SUPERINTENDENT'S REPORT

PISA

Programme for International Student Assessment



Dave Eberwein, Superintendent

February 14, 2024



OECD Headquarters Paris, France



OECD



- The Organization for Economic Co-operation and Development (OECD) is an international organization that works to build understanding around national policies.
- In existence for approximately 60 years.
- Works with national governments, including policy makers and other citizens to establish evidence-based international standards and solutions to a range of social, economic and environmental challenges.
- Canada has been a member since 1961.
- Every 3 years the OECD publishes an education system report (PISA). In Canada, since we do not have a national education system the OECD publishes both overall Canadian data as well as data from each provincial jurisdiction.

PISA



WHAT IS PISA?

- PISA is the OECD's Programme for International Student Assessment.
- It measures 15-year-olds' ability in reading, mathematics and science knowledge / skills.
- They are as controversial as they are an insight into global trends.
- Some criticisms of PISA:
 - Narrow focus on certain skills
 - Leaning on standardized tests to measure complex educational systems
 - Potential for cultural bias





PISA







WHY CARE ABOUT PISA?

- PISA slices and dices the data into a myriad of statistics that can be overwhelming, but it can also stir some great conversations in things like numeracy and literacy
- Education is something that happens globally. Is there something we can learn from others?
- Some of the data is intriguing and opens questions on a wide range of topics:
 - Gender differences
 - Socio-economic status as an influencer
 - School-life experiences / parental involvement in learning
 - Learning during COVID
 - Expenditures in Education
 - School-level autonomy

Programme for International Student Assessment

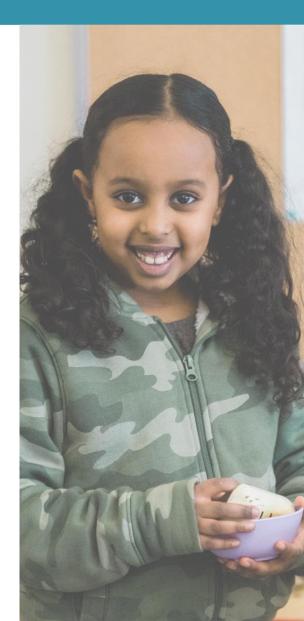


Apr / May 2021

Originally scheduled for 2020

SANICH

- ≈ 7,000 students from 120 schools across Canada
- Up to 70 students from each school are randomly selected by MECC to participate
- BC Student Learning Assessment Order
- Claremont Secondary
- Multiple-choice and open-response questions
- Questionaires to selected students
- No individual students, teachers, schools or school district data is produced
- Data aggregated at the provincial/territorial and national levels
- The next PISA assessments are scheduled for Spring 2025









Lithuania

Canada Costa Rica

lapan

Korea

New Zealand Slovak Republic Czechia Finland Switzerland United Kingdom **United States**

Partner countries and economies in PISA 2022

Argentina Brunei Darussalam Bulgaria Cambodia Croatia

Cyprus* Dominican Republic El Salvador Georgia Guatemala Hong Kong (China)

Kazakhstan

Macao (China)

Malaysia

Mongolia Panama Philippines Romania Saudi Arabia Serbia Thailand Ukraine United Arab Emirates

Uruquay

Uzbekistan

Republic of Moldova



SOME GLOBAL STATISTICS

2021

690,000 15-year-olds participated from 81 countries

Between 2018 and 2022:

- Mean performance in MATHEMATICS fell by 15 points (approximately 496 480)
- Mean performance in READING fell by 10 points (approximately 493 482)
- Mean performance in SCIENCE remained statistically unchanged (493 491)

NOTES:

- Reading and Science have been in a decline for a decade
- Math has been relatively stable

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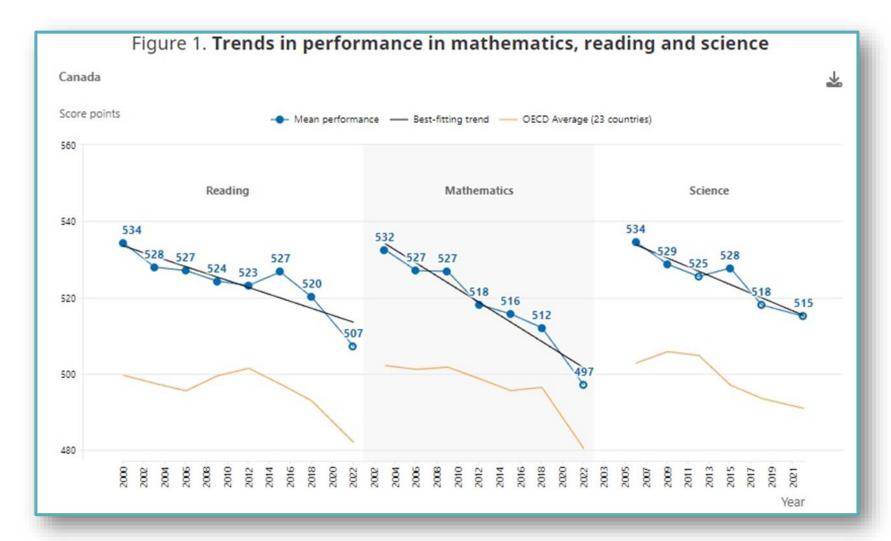
Canadian Average Results Comparison from 2018 – 2022:

Down in READING & MATH

About the same in SCIENCE

SANICH

CANADA - 2022



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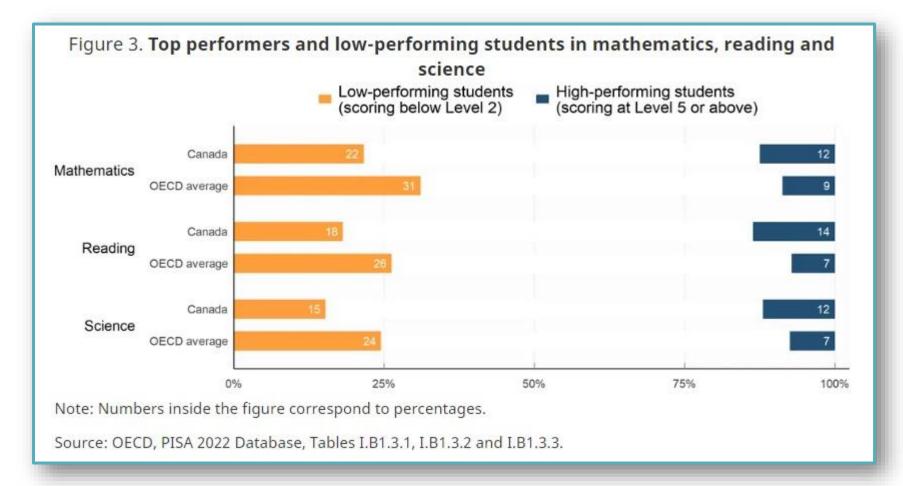


Canada does very well in PISA results compared to the other 80 countries who participate

Only 16 / 81 countries had more than 10% of students attain a score of 5 or 6



CANADA - 2022







CANADA & BRITISH COLUMBIA 2022

MATHEMATICS





Table I.2.4. Mathematics performance at national and subnational levels [1/2]

		CARACTERISTICS	All countries/economies		OECD countries	
	Mean score	95% confidence interval	Lower rank	Upper rank	Lower rank	Upper ran
Singapore	575	572 - 577	1	1		336633333
Macao (China)	552	550 - 554	2	4		
Chinese Taipei	547	540 - 554	2	6		
long Kong (China)*	540	534 - 546	2	6		
	536	530 - 541	3	6	1	2
apan						
orea	527	520 - 535	3	7	1	2
luebec (Canada)*	514	506 - 521				
stonia	510	506 - 514	6	9	3	4
witzerland	508	504 - 512	7.	10	3	5
lberta (Canada)*	504	492 - 515				
lemish community (Belgium)	501	495 - 507				
	722	492 - 507				
anada*	497	494 - 500	8	18	5	13
ritish Columbia (Canada)*	496	488 - 505		10	3	10
riasii Columbia (Canada)	490					
		489 - 501				
sturias (Spain)	495	486 - 504				
antabria (Spain)	495	486 - 504				
fadrid (Spain)	494	487 - 501				
etherlands*	493	485 - 500	7	26	4	20
a Rioja (Spain)	493	485 - 501	100	AYAR U	100	105.00
lavarre (Spain)	492	484 - 501				
ngland (United Kingdom)*	492	487 - 497				_
				70		40
eland*	492	488 - 496	9	22	5	18
rento (Italy)	491	487 - 494				
elgium	489	485 - 494	9	24	5	20
enmark*	489	485 - 493	9	24	5	19
nited Kingdom*	489	485 - 493	9	24	5	20
oland	489	485 - 493	9	24	5	20
ustria	487	483 - 492	9	28	5	20
ustralia*	487	484 - 491	9	25	6	20
zech Republic	487	483 - 491	9	26	5	20
ragon (Spain)	487	478 - 496				
laficia (Spain)	486	479 - 494				
lovenia	485	482 - 487	10	28	6	21
inland	484	480 - 488	10	30	6	24
erman-speaking community (Belgium)	483	473 - 494				
atvia*	483	479 - 487	10	32	6	25
	482	474 - 490	10	uc.		
asque Country (Spain)			40	20		57
weden	482	478 - 486	10	32	6	27
olzano (Italy)	482	476 - 488		100		
lorthern (Viet Nam)	480	467 - 494				
ew Zealand*	479	475 - 483	11	33	7	28
rince Edward Island (Canada)	478	465 - 491				
ithuania	475	472 - 479	18	36	16	29
orthern Ireland (United Kingdom)*	475	469 - 481	·v	30	10	
ermany	475	469 - 481	11	37	8	30
rance	474	469 - 479	16	37	15	29
rench community (Belgium)	474	468 - 480			0.00	1000
pain	473	470 - 476	21	36	18	29
ungary	473	468 - 478	19	37	16	30
omunidad Valenciana (Spain)	473	465 - 480		2.74	12.002	
ortugal	472	467 - 477	20	37	17	30
aly	471	465 - 477	18	38	16	31
algaric Islands (Spain)	471	463 - 478	10	30	- 10	2.641
cotland (United Kingdom)*	471	465 - 476				
laniloba (Canada)*	470	465 - 476				
ova Scotia (Canada)*	470	463 - 477				
et Nam	469	462 - 477	16	39		
atalonia (Spain)	469	458 - 481				
xtremadura (Spain)	469	459 - 479				
orway	468	464 - 472	23	38	19	31
			2.0	36	10	31
ew Brunswick (Canada)	468	462 - 474				
askatchewan (Canada)	468	462 - 473	- 21	100		
alta	466	463 - 469	24	38		
fales (United Kingdom)*	466	460 - 472				
nited States*	465	457 - 473	21	39	18	32
lovak Republic	464	458 - 470	24	39	20	32
astile-La Mancha (Spain)	464	457 - 470	6.7	- 39	- EV	ac.
dawo-La Maliula (Spaki)				-		_
outhern (Viet Nam)	463	450 - 477				
furcia (Spain)	463	455 - 472				





CANADA & BRITISH COLUMBIA

2022

SCIENCE





Table 1.2.6. Science performance at national and subnational levels [1/2]

			All countries/economies		OECD countries	
	Mean score	interval	Lower rank	Upper rank	Lower rank	Upper rank
Singapore	561	559 - 564	1	1		7.55
lapan	547	541 - 552	2	5	- 1	1
Macao (China)	543	541 - 545	2	5		
Chinese Taipei	537	531 - 544	2	7		
Alberta (Canada)*	534	520 - 547				
Korea	528	521 - 535	2	9	2	5
Estonia	526	522 - 530	4	8	2	4
	500	546 586	4	11		
British Columbia (Canada)*	519	509 - 528				
Ontario (Canada)*	517	510 - 524				
Canada*	515	511 - 519	5	13	2	9
Quebec (Canada)*	512	504 - 520	1021	122	72	
	604	600 644	6	18	3	14
Australia*	507	503 - 511	7	21	4	15
Castile and Leon (Spain)	506	498 - 515				
Galicia (Spain)	506	496 - 516	2.80	oc.	9	***
Vew Zealand*	504	500 - 509	8	25	4	20
Cantabria (Spain)	504	493 - 515		Ar.		00
reland*	504	499 - 508	1000	25	4	20
Asturias (Spain)	503	491 - 515	[No Title]			
England (United Kingdom)*	503	497 - 508		Ar.		
Switzerland	503	498 - 507	9	25	5	21
Madrid (Spain)	502	495 - 510		or.		227
Slovenia	500	497 - 503	9	26	5	21
United Kingdom	500	495 - 504	9	27	5	23
a Rioja (Spain)	500	481 - 518				
Aragon (Spain)	499	489 - 510		0.0	(0)	227
United States*	499	491 - 508	7	32	4	26
Poland	499	494 - 504	9	28	5	23
lemish community (Belgium)	499	493 - 506				
Czech Republic	498	493 - 502	9	29	5	24
Prince Edward Island (Canada)	496	470 - 522				
Trento (Italy)	495	491 - 499				
Bolzano (Italy)	495	486 - 504		ne.		
Latvia*	494	489 - 498	11	32	7	26
Denmark*	494	489 - 499	10	32	7	26
Saskatchewan (Canada)	494	488 - 500				
Sweden	494	489 - 498	11	32	7	26
Germany	492	486 - 499	10	35	6	28
Manitoba (Canada)*	492	484 - 500				
Nova Scolla (Canada)*	492	484 - 500				
Newfoundland and Labrador (Canada)*	491	481 - 502			_	
Austria	491	486 - 496	11	33	7	28
Belgium	491	486 - 495	11	34	9	28
Vavarre (Spain)	489	478 - 500				
Vorthern Ireland (United Kingdom)*	488	482 - 495	40			**
Netherlands*	488	480 - 496	10	35	7	29
German-speaking community (Belgium)	487	470 - 505	4.5	ar.		
rance	487	482 - 493	14	35	11	29
lungary	486	481 - 491	15	35	11	29
Spain	485	481 - 488	18	35	14	29
ithuania	484	480 - 489	17	35	14	29
Portugal	484	479 - 489	16	35	13	29
Scotland (United Kingdom)*	483	477 - 489				
Comunidad Valenciana (Spain)	483	474 - 492				
New Brunswick (Canada)	483	474 - 491		52.03		
Croatia	483	478 - 487	18	35		
Murcia (Spain)	482	471 - 492				
Balearic Islands (Spain)	480	470 - 490				
Basque Country (Spain)	480	470 - 489				
rench community (Belgium)	479	472 - 486				
Extremadura (Spain)	479	467 - 492				
lorway	478	474 - 483	22	37	18	30
Vorthern (Viet Nam)	478	466 - 489				
taly	477	471 - 484	18	38	18	31
Catelonia (Spain)	477	466 - 489				
Türkiye	476	472 - 480	24	38	21	31
Castile-La Mancha (Spain)	475	466 - 484				
Southern (Viet Nam)	474	462 - 486				
Andalusia (Spain)	473	464 - 483				
Wales / United Kinadom) *	473	465 - 480				





CANADA & BRITISH COLUMBIA

2022

READING





Table I.2.5. Reading performance at national and subnational levels [1/2]

		95% confidence	All countries/economies		OECD countries	
	Mean score	interval	Lower rank	Upper rank	Lower rank	Upper rank
ingapore	543	539 - 546	1	1	100000000000000000000000000000000000000	5.66
lberta (Canada)*	525	512 - 537		1		
eland*	516	511 - 521	2	9	1	6
apan	516	510 - 522	2	11	1	6
Korea	515	508 - 523	2	12	1	7
Chinese Taipei	515	509 - 522	2	11		
Ontario (Canada)*	512	504 - 519	2	40	1	7
iritish Calumbia (Canada)*	511	499 - 522		12		
Macao (China)	510	508 - 513	2	11		
Canada*	507	503 - 511	2	13	1	8
inned states	309	490 - 512	2	18	1	14
uebec (Canada)*	501	492 - 510				
ew Zealand*	501	497 - 505	3	17	3	12
long Kong (China)*	500	494 - 505	3	18		
ustralia*	498	494 - 502	6	18	5	14
astile and Leon (Spain)	498	489 - 507	2.1			
Isturias (Spain)	497	486 - 508				
rince Edward Island (Canada)	496 496	476 - 517				
ingland (United Kingdom)* fadrid (Spain)	496	491 - 502 488 - 504				
radno (Spain) Inited Kingdom*	496	488 - 504	8	22	6	17
antabria (Spain)	494	482 - 506	0	22	0	- 11
rento (Italy)	494	490 - 498				
icotland (United Kingdom)*	493	486 - 499				
inland	490	486 - 495	9	26	6	20
lova Scotia (Canada)*	489	477 - 501			200	
lenmark*	489	484 - 494	9	30	6	23
oland	489	483 - 494	9	30	6	24
zech Republic	489	484 - 493	9	28	7	23
ragon (Spain)	488	477 - 498				
weden	487	482 - 492	10	30	7	25
a Rioja (Spain)	487	472 - 502		955 Ft		100
fanitoba (Canada)*	486	478 - 493				
lalicia (Spain)	485	476 - 495				
lorthern Ireland (United Kingdom)*	485	479 - 492				
askatchewan (Canada)	484 483	476 - 492 479 - 488	13	32	9	27
witzerland	483	476 - 490	13	32	.9	21
lemish community (Belgium) lolzano (Italy)	482	470 - 494				
Comunidad Valenciana (Spain)	482	474 - 490				
aly	482	476 - 487	13	33	9	27
ustria	480	475 - 486		34	10	28
ermany	480	473 - 487	13 13	34	9	29
elgium	479	474 - 484	14	34	10	28
ewfoundland and Labrador (Canada)*	478	464 - 492				
lavarre (Spain)	478	463 - 492		1835	783	500
ortugal	477	471 - 482	14	34	10	29
orway	477	472 - 482	14	34 34	11	29
roatia	475	471 - 480	15	34	3/3	10.5
atvia*	475	470 - 479	16	34	13	29
pain	474	471 - 478	19	34	15	29 29
rance	474	468 - 480	15	34	11	
rael rench community (Belgium)	474 474	467 - 481 466 - 481	14	34	- 11	29
lungary	473	467 - 479	16	34	14	29
ithuania	472	468 - 476	19	34	15	29
alearic Islands (Spain)	472	459 - 484	10	30	17	2.0
orthern (Viet Nam)**	469	457 - 482				
ew Brunswick (Canada)	469	461 - 477		100.1	7.00	
ovenia	469	465 - 472	20	34	17	29
lurcia (Spain)	468	458 - 478			1860	
xtremadura (Spain)	468	456 - 481				
astife-La Mancha (Spain)	468	459 - 477				
erman-speaking community (Belgium)	467	448 - 485				
asque Country (Spain)	466	457 - 476				
Vales (United Kingdom)*	466	458 - 473				
anary Islands (Spain)	463	452 - 474				
atalonia (Spain)	462	450 - 475				
logata (Colombia)	462	451 - 474				
fiet Nam**	462	454 - 470				
Southern (Viet Nam)**	461	448 - 474				





COVID had the universal impact of lowering student achievement in the PISA standardized measurements

What other observations did PISA notice?



EFFECTS FROM COVID

OPEN SCHOOLS BENEFITTED STUDENTS

- Across PISA-participating economies, at least half of students experiencd COVID-related school closures for 3 months or more.
- Systems that spared students from longer school closures scored higher while their students enjoyed a greater sense of belonging at school.

PREPARING STUDENTS FOR REMOTE LEARNING

- Students whose teachers were available when schools were closed scored higher in mathematics and were more confident about self-directed learning.
- Most students were confident using digital learning platforms & finding learning resources, but only 60% were confident about motivating themselves to do schoolwork.







What does the 2022 data tell us?



GLOBAL TRENDS FROM PISA

- TRENDS in academic outcomes HAVE REMAINED MOSTLY STABLE with recent declines in math
- Socio-economic gaps in education continue but POVERTY ISN'T DESTINY
- SOCIAL-EMOTIONAL OUTCOMES are closely related to student success
- SCHOOLS ARE BEING ASKED TO DO MORE to fill in gaps
- PARENTAL ENGAGEMENT has declined but is still important for student success
- CRITICAL THINKING continues to be an important cornerstone for student success







Several High Performing
Jurisdictions meet
regularly to discuss
student achievement
including PISA results

BC has been participating in these conversations



SOME CURRENT CONVERSATION THEMES

- PISA ASSESSMENTS need to consider additional metrics
- MAKING MEANING is also important not just problem solving and decision making
- COMPETENCY DEVELOPMENT does not replace foundational skills (literacy, numeracy, science) but rather builds upon them and supports them
- The quality of RELATIONSHIPS ("Social Soil") is critical for student success
- LEARNING ENVIRONMENTS are not just physical spaces, but also social, emotional, virtual and aesthetic spaces
- ARTIFICIAL INTELLIGENCE is having an impact on education, however, and how we carefully embrace its potential is well underway







Can PISA provide us with useful information?

What can we learn from each other?



WHAT CAN WE TAKE FROM PISA?

- PISA can offer a comparison window into conversations about how we can be better
- PISA is satellite (high level) data. It can show overall trends, but not really tell us anything locally.
- Education is complex and shouldn't be analyzed by single standardized assessments.
- PISA is often politicized governments and others 'spin' the data to reflect their story.
- If you want to tell a particular story about Education, you can likely find a PISA chart or graph to support your story



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