

Executive Summary

Reading proficiency is essential for a wide variety of human activities – from following instructions in a manual; to finding out the who, what, when, where and why of an event; to communicating with others for a specific purpose or transaction. PISA recognises that evolving technologies have changed the ways people read and exchange information, whether at home, at school or in the workplace. Digitalisation has resulted in the emergence and availability of new forms of text, ranging from the concise (text messages; annotated search-engine results) to the lengthy (tabbed, multipage websites; newly accessible archival material scanned from microfiches). In response, education systems are increasingly incorporating digital (reading) literacy into their programmes of instruction.

Reading was the main subject assessed in PISA 2018. The PISA 2018 reading assessment, which was delivered on computer in most of the 79 countries and economies that participated, included new text and assessment formats made possible through digital delivery. The test aimed to assess reading literacy in the digital environment while retaining the ability to measure trends in reading literacy over the past two decades. PISA 2018 defined reading literacy as 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.

WHAT STUDENTS KNOW AND CAN DO: MAIN FINDINGS

In reading

- Beijing, Shanghai, Jiangsu and Zhejiang (China) and Singapore scored significantly higher in reading than all other countries/economies that participated in PISA 2018. Estonia, Canada, Finland and Ireland were the highest-performing OECD countries in reading.
- Some 77% of students, on average across OECD countries, attained at least Level 2 proficiency in reading. At a minimum, these students are able to identify the main idea in a text of moderate length, find information based on explicit, though sometimes complex, criteria, and reflect on the purpose and form of texts when explicitly directed to do so. Over 85% of students in Beijing, Shanghai, Jiangsu and Zhejiang (China), Canada, Estonia, Finland, Hong Kong (China), Ireland, Macao (China), Poland and Singapore performed at this level or above.
- Around 8.7% of students, on average across OECD countries, were top performers in reading, meaning that they attained Level 5 or 6 in the PISA reading test. At these levels, students are able to comprehend lengthy texts, deal with concepts that are abstract or counterintuitive, and establish distinctions between fact and opinion, based on implicit cues pertaining to the content or source of the information. In 20 education systems, including those of 15 OECD countries, over 10% of 15-year-old students were top performers.

In mathematics and science

- On average across OECD countries, 76% of students attained Level 2 or higher in mathematics. At a minimum, these students can interpret and recognise, without direct instructions, how a (simple) situation can be represented mathematically (e.g. comparing the total distance across two alternative routes, or converting prices into a different currency). However, in 24 countries and economies, more than 50% of students scored below this level of proficiency.
- Around one in six 15-year-old students in Beijing, Shanghai, Jiangsu and Zhejiang (China) (16.5%), and about one in seven students in Singapore (13.8%), scored at Level 6 in mathematics, the highest level of proficiency that PISA describes. These students are capable of advanced mathematical thinking and reasoning. On average across OECD countries, only 2.4% of students scored at this level.
- On average across OECD countries, 78% of students attained Level 2 or higher in science. At a minimum, these students can recognise the correct explanation for familiar scientific phenomena and can use such knowledge to identify, in simple cases, whether a conclusion is valid based on the data provided. More than 90% of students in Beijing, Shanghai, Jiangsu and Zhejiang (China) (97.9%), Macao (China) (94.0%), Estonia (91.2%) and Singapore (91.0%) achieved this benchmark.

Trends in performance




- On average across OECD countries, mean performance in reading, mathematics and science remained stable between 2015 and 2018.

Executive Summary

- There were large differences between individual countries and economies in how their performance changed between 2015 and 2018. For example, mean performance in mathematics improved in 13 countries/economies (Albania, Iceland, Jordan, Latvia, Macao [China], Montenegro, Peru, Poland, Qatar, the Republic of North Macedonia, the Slovak Republic, Turkey and the United Kingdom), declined in 3 countries/economies (Malta, Romania and Chinese Taipei), and remained stable in the remaining 47 participating countries/economies.
- Seven countries/economies saw improvements, on average, in the reading, mathematics and science performance of their students throughout their participation in PISA: Albania, Colombia, Macao (China), the Republic of Moldova, Peru, Portugal and Qatar. Seven countries saw declining mean performance across all three subjects: Australia, Finland, Iceland, Korea, the Netherlands, New Zealand and the Slovak Republic.
- Between 2003 and 2018, Brazil, Indonesia, Mexico, Turkey and Uruguay enrolled many more 15-year-olds in secondary education without sacrificing the quality of the education provided.

Around the world, the share of 15-year-old students, in grade 7 and above, who reached a minimum level of proficiency in reading (at least Level 2 on the PISA scale) ranged from close to 90% in Beijing, Shanghai, Jiangsu and Zhejiang (China), Estonia, Macao (China) and Singapore, to less than 10% in Cambodia, Senegal and Zambia (countries that participated in the PISA for Development assessment in 2017). The share of 15-year-old students who attained minimum levels of proficiency in mathematics (at least Level 2) varied even more – between 98% in Beijing, Shanghai, Jiangsu and Zhejiang (China) and 2% in Zambia. On average across OECD countries, around one in four 15-year-olds did not attain a minimum level of proficiency in reading or mathematics. These numbers show that all countries still have some way to go towards reaching the global goals for quality education, as defined in the UN Sustainable Development Goal for education, by 2030.

Table I.1 [1/2] Snapshot of performance in reading, mathematics and science


 Countries/economies with a mean performance/share of **top performers above** the OECD average
 Countries/economies with a share of **low achievers below** the OECD average
 Countries/economies with a mean performance/share of top performers/share of low achievers **not significantly different** from the OECD average
 Countries/economies with a mean performance/share of **top performers below** the OECD average
 Countries/economies with a share of **low achievers above** the OECD average

OECD	Mean score in PISA 2018			Long-term trend: Average rate of change in performance, per three-year-period			Short-term change in performance (PISA 2015 to PISA 2018)			Top-performing and low-achieving students	
	Reading	Mathematics	Science	Reading	Mathematics	Science	Reading	Mathematics	Science	Share of top performers in at least one subject (Level 5 or 6)	Share of low achievers in all three subjects (below Level 2)
	Mean	Mean	Mean	Score dif.	Score dif.	Score dif.	Score dif.	Score dif.	Score dif.	%	%
OECD average	487	489	489	0	-1	-2	-3	2	-2	15.7	13.4
Estonia	523	523	530	6	2	0	4	4	-4	22.5	4.2
Canada	520	512	518	-2	-4	-3	-7	-4	-10	24.1	6.4
Finland	520	507	522	-5	-9	-11	-6	-4	-9	21.0	7.0
Ireland	518	500	496	0	0	-3	-3	-4	-6	15.4	7.5
Korea	514	526	519	-3	-4	-3	-3	2	3	26.6	7.5
Poland	512	516	511	5	5	2	6	11	10	21.2	6.7
Sweden	506	502	499	-3	-2	-1	6	8	6	19.4	10.5
New Zealand	506	494	508	-4	-7	-6	-4	-1	-5	20.2	10.9
United States	505	478	502	0	-1	2	8	9	6	17.1	12.6
United Kingdom	504	502	505	2	1	-2	6	9	-5	19.4	9.0
Japan	504	527	529	1	0	-1	-12	-5	-9	23.3	6.4
Australia	503	491	503	-4	-7	-7	0	-3	-7	18.9	11.2
Denmark	501	509	493	1	-1	0	1	-2	-9	15.8	8.1
Norway	499	501	490	1	2	1	-14	-1	-8	17.8	11.3
Germany	498	500	503	3	0	-4	-11	-6	-6	19.1	12.8
Slovenia	495	509	507	2	2	-2	-10	-1	-6	17.3	8.0
Belgium	493	508	499	-2	-4	-3	-6	1	-3	19.4	12.5
France	493	495	493	0	-3	-1	-7	2	-2	15.9	12.5
Portugal	492	492	492	4	6	4	-6	1	-9	15.2	12.6
Czech Republic	490	499	497	0	-4	-4	3	7	4	16.6	10.5
Netherlands	485	519	503	-4	-4	-6	-18	7	-5	21.8	10.8
Austria	484	499	490	-1	-2	-6	0	2	-5	15.7	13.5
Switzerland	484	515	495	-1	-2	-4	-8	-6	-10	19.8	10.7
Latvia	479	496	487	2	2	-1	-9	14	-3	11.3	9.2
Italy	476	487	468	0	5	-2	-8	-3	-13	12.1	13.8
Hungary	476	481	481	-1	-3	-7	6	4	4	11.3	15.5
Lithuania	476	481	482	2	-1	-3	3	3	7	11.1	13.9
Iceland	474	495	475	-4	-5	-5	-8	7	2	13.5	13.7
Israel	470	463	462	6	6	3	-9	-7	-4	15.2	22.1
Luxembourg	470	483	477	-1	-2	-2	-11	-2	-6	14.4	17.4
Turkey	466	454	468	2	4	6	37	33	43	6.6	17.1
Slovak Republic	458	486	464	-3	-4	-8	5	11	3	12.8	16.9
Greece	457	451	452	-2	0	-6	-10	-2	-3	6.2	19.9
Chile	452	417	444	7	1	1	-6	-5	-3	3.5	23.5
Mexico	420	409	419	2	3	2	-3	1	3	1.1	35.0
Colombia	412	391	413	7	5	6	-13	1	-2	1.5	39.9
Spain	m	481	483	m	0	-1	m	-4	-10	m	m

Notes: Values that are statistically significant are marked in bold (see Annex A3).

Long-term trends are reported for the longest available period since PISA 2000 for reading, PISA 2003 for mathematics and PISA 2006 for science. Results based on reading performance are reported as missing for Spain (see Annex A9). The OECD average does not include Spain in these cases. Countries and economies are ranked in descending order of the mean reading score in PISA 2018.

Source: OECD, PISA 2018 Database, Tables I.B1.10, I.B1.11, I.B1.12, I.B1.26 and I.B1.27.

StatLink  <https://doi.org/10.1787/888934028140>

...

Table I.1 (2/2) Snapshot of performance in reading, mathematics and science

Countries/economies with a mean performance/share of **top performers above** the OECD average
 Countries/economies with a share of **low achievers below** the OECD average
 Countries/economies with a mean performance/share of top performers/share of low achievers **not significantly different** from the OECD average
 Countries/economies with a mean performance/share of **top performers below** the OECD average
 Countries/economies with a share of **low achievers above** the OECD average


Partners	Mean score in PISA 2018			Long-term trend: Average rate of change in performance, per three-year-period			Short-term change in performance (PISA 2015 to PISA 2018)			Top-performing and low-achieving students	
	Reading	Mathematics	Science	Reading	Mathematics	Science	Reading	Mathematics	Science	Share of top performers in at least one subject (Level 5 or 6)	Share of low achievers in all three subjects (below Level 2)
	Mean	Mean	Mean	Score dif.	Score dif.	Score dif.	Score dif.	Score dif.	Score dif.	%	%
OECD average	487	489	489	0	-1	-2	-3	2	-2	15.7	13.4
B-S-J-Z (China)	555	591	590	m	m	m	m	m	m	49.3	1.1
Singapore	549	569	551	6	1	3	14	5	-5	43.3	4.1
Macao (China)	525	558	544	6	6	8	16	14	15	32.8	2.3
Hong Kong (China)	524	551	517	2	0	-8	-2	3	-7	32.3	5.3
Chinese Taipei	503	531	516	1	-4	-2	6	-11	-17	26.0	9.0
Croatia	479	464	472	1	0	-5	-8	0	-3	8.5	14.1
Russia	479	488	478	7	5	0	-16	-6	-9	10.8	11.2
Belarus	474	472	471	m	m	m	m	m	m	9.0	15.9
Ukraine	466	453	469	m	m	m	m	m	m	7.5	17.5
Malta	448	472	457	2	4	-1	2	-7	-8	11.3	22.6
Serbia	439	448	440	8	3	1	m	m	m	6.7	24.7
United Arab Emirates	432	435	434	-1	4	-2	-2	7	-3	8.3	30.1
Romania	428	430	426	7	5	2	-6	-14	-9	4.1	29.8
Uruguay	427	418	426	1	-2	0	-9	0	-10	2.4	31.9
Costa Rica	426	402	416	-7	-3	-6	-1	2	-4	0.9	33.5
Cyprus	424	451	439	-12	6	1	-18	14	6	5.9	25.7
Moldova	424	421	428	14	9	6	8	1	0	3.2	30.5
Montenegro	421	430	415	8	8	2	-6	12	4	2.3	31.5
Bulgaria	420	436	424	1	6	-1	-12	-5	-22	5.5	31.9
Jordan	419	400	429	4	3	1	11	20	21	1.4	28.4
Malaysia	415	440	438	2	13	7	m	m	m	2.7	27.8
Brazil	413	384	404	3	5	2	6	6	3	2.5	43.2
Brunei Darussalam	408	430	431	m	m	m	m	m	m	4.3	37.6
Qatar	407	414	419	22	23	18	5	12	2	4.8	37.4
Albania	405	437	417	10	20	11	0	24	-10	2.5	29.7
Bosnia and Herzegovina	403	406	398	m	m	m	m	m	m	1.0	41.3
Argentina	402	379	404	-1	-1	3	m	m	m	1.2	41.4
Peru	401	400	404	14	12	13	3	13	8	1.4	42.8
Saudi Arabia	399	373	386	m	m	m	m	m	m	0.3	45.4
Thailand	393	419	426	-4	0	1	-16	3	4	2.7	34.6
North Macedonia	393	394	413	1	23	29	41	23	29	1.7	39.0
Baku (Azerbaijan)	389	420	398	m	m	m	m	m	m	2.1	38.9
Kazakhstan	387	423	397	-1	5	-3	m	m	m	2.2	37.7
Georgia	380	398	383	4	8	6	-22	-6	-28	1.2	48.7
Panama	377	353	365	2	-2	-4	m	m	m	0.3	59.5
Indonesia	371	379	396	1	2	3	-26	-7	-7	0.6	51.7
Morocco	359	368	377	m	m	m	m	m	m	0.1	60.2
Lebanon	353	393	384	m	m	m	7	-3	-3	2.6	49.1
Kosovo	353	366	365	m	m	m	6	4	-14	0.1	66.0
Dominican Republic	342	325	336	m	m	m	-16	-3	4	0.1	75.5
Philippines	340	353	357	m	m	m	m	m	m	0.2	71.8

Notes: Values that are statistically significant are marked in bold (see Annex A3).

Long-term trends are reported for the longest available period since PISA 2000 for reading, PISA 2003 for mathematics and PISA 2006 for science. Results based on reading performance are reported as missing for Spain (see Annex A9). The OECD average does not include Spain in these cases.

Countries and economies are ranked in descending order of the mean reading score in PISA 2018.

Source: OECD, PISA 2018 Database, Tables I.B1.10, I.B1.11, I.B1.12, I.B1.26 and I.B1.27.

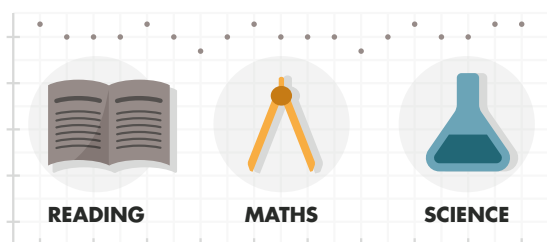
StatLink  <https://doi.org/10.1787/888934028140>

600 000 students

representing about **32 million** 15-year-olds in the schools of the **79 participating countries and economies** sat the **2-hour PISA test** in 2018



Mean performance in the following subjects did not change over the past 2 decades

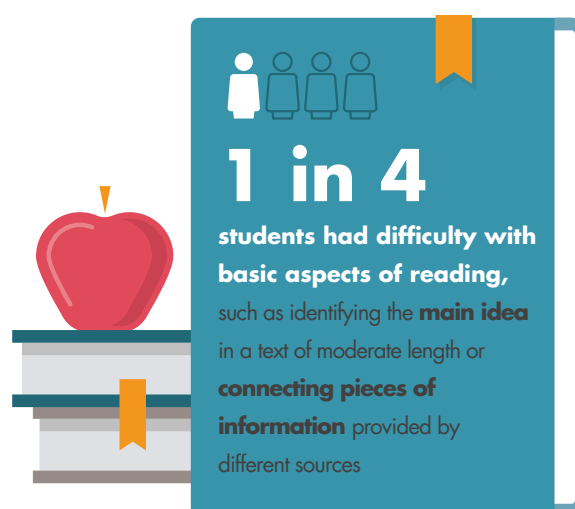


But Albania, Estonia, Macao (China), Peru and Poland **saw improvements in at least 2 subjects**

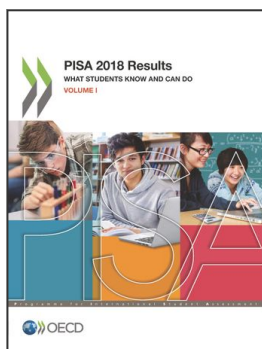


Between 2003 and 2018, Brazil, Indonesia, Mexico, Turkey and Uruguay **enrolled many more 15-year-olds** in secondary education

without sacrificing the quality of the education provided



All data refer to OECD average unless otherwise indicated



From:
PISA 2018 Results (Volume I)
What Students Know and Can Do

Access the complete publication at:
<https://doi.org/10.1787/5f07c754-en>

Please cite this chapter as:

OECD (2019), "Executive Summary", in *PISA 2018 Results (Volume I): What Students Know and Can Do*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/fde77551-en>

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

This document, as well as any data and map included herein, are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area. Extracts from publications may be subject to additional disclaimers, which are set out in the complete version of the publication, available at the link provided.

The use of this work, whether digital or print, is governed by the Terms and Conditions to be found at <http://www.oecd.org/termsandconditions>.