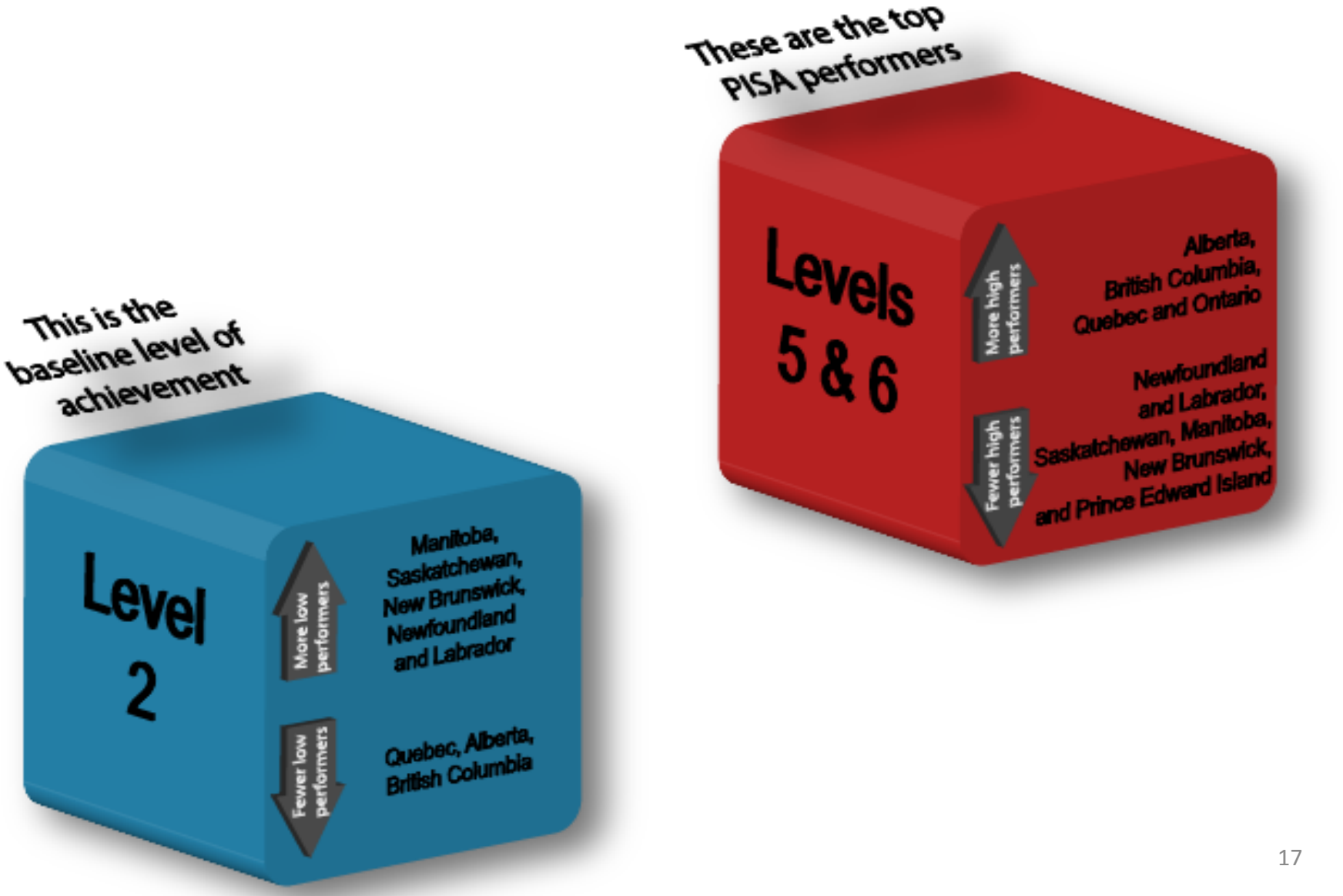
4% more than the OECD average reached Level 5 and above.

Almost 90% of Canadian students achieve the baseline level in science.

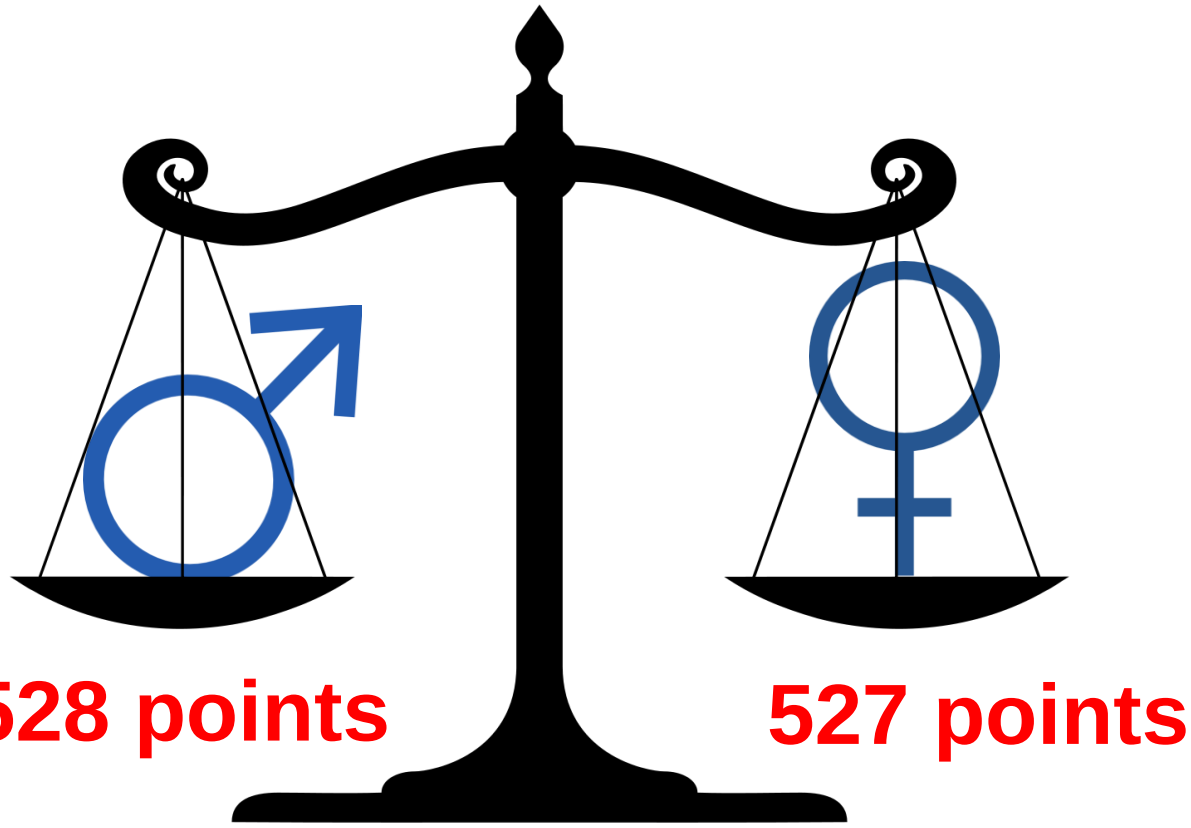


10% more than the OECD average reached Level 2 and above.

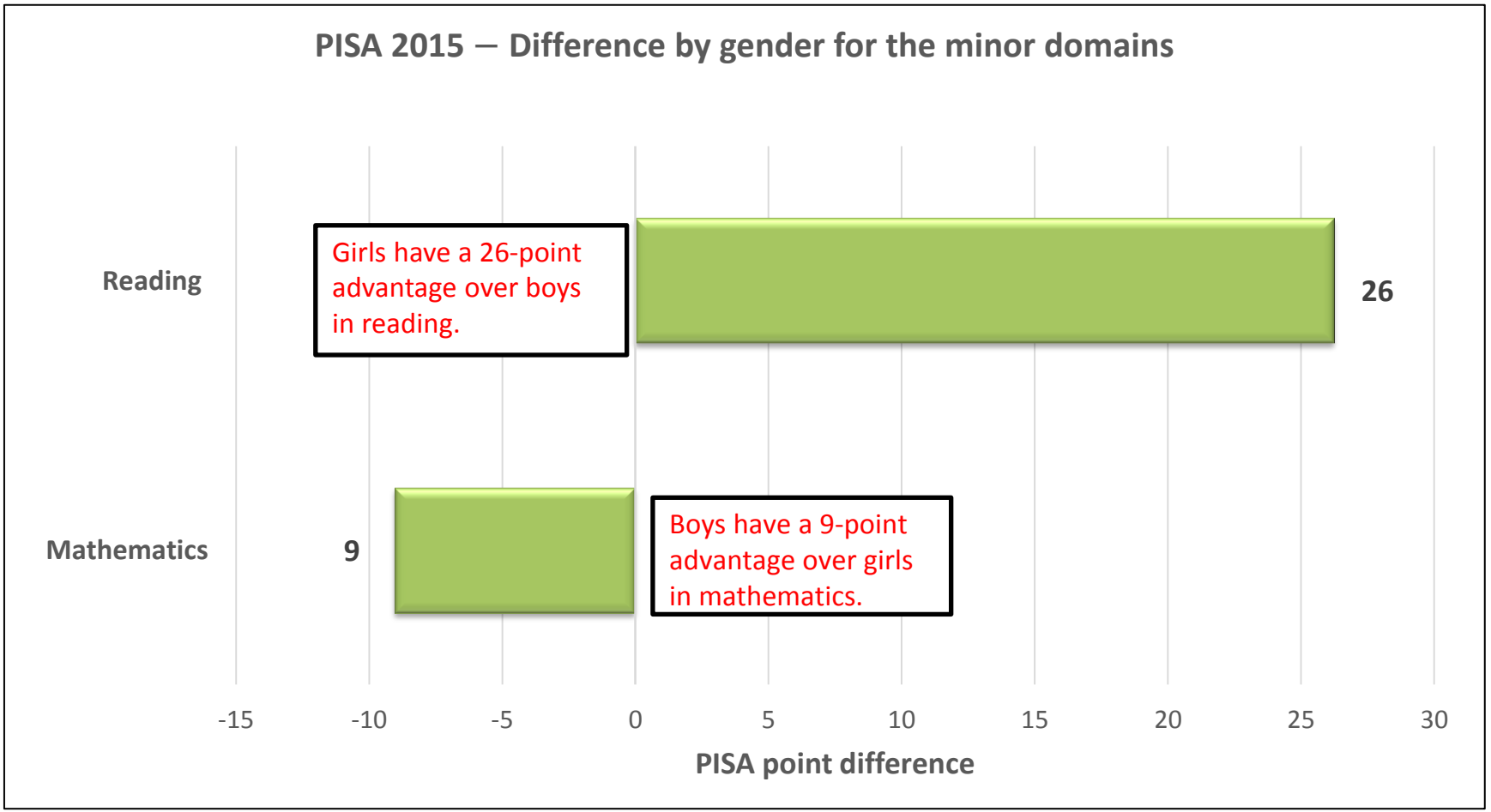
The proportions of high and low performers in science varied across provinces.



Canadian boys and girls perform equally well in science…

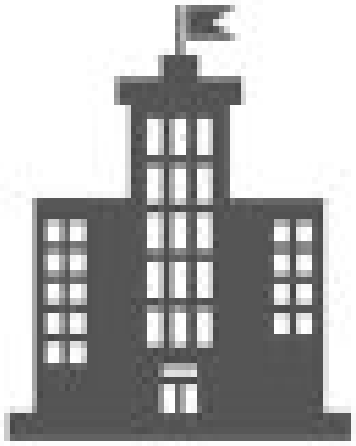


… but the gender gap in reading persists, with a smaller difference in mathematics.



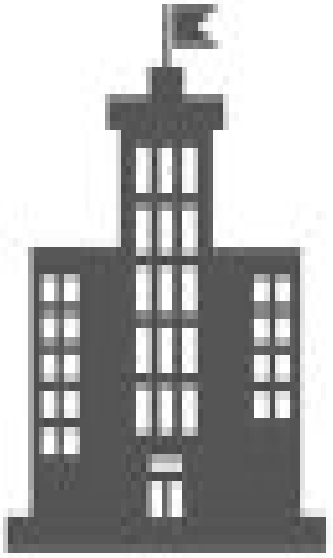
There are significant differences in science achievement by language of the school system in most provinces… but not in Canada overall.

English



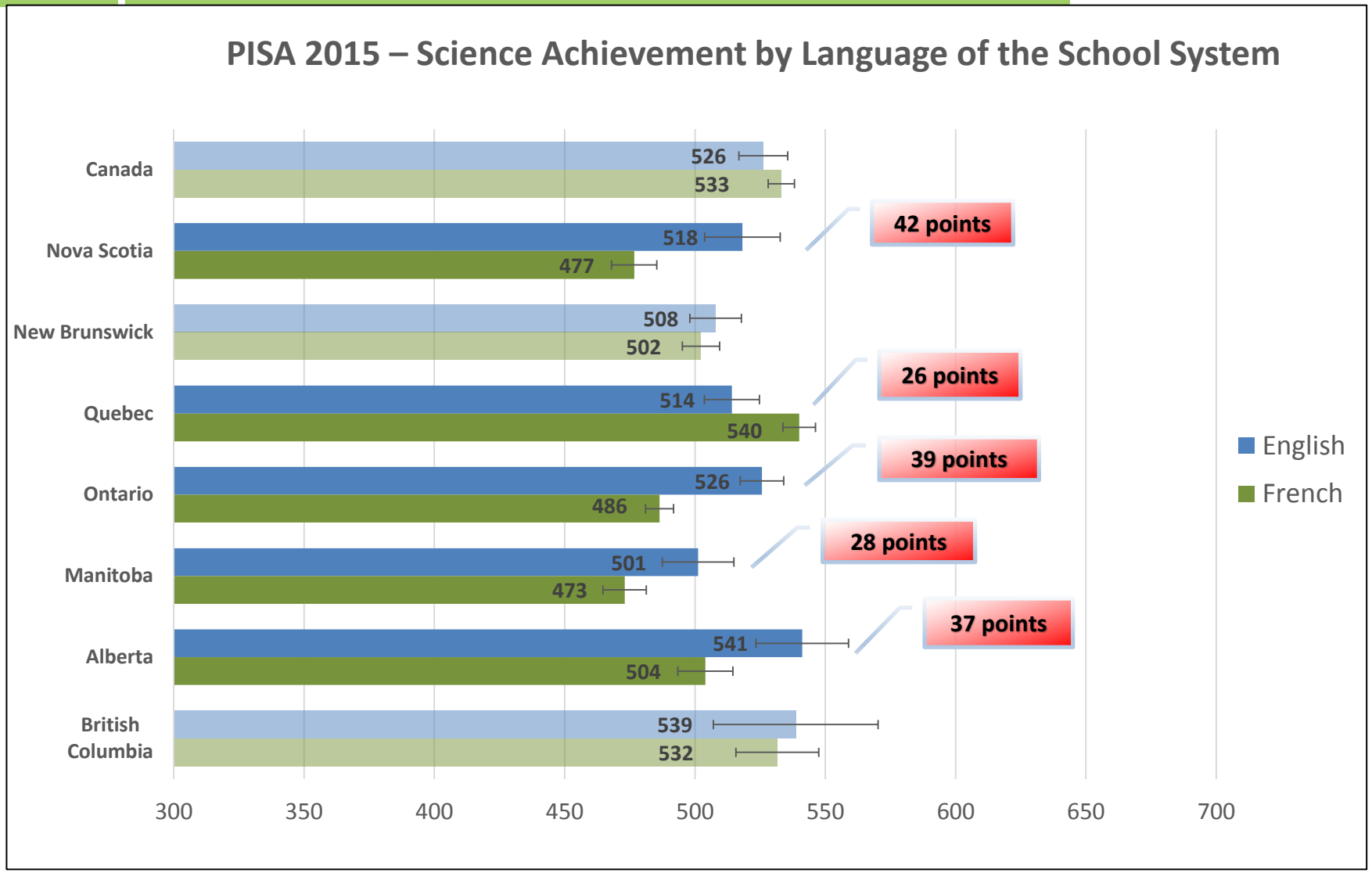
526 points

French



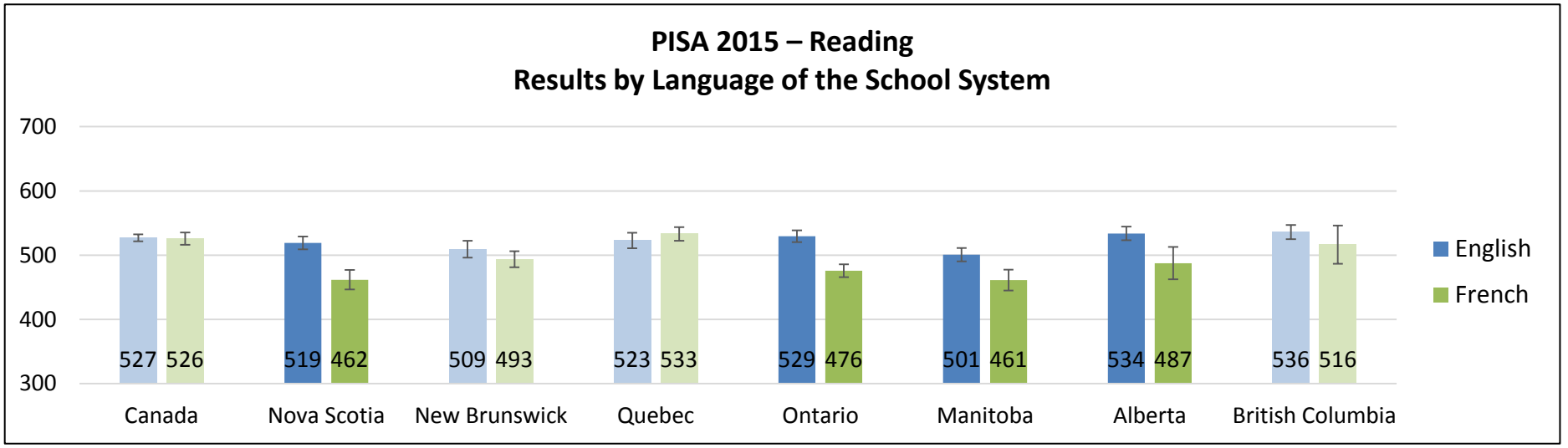
533 points

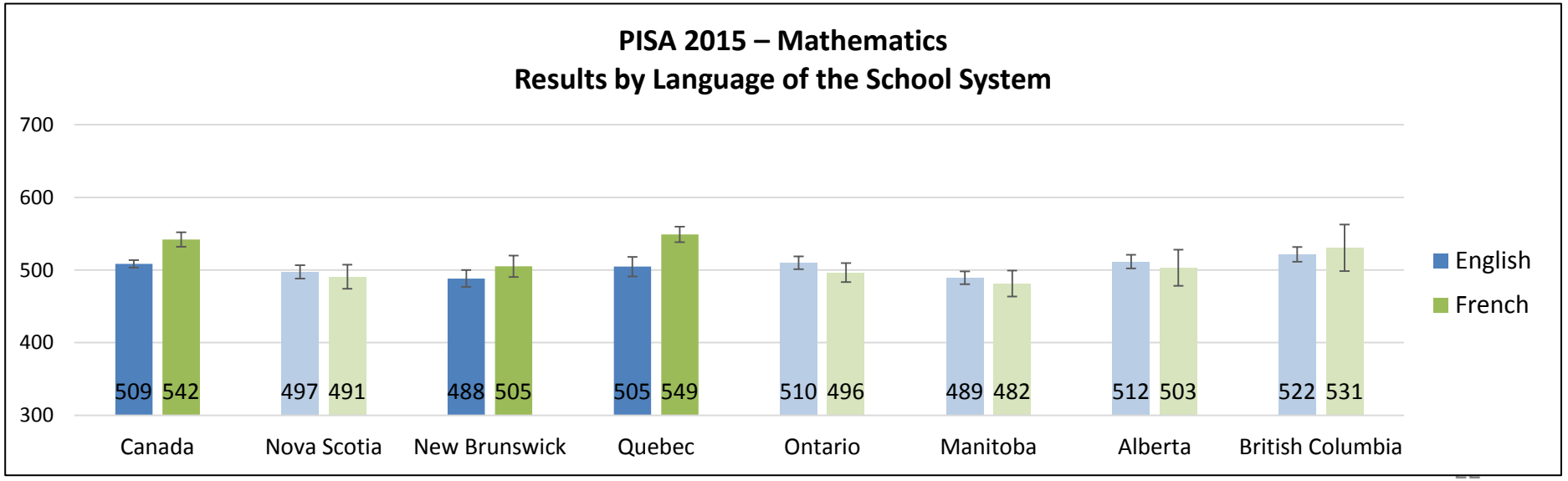
There are large differences in science achievement by language of the school system in most provinces… but not in Canada overall.



Significant differences are indicated with a darker colour.

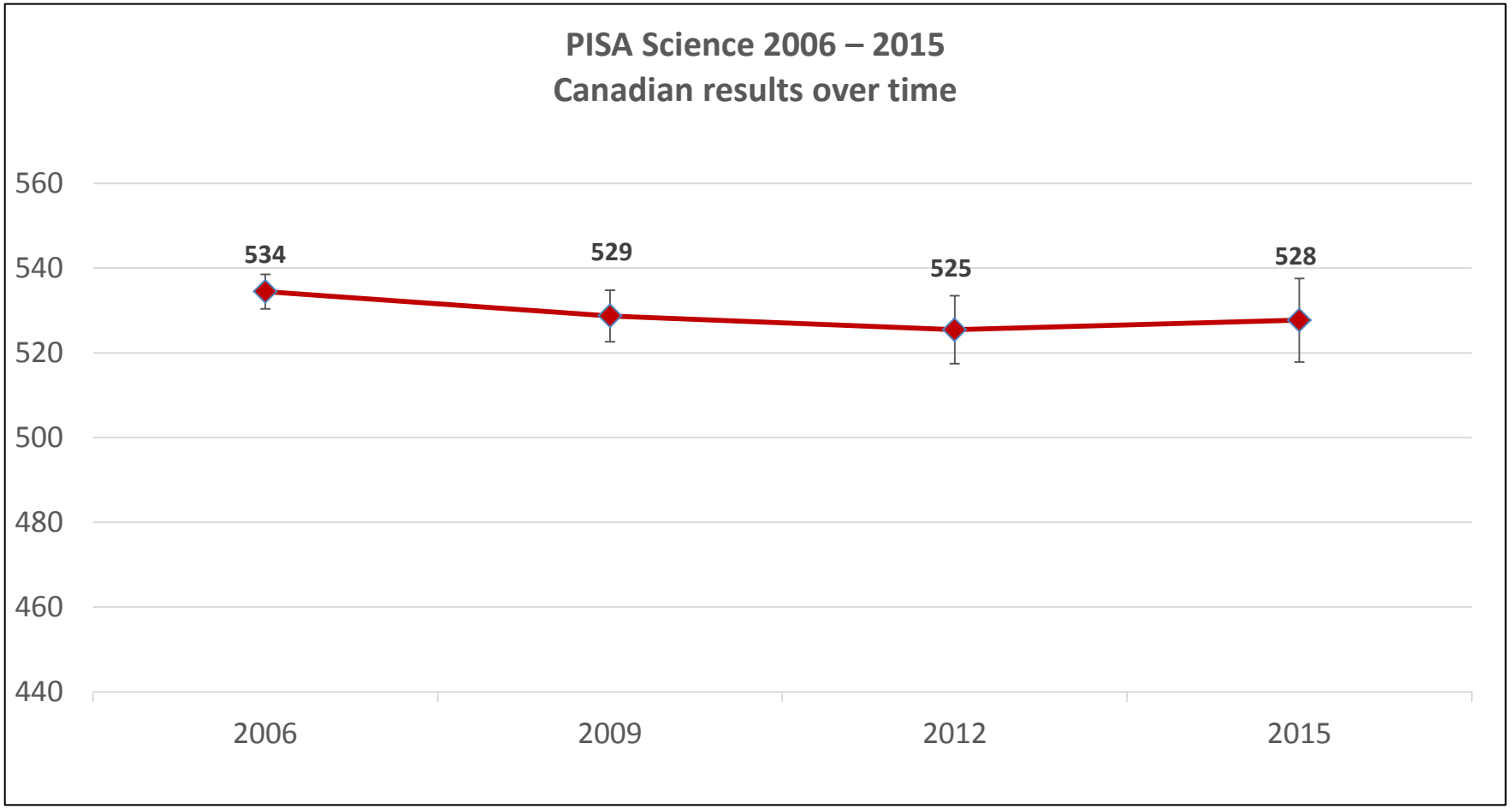
There are significant differences in reading and mathematics achievement by language of the school system in most provinces.



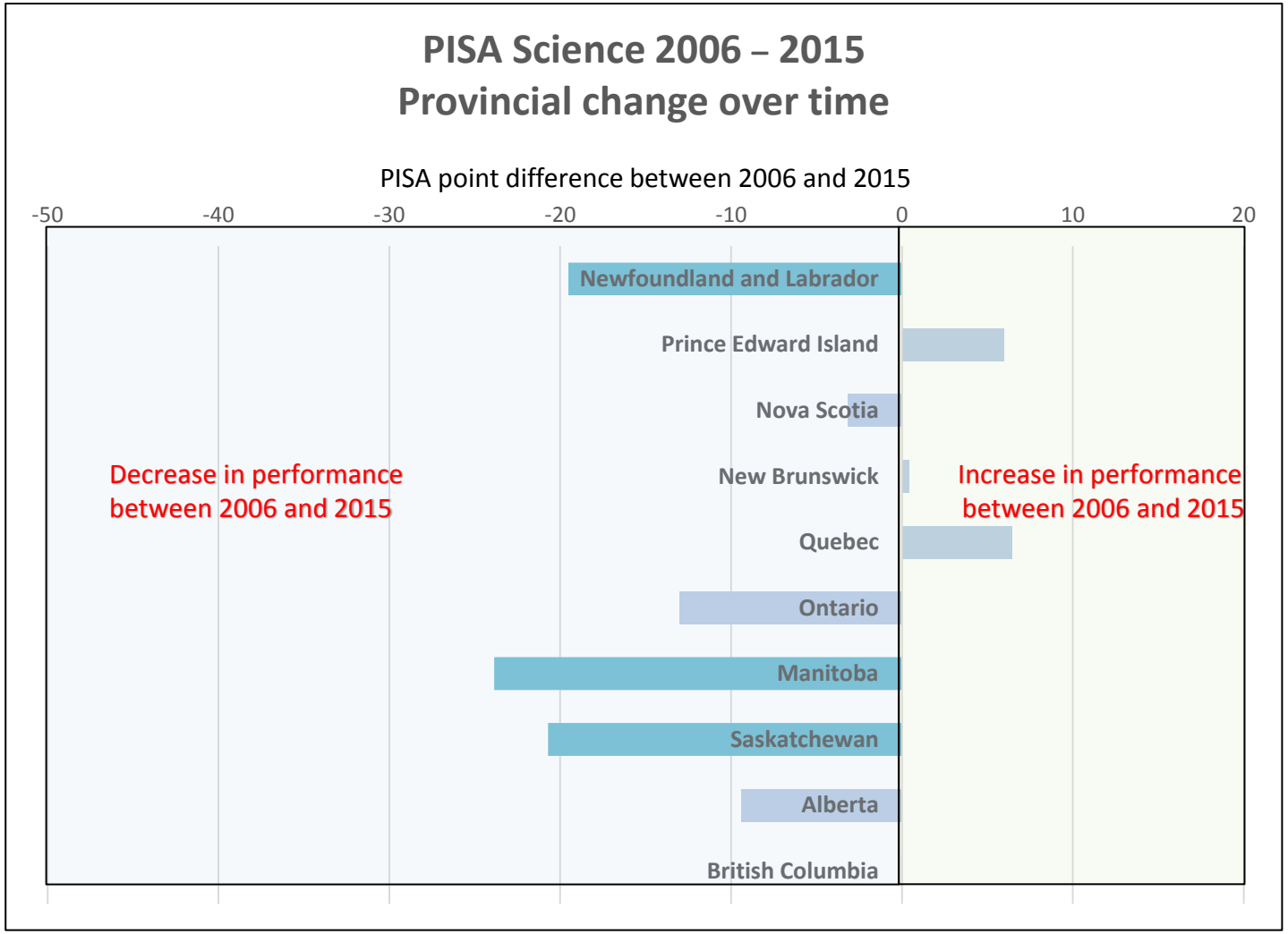


Significant differences are indicated with a darker colour.

Over the past nine years, Canadian scores in science have remained relatively stable…

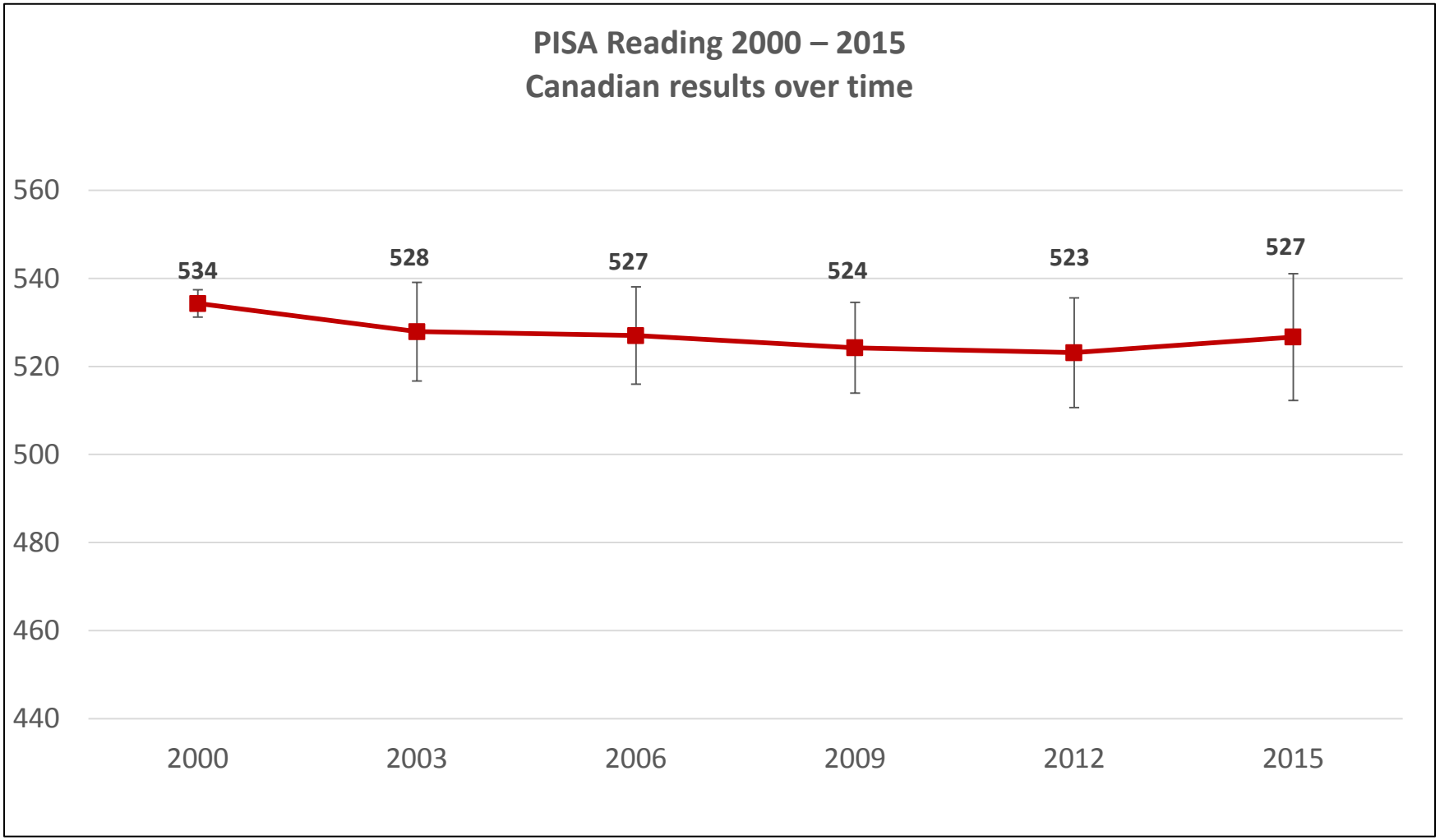


… but provincially, science results have decreased in four provinces.

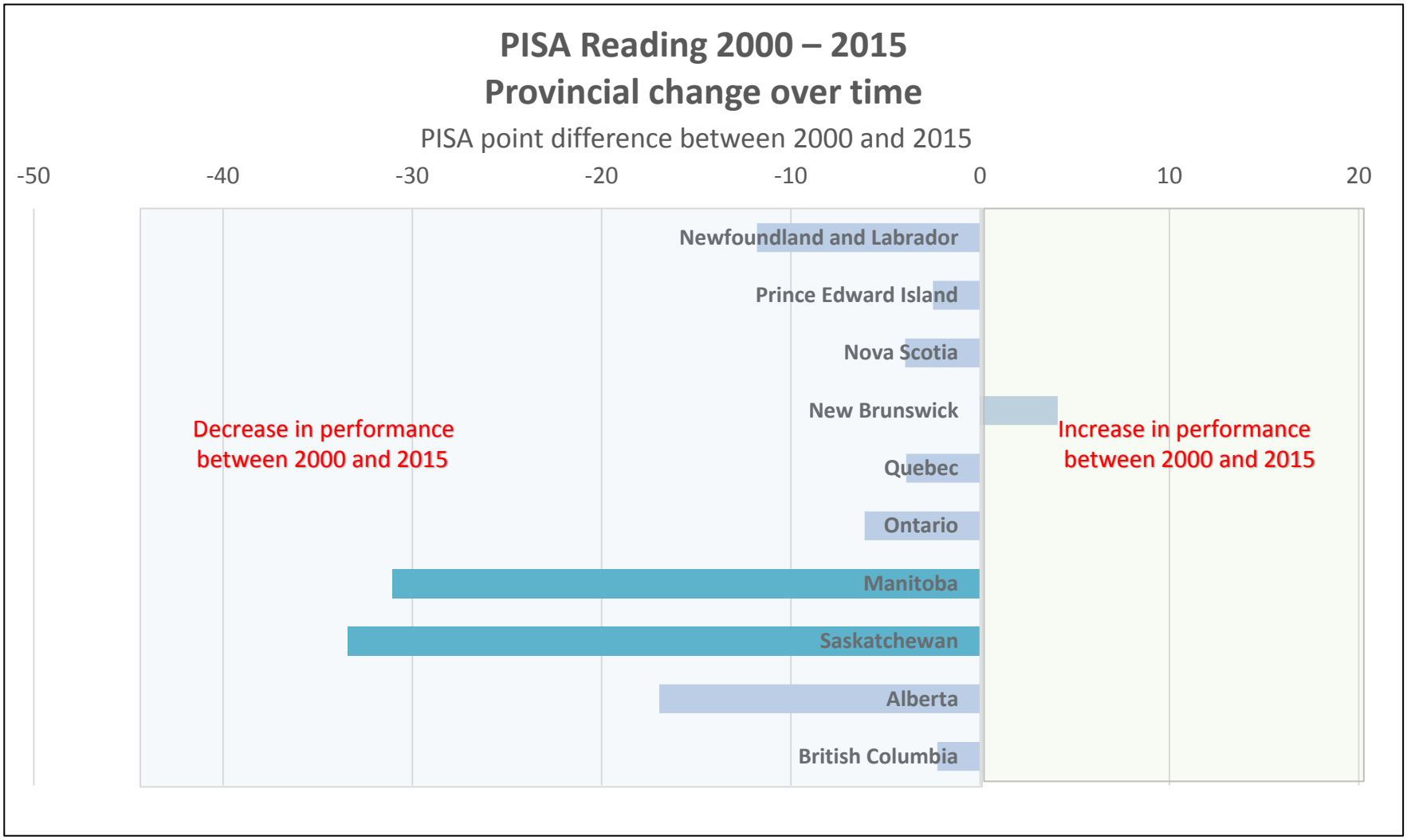


Significant differences are indicated with a darker colour.

In reading, the downward trend observed since 2000 stopped in 2015…

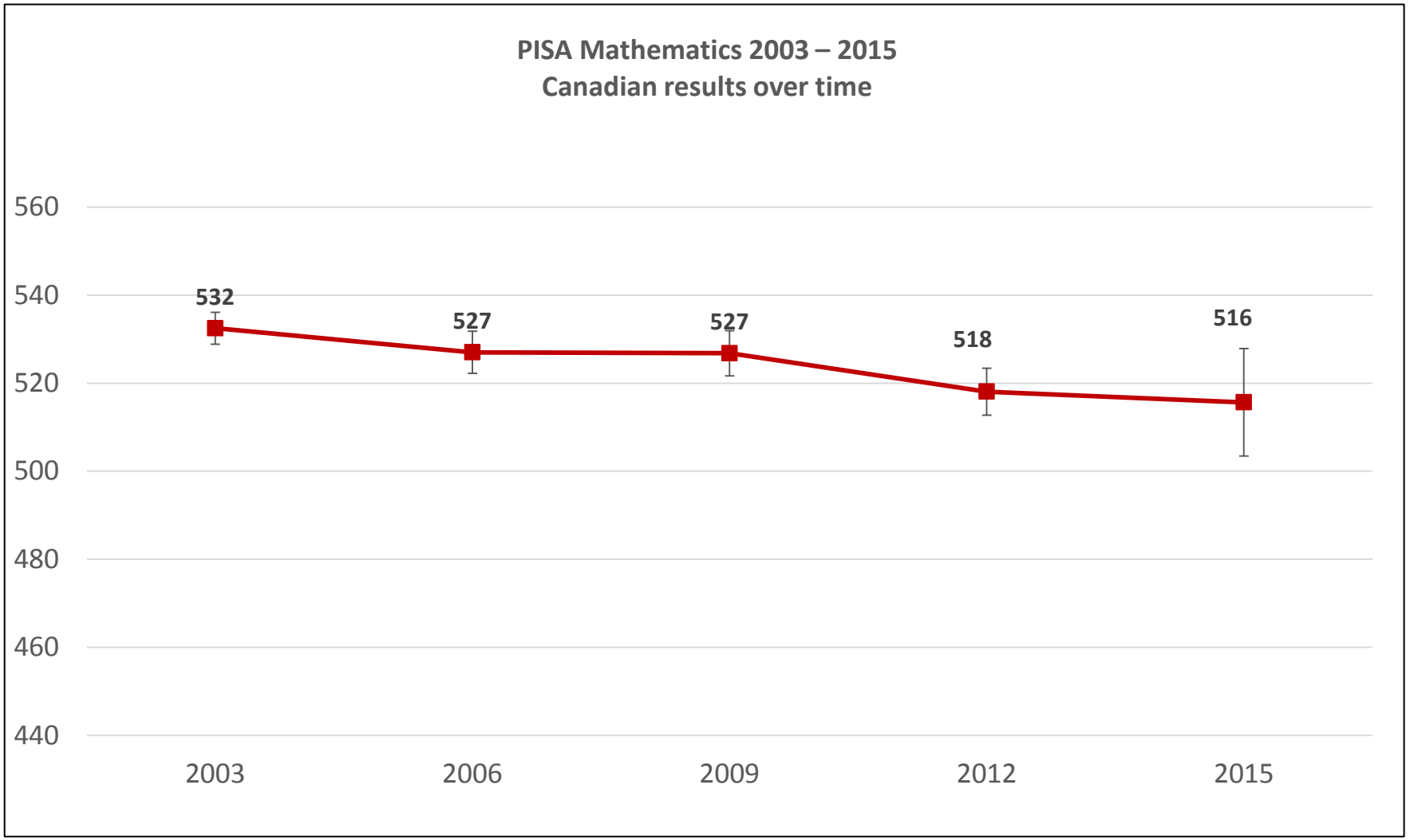


… while it has decreased significantly in two provinces over these 15 years.

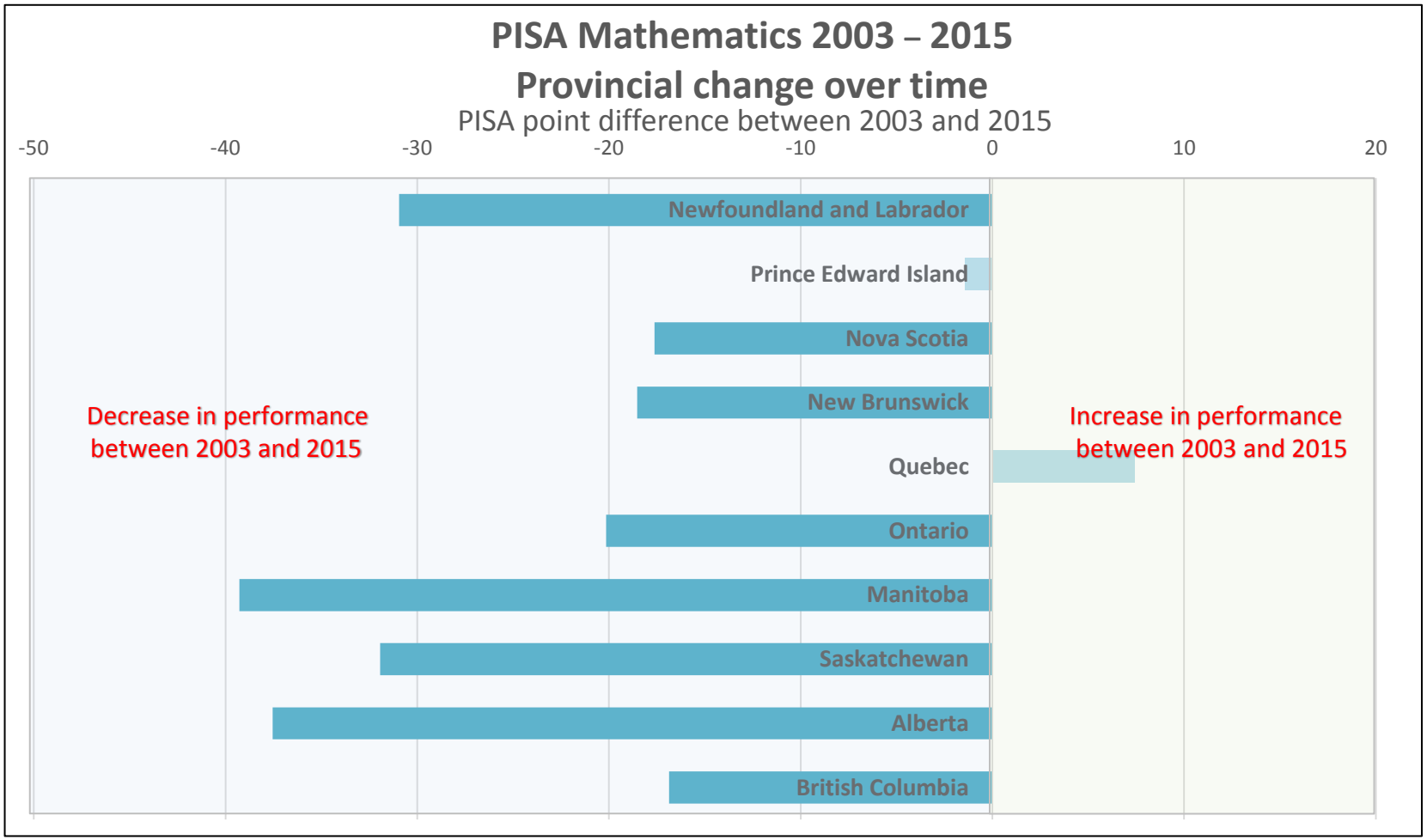


Significant differences are indicated with a darker colour.

In mathematics, the downward trend observed since 2003 persisted in 2015…

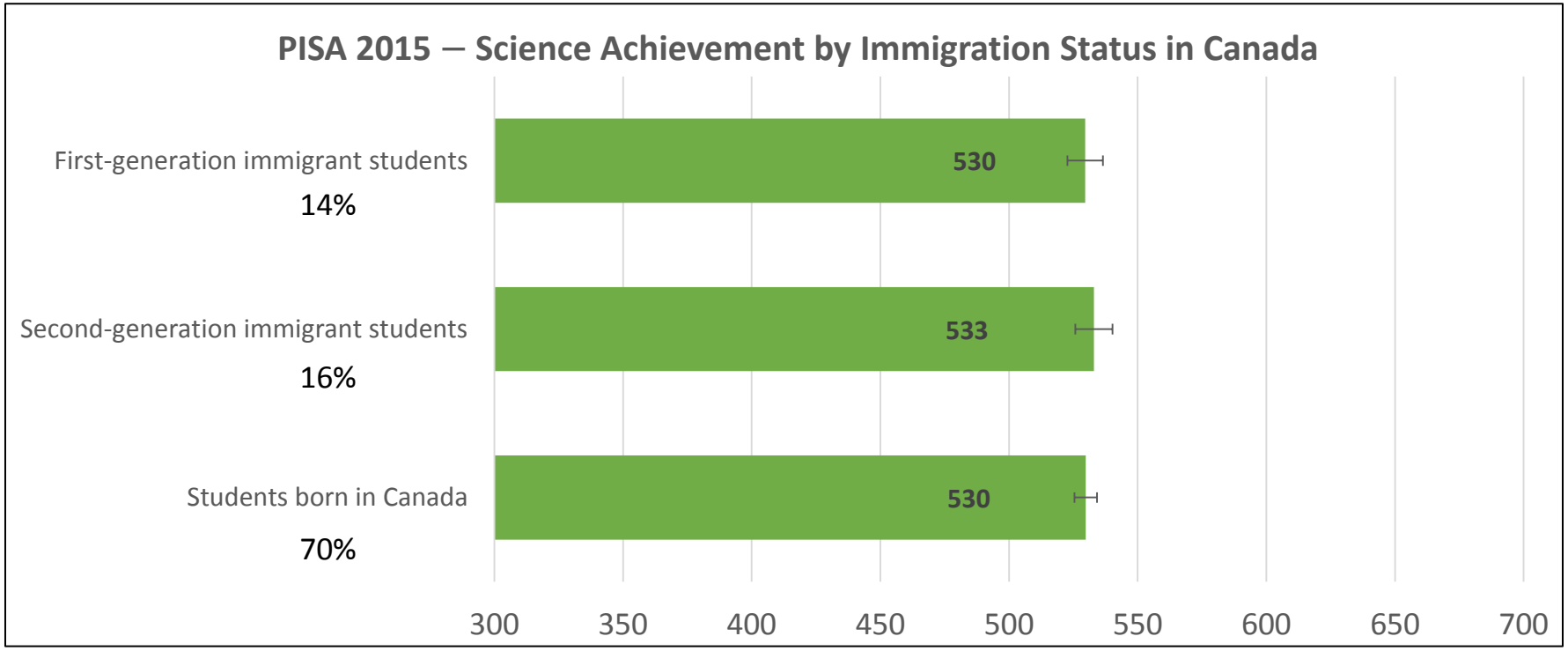


… while it has dropped significantly in all provinces except in Quebec and Prince Edward Island.

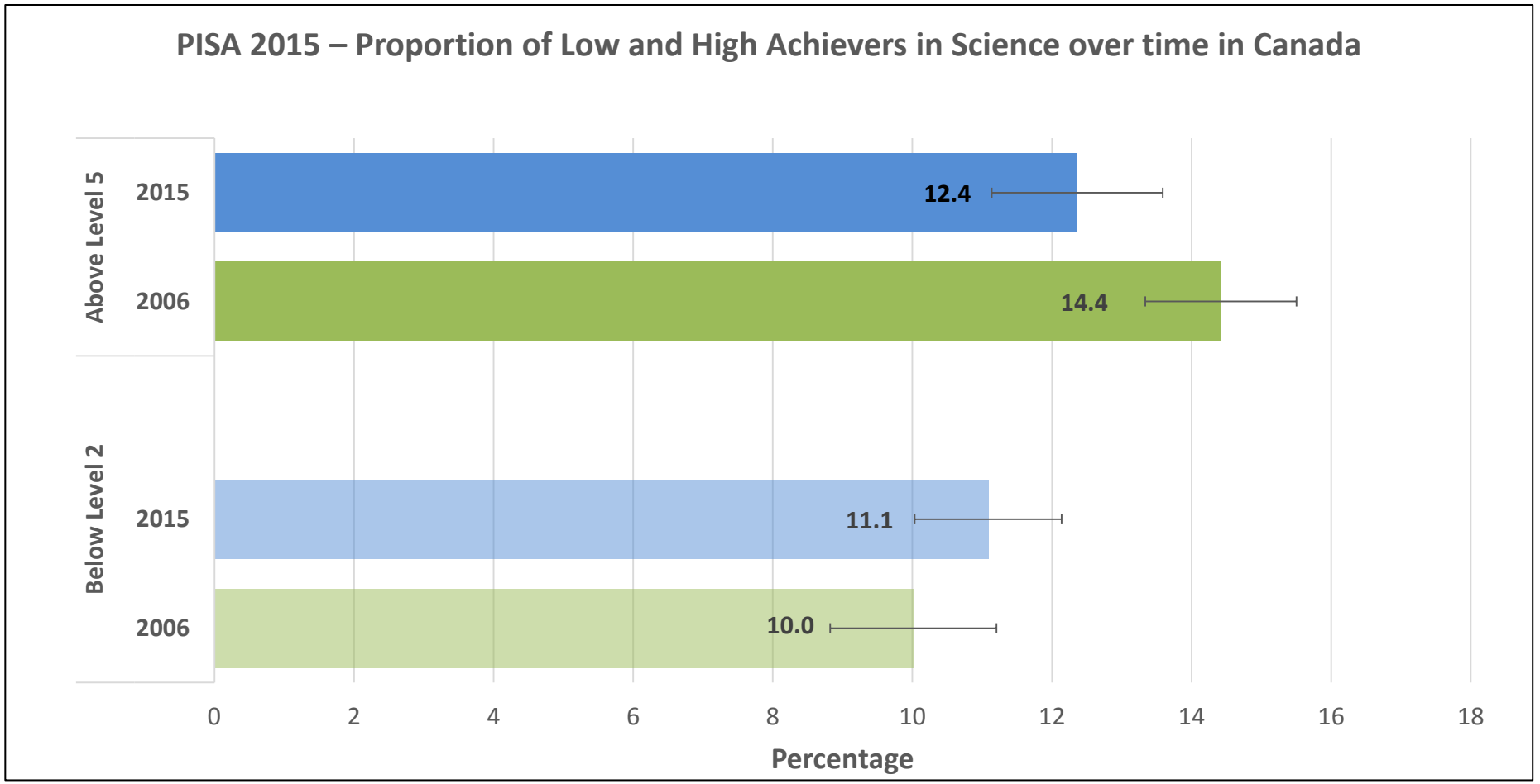


Significant differences are indicated with a darker colour.

In Canada, there is no difference in science achievement based on the immigration status of students.

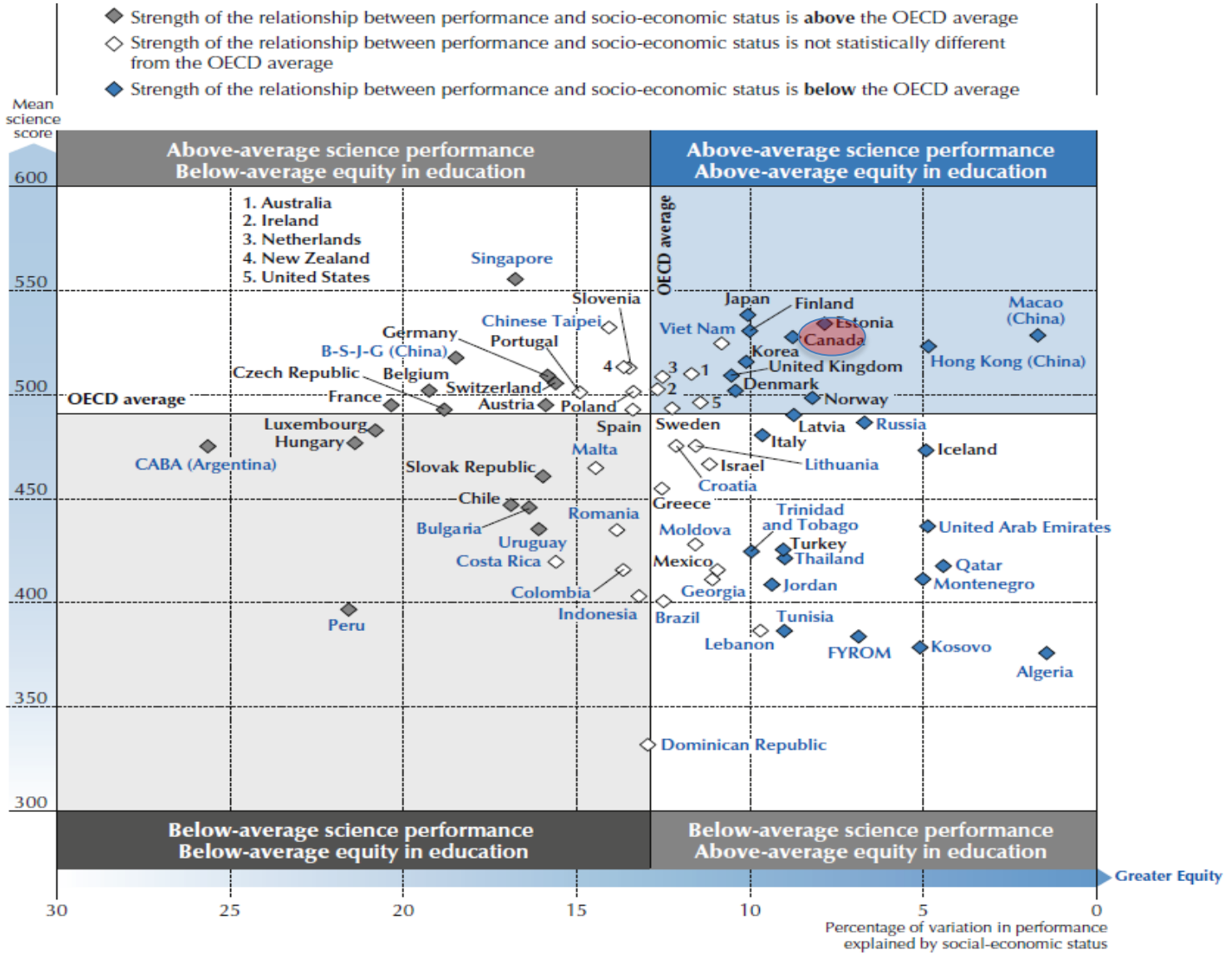


In Canada, there has been little change over time in the proportion of low and high achievers in science.



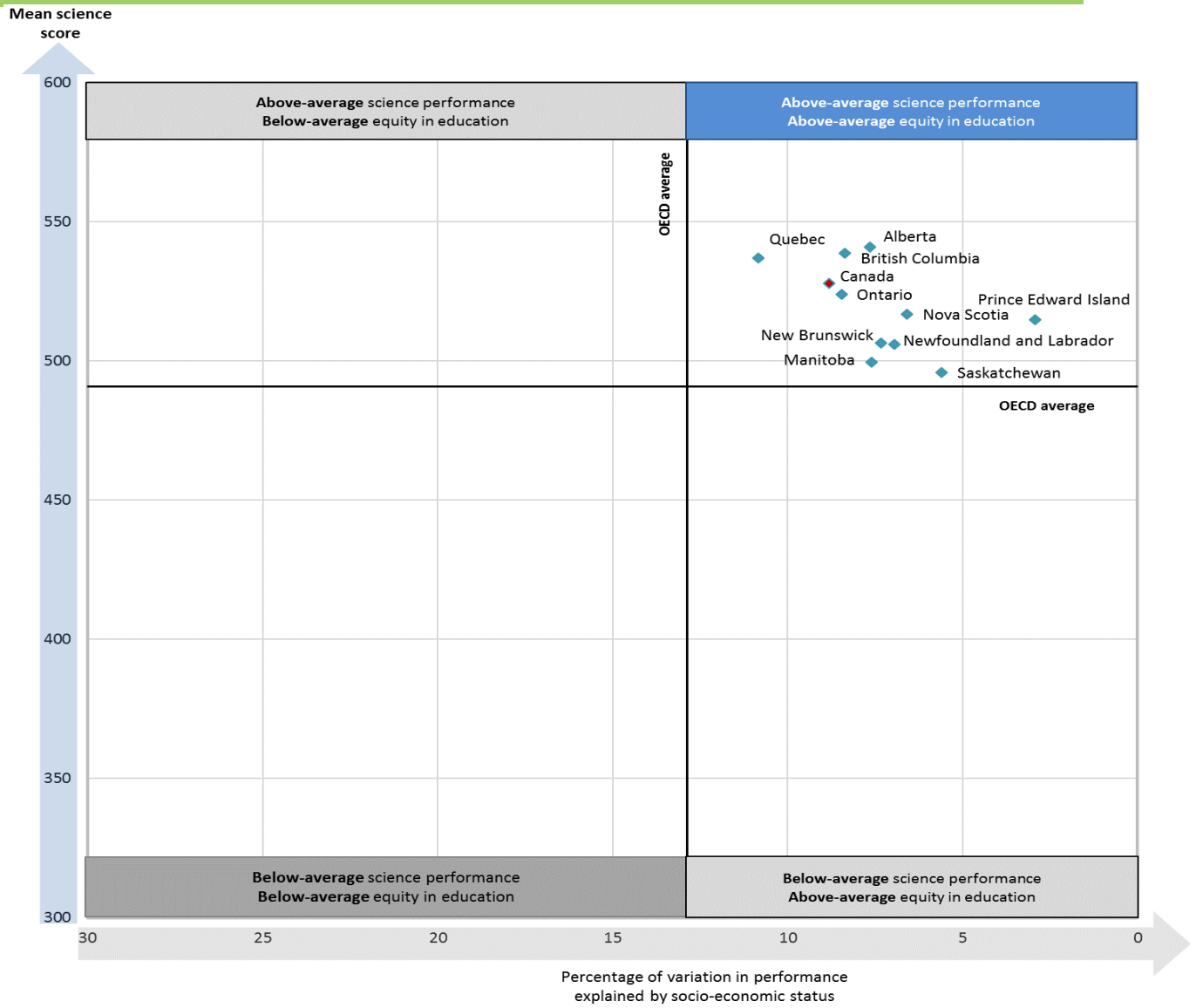
Significant differences are indicated with a darker colour.

Canadian results in science are characterized by relatively high levels of achievement and equity.



PISA 2015 Results: Excellence and Equity in Education, Volume I (Paris: OECD 2016).

Canadian results in science are characterized by relatively high levels of achievement and equity.

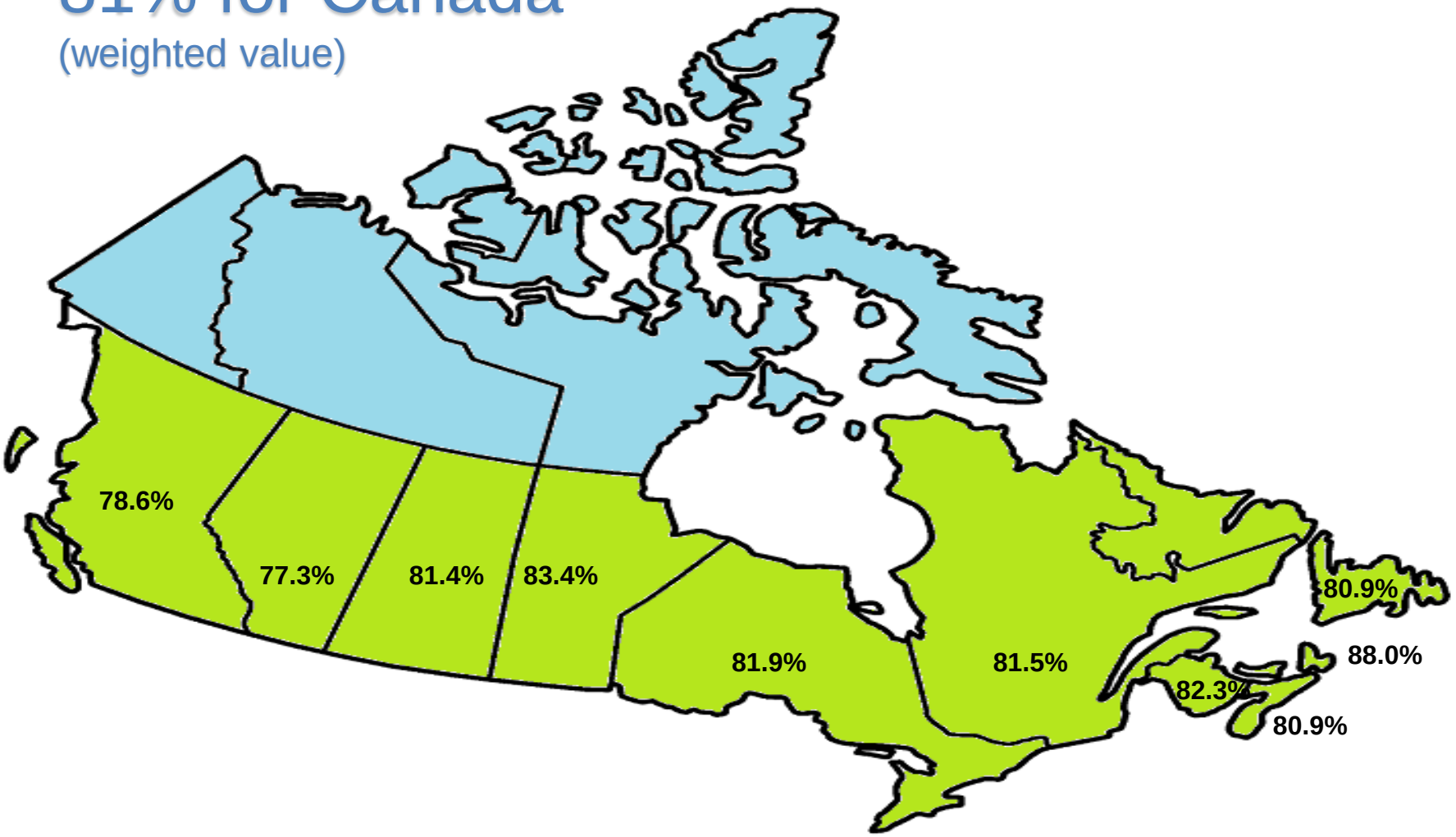


Adapted from Figure I.6.6 in *PISA 2015 Results: Excellence and Equity in Education,* Volume I (Paris: OECD 2016).

Canadian student participation

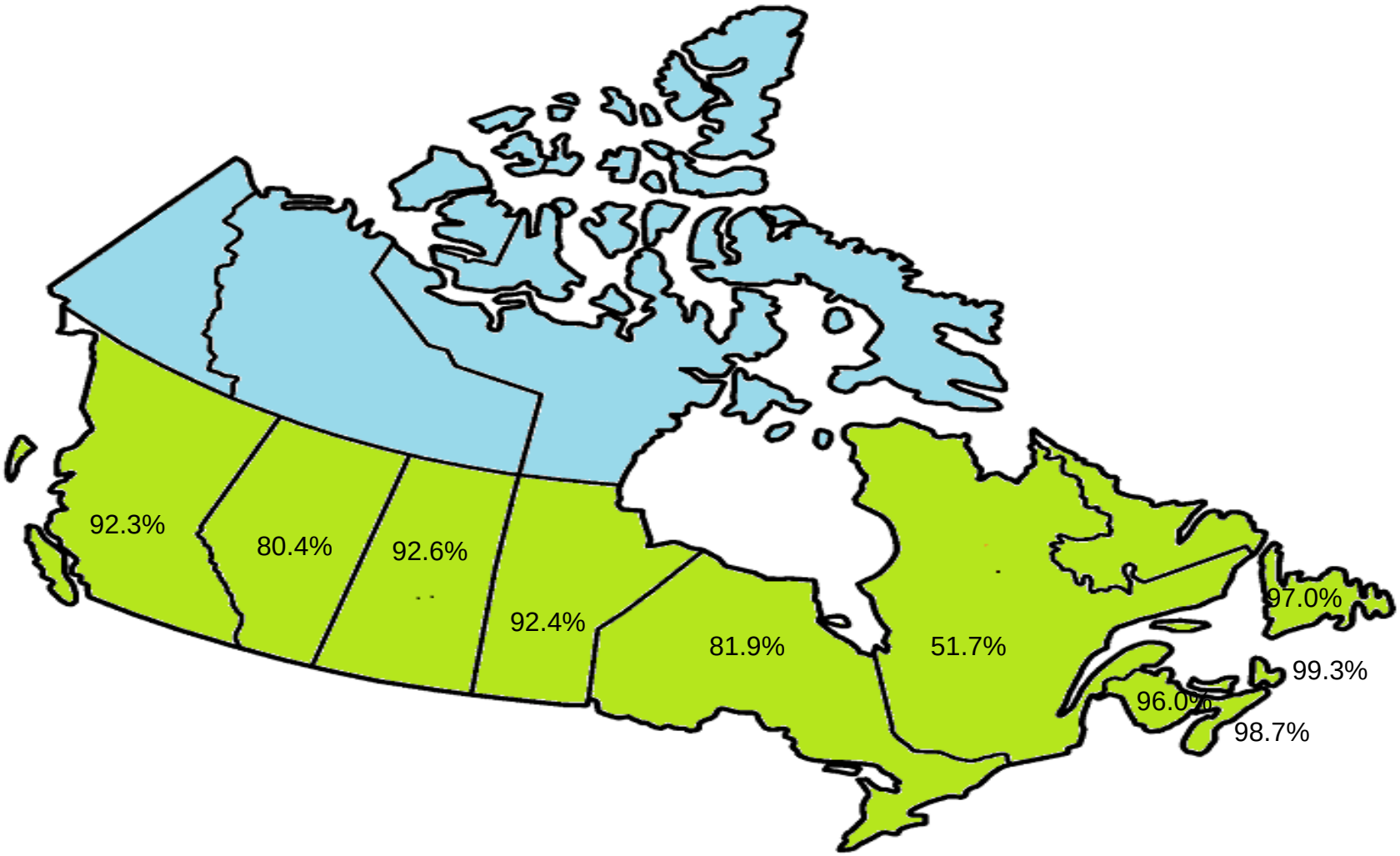
81% for Canada

(weighted value)



Canadian school participation

79% for Canada



7 per cent of Canadian students were exempted from writing PISA.

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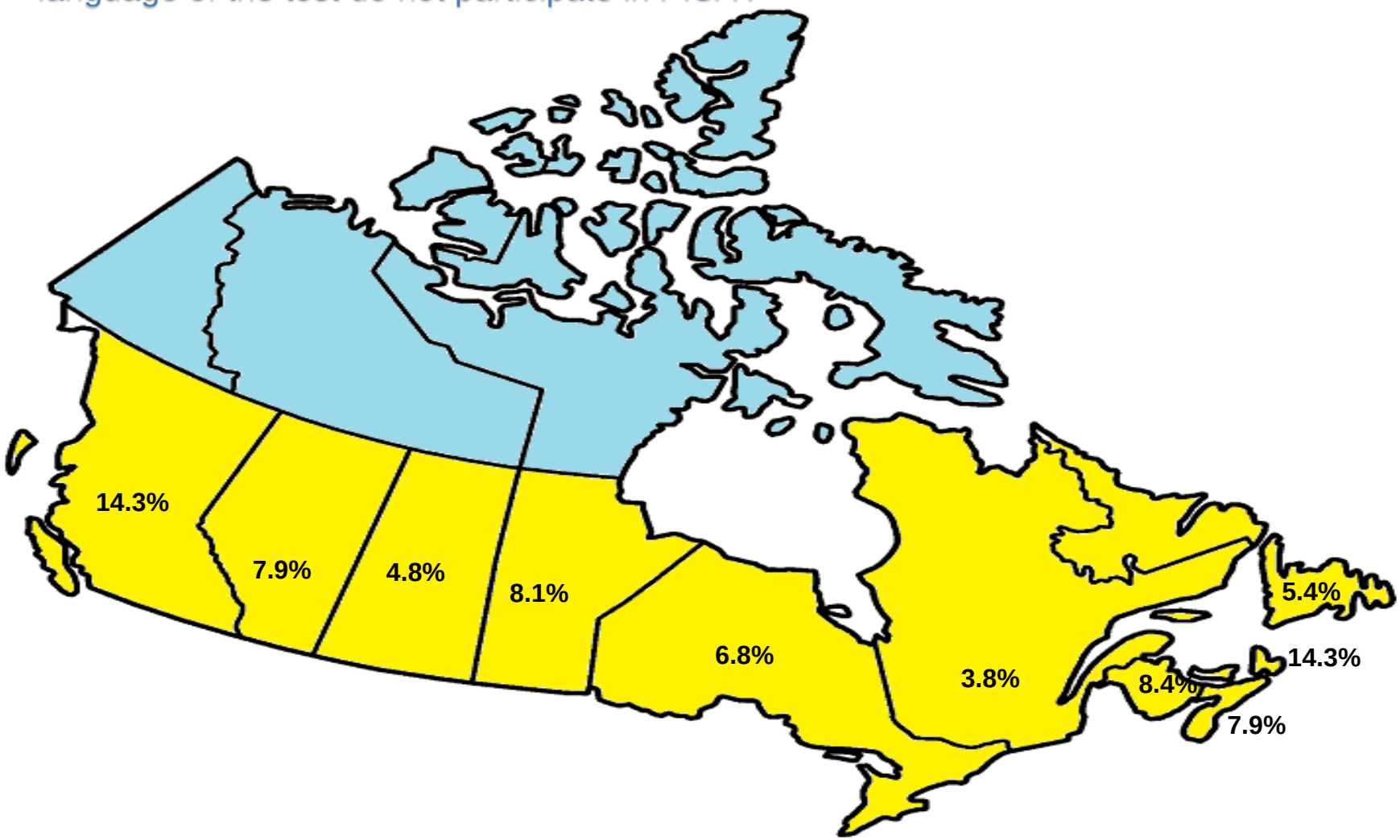
Student exemptions – students with physical or intellectual disabilities or limited ability in the language of the test do not participate in PISA .



PISA 2015

"Only in Canada, Estonia, Finland, Hong Kong (China), Japan, Macao (China) and Singapore do at least four out of five 15-year-old students master the baseline level of proficiency in science, reading and mathematics. These countries show that there are countries on nearly every continent that could achieve the goal of universal basic skills by 2030. At the same time, the small group of countries that has moved close to securing at least basic skills for all shows how much remains to be done in most countries – including some of the wealthiest OECD countries – to attain the Sustainable Development Goals."

PISA 2015 Results: Excellence and Equity in Education (Paris: OECD 2016), p. 3.

Thank you!

- www.cmec.ca
- http://www.oecd.org/pisa/