



How Your School Compares Internationally

OECD TEST FOR SCHOOLS (BASED ON PISA)



Sample Report High School
OECD Demo District
OR
United States



How Your School Compares Internationally

OECD TEST FOR SCHOOLS

SAMPLE REPORT HIGH SCHOOL

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Foreword

Teachers and educational leaders need meaningful and reliable information to assess how well their students are prepared for life and work. Many administrators evaluate students' learning based upon local or countrywide expectations. In a global economy, however, the benchmark for educational success is no longer national standards alone, but those set by the world's best-performing schools and education systems.

Over the past 15 years, the OECD Programme for International Student Assessment (PISA) has evaluated the quality, equity and efficiency of school systems in over 80 countries and economies that, together, comprise nine-tenths of the world economy. Through PISA, schools and countries can learn from each other. Those education systems that have been able to secure strong and equitable learning outcomes and mobilize rapid improvements show others what is possible.

Similar to the international PISA assessment, the OECD Test for Schools measures 15-year-old students' knowledge and competencies in reading, mathematics and science. It also assesses their attitudes towards learning and school and the learning environments of the schools themselves. Importantly, these assessments measure not just whether students can reproduce what they have learned, but how well students can extrapolate from what they know and apply their knowledge creatively in novel contexts. By using this tool, the performance of an individual school can be compared and benchmarked globally in innovative ways.

This report provides results from the OECD Test for Schools along with examples of strategies, policies and practices from education systems around the world to support critical reflection and school improvement. The OECD stands ready to support all those involved in delivering "better policies for better schools and better lives."

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OECD



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The development of the OECD Test for Schools (based on PISA) project and this report is guided by Andreas Schleicher and Yuri Belfali. This report was prepared by Javier Suárez Alvarez, Francesa Gottschalk, Tue Halgreen, Ruochen Richard Li, Kelly Makowiecki, François Seyler and Chi Sum (Mic) Tse. Rose Bolognini revised and copyedited the report. Florence Bernard provided administrative support.



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What your school can learn from PISA

“What is important for citizens to know and be able to do?” In response to that question and to the need for internationally comparable evidence on student performance, the Organisation for Economic Co-operation and Development (OECD) launched the triennial survey of 15-year-old students around the world known as the Programme for International Students Assessment, or PISA. PISA assesses the extent to which 15-year-old students have acquired key knowledge and skills that are essential for full participation in modern societies.

In each round of PISA, one of the three core domains is tested in detail, requiring nearly half of the total testing time. The major domain in 2015 was science, as it was in 2006. Reading was the major domain in 2000 and 2009, and mathematics was the major domain in 2003 and 2012. With this alternating schedule of major domains, a thorough analysis of achievement in each of the three core areas is presented every nine years; an analysis of trends is offered every three years. In this way, PISA offers insights for education policy and practice, and monitors trends in students’ acquisition of knowledge and skills across countries and in different demographic subgroups within each country.

PISA results reveal what is possible in education by showing what students in the highest-performing and most rapidly improving education systems can do. The findings allow policy makers around the world to gauge the knowledge and skills of students in their own countries and in their schools in comparison with those in other countries. Using this information, they can set policy targets against measurable goals achieved by other education systems and learn from policies and practices applied elsewhere.

PISA is different from other international assessments in its:

- Policy orientation, which links data on student learning outcomes with data on students’ backgrounds and attitudes towards learning, and on key factors that shape their learning, in and outside of school, in order to highlight differences in performance and identify the characteristics of students, schools and education systems that perform well;
- Innovative concept of “literacy”, which refers to students’ capacity to apply knowledge and skills in key subjects, and to analyze, reason and communicate effectively as they identify, interpret and solve problems in a variety of situations;
- Relevance to lifelong learning, as PISA asks students to report on their motivation to learn, their beliefs about themselves, and their learning strategies;
- Regularity, which enables countries to monitor their progress in meeting key learning objectives; and
- Breadth of coverage, which, in PISA 2015, encompasses the 35 OECD countries and 37 partner countries and economies.



Summary of Your School's Results

School	SAMPLE REPORT HIGH SCHOOL
District or Local Authority	OECD Demo District
State	OR
Country	United States

This report presents the results for **Sample Report High School** based on its participation in the *OECD Test for Schools* in the United States in January 2017. The assessment measures 15-year-old students' applied knowledge and competencies in reading, mathematics and science. Because the *OECD Test for Schools* is based on the PISA frameworks, your school can compare its results with those from over 80 countries and economies that have participated in the various cycles of PISA.

Your school's performance

In January 2017, 72 students from your school took the *OECD Test for Schools*. The following is a summary of your school's results on the PISA scales of reading, mathematics and science:

Figure A ■ **Your school's mean performance in reading, mathematics, and science**

READING		MATHEMATICS		SCIENCE	
Mean performance score	S.E.	Mean performance score	S.E.	Mean performance score	S.E.
538	11.0	565	12.3	558	10.9

S.E.: Standard error.

In reading, the mean performance for students at your school is 538 points, which is statistically significantly higher than the mean performance of 497 points obtained by students across schools in the United States in PISA 2015. In mathematics, your school's mean performance of 565 points is statistically significantly higher than the mean performance of 470 points obtained by students in the United States in PISA 2015. In science, your school's mean performance of 558 points is statistically significantly higher than the average of 496 points for the United States in PISA 2015.

Your school's results across PISA proficiency levels

PISA results group student performance according to six proficiency levels for each subject. Students who reach the top levels (Levels 5 and 6) are well on their way to becoming the skilled knowledge workers of tomorrow. Students who perform at the intermediate levels (Levels 2, 3 and 4) are able to demonstrate skills and competencies that will allow them to participate productively in life as they continue their studies and enter the labor force. However, students who perform below baseline Level 2 are at risk of poor educational and labor-market outcomes. The following figure summarizes how students at your school perform in terms of proficiency levels:



Figure B ■ Levels of proficiency of students at your school

	READING		MATHEMATICS		SCIENCE	
	Percentage of students	S.E.	Percentage of students	S.E.	Percentage of students	S.E.
Top levels (Levels 5 and 6)	15%	6.1	39%	5.6	15%	4.1
Intermediate levels (Levels 2, 3 and 4)	78%	6.5	53%	6.4	82%	5.0
Below baseline level (Level 1 and below)	7%	3.6	9%	3.6	3%	3.6

S.E.: Standard error.

The reading domain of the *OECD Test for Schools* assesses the active, purposeful and functional application of reading in a range of situations and for various purposes. Students who are proficient at the highest levels are capable of critically evaluating unfamiliar texts and building hypotheses about them, drawing on specialized knowledge and accommodating concepts that may be contrary to expectations. At your school, 15% of students are proficient at the highest levels of reading. In comparison, 10% of students in the United States achieve these levels of proficiency in PISA 2015, compared with 18% of students in Singapore – the highest-performing country in PISA 2015.

At the other end of the performance scale, PISA has defined Level 2 as a baseline level of proficiency at which students begin to demonstrate the reading competencies that will enable them to participate effectively and productively in life. At your school, 7% of students do not reach the baseline level of proficiency in reading, compared with 19% of students across schools in the United States in PISA 2015 and 9% in Hong Kong (China) in PISA 2015.

The mathematics part of the assessment measures students’ capacity to formulate, employ and interpret mathematics in a variety of contexts. Students who reach Levels 5 and 6 in mathematics are capable of developing and working with models in complex situations, identifying constraints and specifying assumptions. At your school, 39% of students are proficient at these highest levels of mathematics. In comparison, 6% of students across schools in the United States in PISA 2015 and 35% of students in Singapore in PISA 2015 reach these levels.

Students who perform at the baseline level of mathematics proficiency (Level 2) can employ basic algorithms, formulae, procedures or conventions and they can interpret and recognize situations that require no more than direct inference. At your school, 9% of students do not reach the baseline level in mathematics, compared with 29% of students in the United States in PISA 2015 and 7% of students in Macao (China) in PISA 2015.

The science domain measures students’ ability to explain phenomena scientifically, evaluate and design scientific inquiry and interpret data and evidence scientifically. Students at the highest levels of science proficiency are sufficiently skilled in and knowledgeable about science to be able to creatively and autonomously apply their knowledge and skills to various situations, including unfamiliar ones. At your school, 15% of the students reach Levels 5 and 6 in science. In comparison, 9% of students in the United States in PISA 2015 and 24% of students in Singapore in PISA 2015 perform at these levels of proficiency.

At the baseline level of proficiency in science, students can draw on everyday content knowledge to identify an appropriate scientific explanation, demonstrating the competencies that will enable them to participate actively in situations related to science and technology. At your school, 3% of the students do not reach at least the baseline level in science, compared with 20% in the United States in PISA 2015 and 10% in Singapore and Japan in PISA 2015.

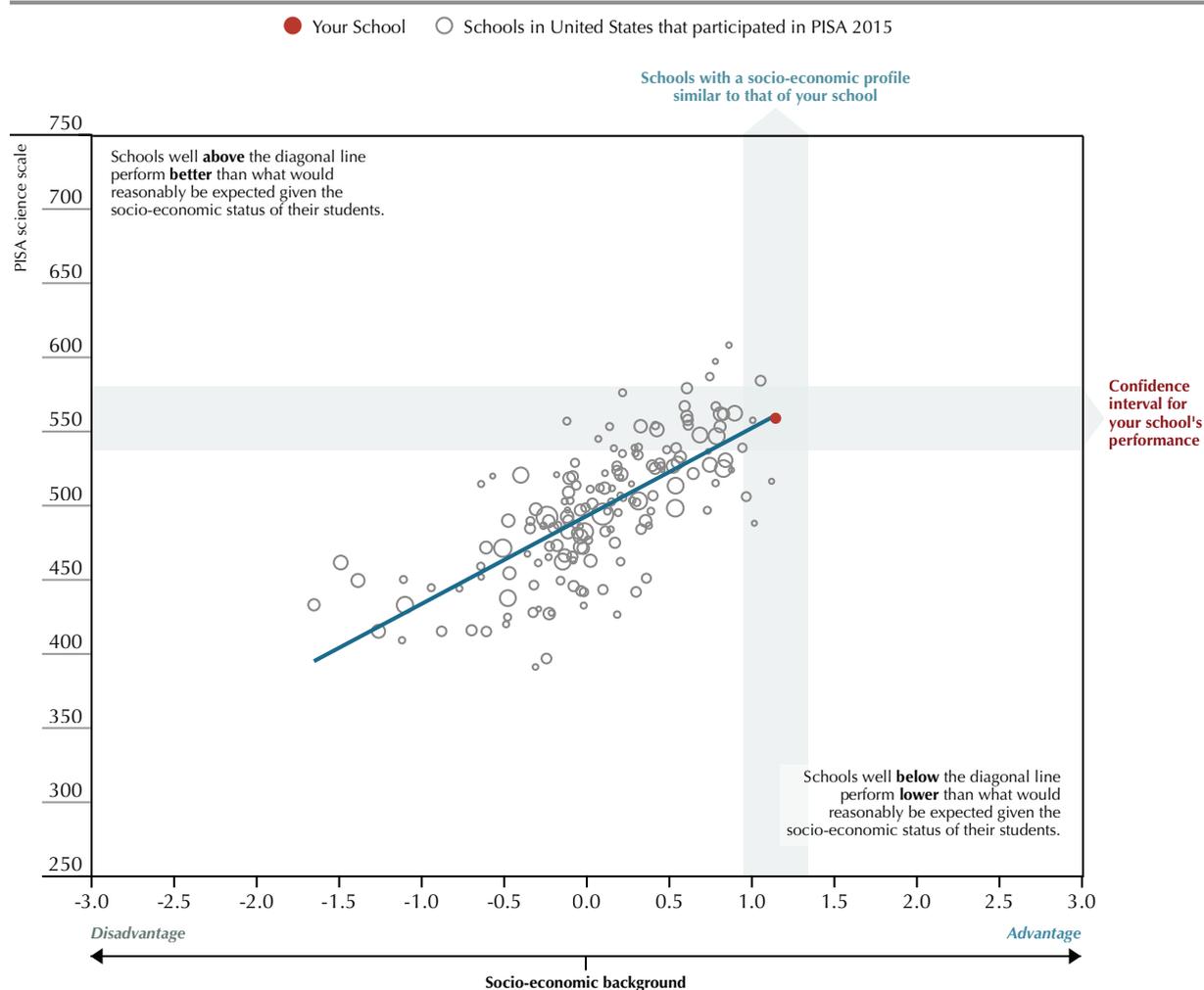


Socio-economic context

Socio-economic status is a broad concept that summarizes many different aspects of a student, school or school system. In PISA and in the *OECD Test for Schools*, this is measured using information gathered from a questionnaire that asks students about their family background. Different variables from the questionnaire – parents' education, parents' occupations, home possessions representing material wealth, and the number of books and other educational resources available in the home – make up the PISA index of economic, social and cultural status (ESCS).

Because students' socio-economic background is an established predictor of performance in PISA, it is important to consider your school's results in this context. The following figure shows how your school performs in science relative to the socio-economic context of your school's students, compared with schools in the United States that participated in PISA 2015. The diagonal line represents the predicted performance of a school given the average socio-economic background of its students. Whether your school is above or below the diagonal line can be used as an indication of how effective your school is compared with other schools in the United States.

Figure C ■ **How your school's results in science compare with schools in the United States in PISA 2015**



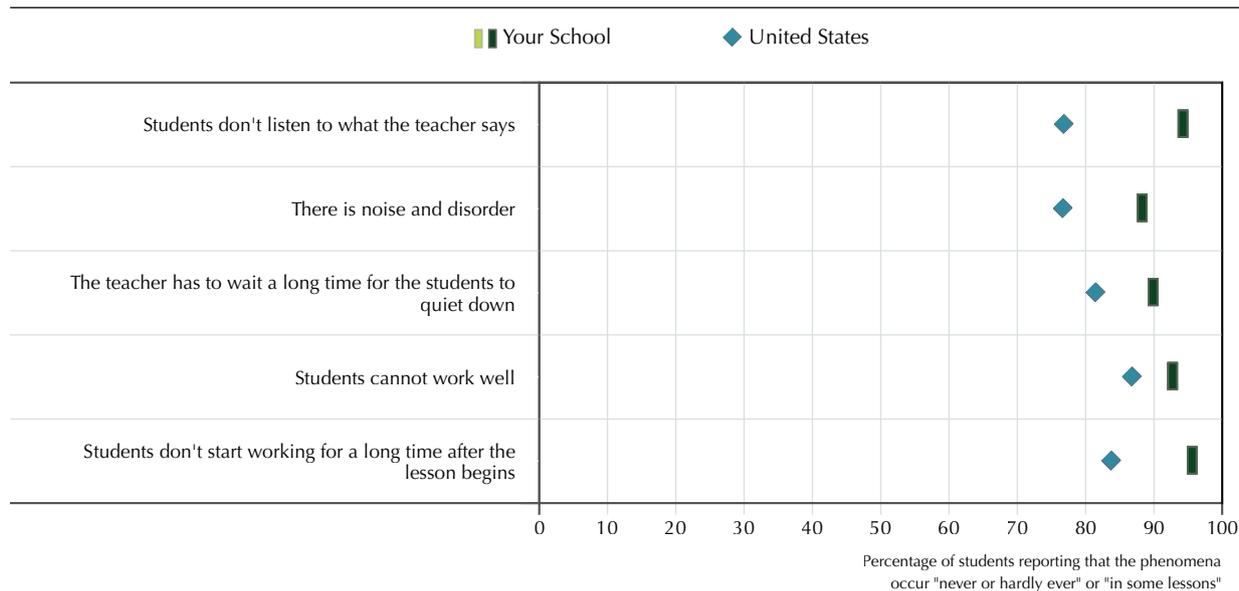
Note: Size of the dot is proportional to the number of students enrolled at the school.



The learning environment and student engagement

Students who took the *OECD Test for Schools* were also asked about their engagement with and attitudes towards learning, and about their school environment. One set of items from the questionnaire collected information about the classroom disciplinary climate of your school, specifically in students' science lessons. In PISA, classroom disciplinary climate refers to keeping noise and disorder to a minimum, making sure that students can listen to what the teacher (and other students) say and can concentrate on academic tasks. PISA results show that more orderly classrooms are usually associated with higher performance. The next figure shows your school's performance in science relative to its classroom disciplinary climate, compared with the results of other schools from the United States in PISA 2015.

Figure D ■ Classroom disciplinary climate in science lessons at your school in the United States in PISA 2015



Note: Values for your school that are statistically significantly different from your country are marked in a darker tone

The *OECD Test for Schools* also measures how positively your students perceive teacher-student relations at your school to be. PISA results show that teacher-student relations are associated with students' engagement with and at school. The measure of perceived positive teacher-student relations at your school is not statistically significantly different from the measure at schools from the United States in PISA 2012.

Additionally, the *OECD Test for Schools* collects information about your students' instrumental motivation and self-efficacy in mathematics and science. Instrumental motivation refers to the belief that studying a subject will be useful to an individual's future education and/or career prospects. Self-efficacy refers to the confidence that students have in completing tasks related to an academic subject. Compared with students from the United States in PISA 2012 and PISA 2015, students from your school have:

- Greater instrumental motivation in mathematics that is not statistically significantly different;
- Greater self-efficacy in mathematics that is statistically significantly different;
- Greater instrumental motivation in science that is not statistically significantly different;
- Greater self-efficacy in science that is statistically significantly different.

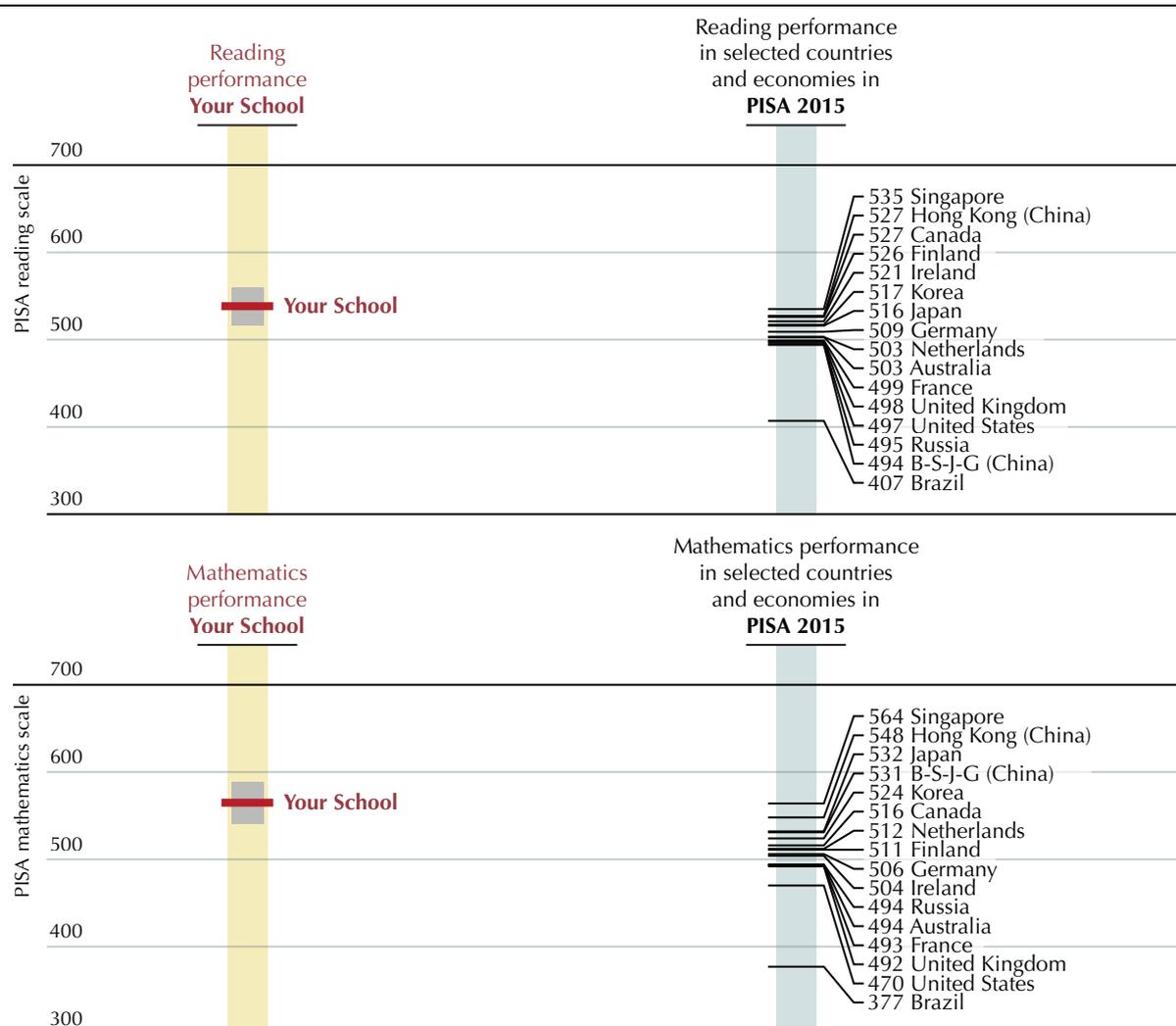


International context

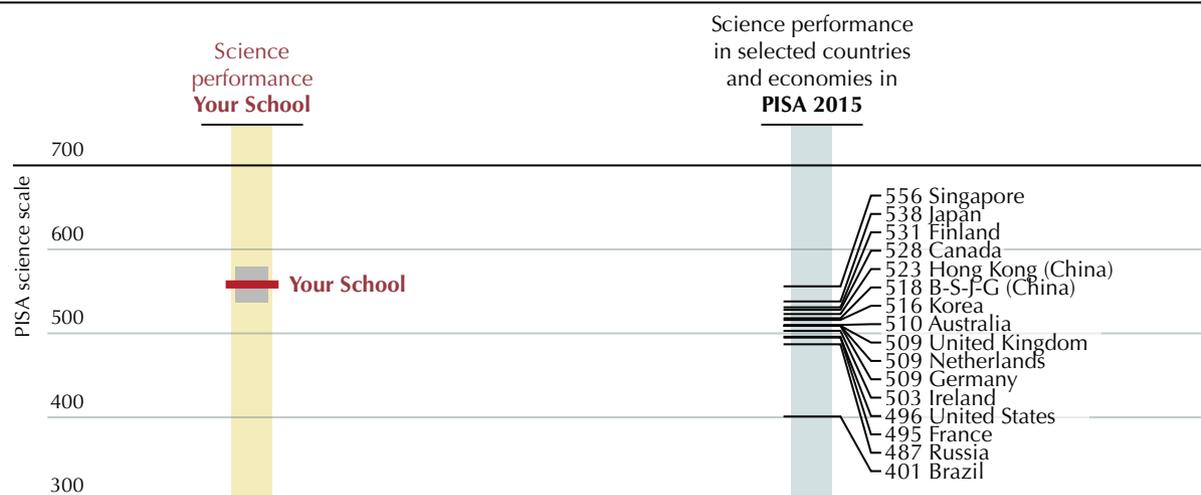
To put your school's results in an international context, the highest-performing education system in all three domains in PISA 2015 – Singapore – has a mean score of 535 points in reading, while the lowest-performing education system, Lebanon, has a mean score of 347 points. In mathematics, students in Singapore have a mean score of 564 points, while students in the Dominican Republic, the lowest-performing education system in mathematics, have an average score of 328 points. In science, the mean performance of Singaporean students is 556 points, and in the Dominican Republic, the lowest-performing education system in science, it is 332 points.

Figure E shows your school's performance in reading, mathematics and science compared with students in several countries and economies. There are three sets of charts, one for each domain. In each set of charts, your school's performance is shown on the chart on the left. The average score in that domain is represented by a horizontal line. A grey rectangle represents the confidence interval of the mean score. The charts on the right of each set of charts show the mean score of other countries and economies in that domain. Different countries and economies have been selected for comparison in each domain. This allows for benchmarking with a greater number of entities that represent a range of geographic diversity and PISA outcomes.

Figure E ■ How students at your school compare with students from other countries and economies in reading, mathematics and science in PISA 2015



...



Notes: Shaded bars above and below the mean scores represent a 95% confidence interval. In other words, if your school were to administer the test continuously, your mean performance would fall within this range 95% of the time.

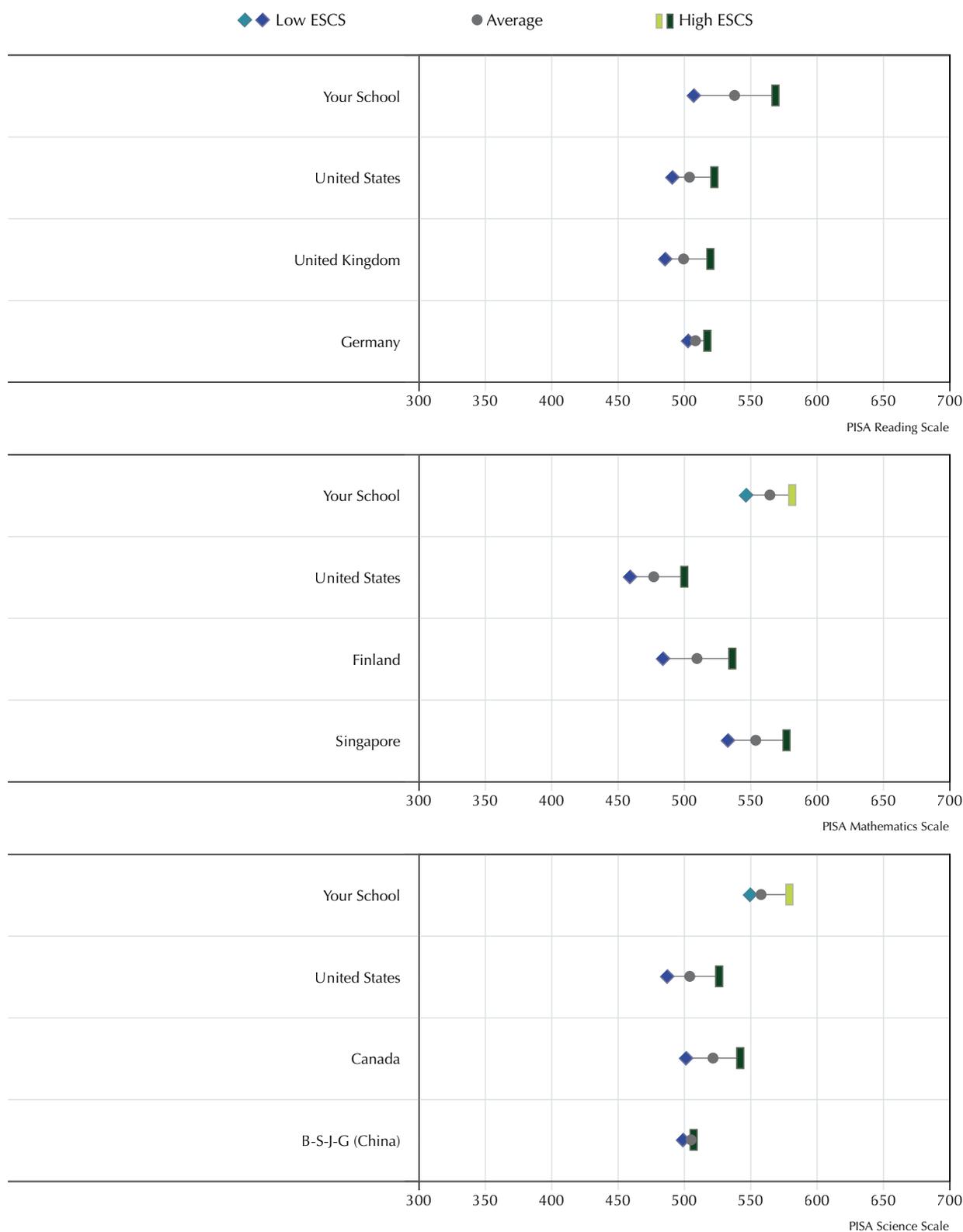
Excellence and equity

When interpreting your school's results, it is important to consider the influence that socio-economic background has on learning outcomes. Compared with other schools in the United States, students at your school have socio-economic backgrounds *statistically significantly greater than the average*. In this report you will see how your school compares with other schools in the United States and internationally with students from a variety of socio-economic backgrounds. You can use these comparisons to determine if your school performs above or below what would reasonably be expected given the socio-economic profile of students at your school.

PISA results show that educational excellence and equity can be achieved within the same school system. That is, students can be high achievers on average while the influence of socio-economic status on their performance can be relatively small. Several PISA countries and economies, such as Estonia, Canada and Korea, demonstrate both high overall performance and a relatively small gap between its most and least advantaged students. The next figure shows the difference in performance between your school's top and bottom quartiles of students according to socio-economic status compared with the differences found within-schools in other countries and economies. Again, different countries and economies have been selected for comparison in each domain to increase the breadth and relevance of benchmarking.



Figure F ■ Student performance within your school and within selected countries and economies in reading, mathematics, and science according to socio-economic status



Note: Within each school, country, or economy shown above, darker colored markers indicate that the difference between the high and low markers is statistically significantly different from one another.



The *OECD Test for Schools* also measures the overall achievement gaps at your school between the highest- and lowest-performing students, as well as achievement gaps according to gender. The next figure shows these achievement gaps at your school compared with other schools in PISA 2015.

Figure G ■ **Differences in student performance within your school and within other schools in the United States in PISA 2015**

READING				
Student group	YOUR SCHOOL		United States PISA 2015	
	Score	S.E.	Mean score	S.E.
Highest-performing quartile	597 (cut) ¹	N.A.	565	N.A.
Lowest-performing quartile	490 (cut)	N.A.	448	N.A.
Girls	569 (mean)	14.9	514	6.0
Boys	506 (mean)	17.0	494	6.9
MATHEMATICS				
	YOUR SCHOOL		United States PISA 2015	
	Score	S.E.	Mean score	S.E.
Highest-performing quartile	622 (cut)	N.A.	529	N.A.
Lowest-performing quartile	506 (cut)	N.A.	427	N.A.
Girls	575 (mean)	18.6	472	5.6
Boys	554 (mean)	17.9	482	6.5
SCIENCE				
	YOUR SCHOOL		United States PISA 2015	
	Score	S.E.	Mean score	S.E.
Highest-performing quartile	598 (cut)	N.A.	566	N.A.
Lowest-performing quartile	523 (cut)	N.A.	443	N.A.
Girls	571 (mean)	11.5	501	5.6
Boys	545 (mean)	19.1	508	6.9

1. A cut score refers to the score that corresponds to demarcation of a percentile of students. In this case, it refers to the score after which the top (if calculating upwards) or bottom quartile (if calculating downwards) of students can be found.



Reader's Guide

Understanding the differences between your school assessment and the main PISA studies

Although the *OECD Test for Schools* is developed from the same assessment frameworks as the main PISA (*Programme for International Student Assessment*) studies organized every three years by the OECD, the two assessments are different. The OECD created the original PISA assessment in response to its member countries' demands for regular and reliable data on the knowledge and skills of their students and the performance of their education systems in an international context. While the PISA assessment is intended to provide aggregate national results for international comparisons and to inform policy discussions, the *OECD Test for Schools* is designed to provide school-level results for benchmarking and school-improvement purposes.

Sources of school information and data

The accredited service provider in the United States and partner for this cycle of testing, NWEA, organized the assessment with participating schools. The students tested at your school responded to approximately two hours of test questions and provided answers to a 30-minute student questionnaire. In addition, the principal(s) or designated officials of your school provided information on your school's characteristics by completing a school questionnaire.

Other sources of information presented in the report

This report presents information, results and findings from various OECD sources. Primarily, it is based on the *OECD Test for Schools* and results from past PISA cycles. Most of the international comparisons between your school's results and PISA results combine both of these sources. In addition, the report presents findings and information gleaned from PISA over the years as well as recent OECD research and resources on successful education systems, increasing equity and improving schools.

Data underlying the figures

Because of the nature of the assessment that your school participated in, your school's results will not be made available publicly. The results for your school and others participating in the assessment are confidential. The data for those figures where "countries that participated in past PISA cycles" are cited can be found in the reports of previous PISA cycles. As a reference point for the most recent PISA cycle in 2015, an overview of results for all countries and economies that participated in 2015 is presented as an annex to this report.

Focusing on statistically significant differences

This report discusses differences or changes that are statistically significant and, in some cases, results that are not statistically significant. Differences that are statistically significant are clearly indicated.

As a rule, PISA reports differences with a 95% confidence threshold, and this convention has been followed in this report. This refers to the fact that, if the measurement were to be replicated several times, a difference of that size, smaller or larger, would be observed less than 5% of the time if there were actually no difference in corresponding population values.

Standard error (S.E.)

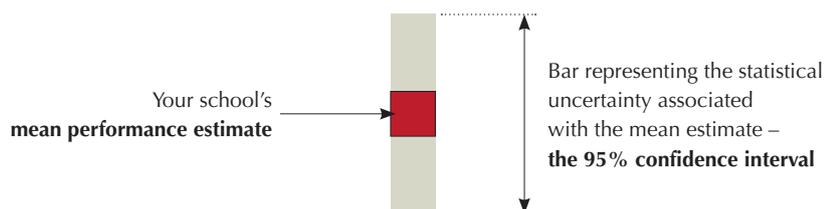
Whenever relevant, standard errors are included for scores. Standard errors are used to express the degree of uncertainty associated with sampling, measurement and equating error. A larger sample usually reduces the



standard error; however, even if a school tests all of its 15-year-olds, the standard error will not be eliminated as there will still be measurement and equating error. All standard errors in this report have been rounded to one decimal place. Thus, where the value 0.0 is shown, this does not imply that the standard error is zero, but that it is smaller than 0.05.

Confidence intervals

Whenever mean results for your school or for subgroups of students within your school are presented graphically in this report, you will notice a shaded bar above and below the marker for your school. The bar indicates the statistical uncertainty (or “confidence interval”) associated with the result. In technical terms, the error bar represents a 95% certainty with which your school’s result is estimated to lie within the error bars, were the test to be replicated several times with different student samples from your school.



A note on statistical concepts and terminology for meaningful comparisons

The reader will find several statistical concepts and terms used throughout the school report. As with any estimate or measurement, there is a certain degree of uncertainty. The degree of error is associated with the scores describing student performance in reading, mathematics and science, for example, as these scores are estimated based on student responses to test items. As described earlier, a statistic called the standard error (S.E.) is used to express the degree of uncertainty associated with sampling, measurement and equating error. The standard error can be used to construct a confidence interval, which provides a means of making inferences about the population averages and proportions in a manner that reflects the uncertainty associated with sample estimates. A 95% confidence interval is used in this report and represents a range of plus or minus about two standard errors around the sample average. Using this confidence interval, it can be inferred that the population mean or proportion would lie within the confidence interval in 95 out of 100 replications of the measurement, using different samples randomly drawn from the same population.

When comparing scores among countries, economies, provinces or groups of schools, the degree of error in each average must be considered in order to determine if the true population averages are likely different from each other. Standard errors and confidence intervals may be used as the basis for performing these comparative statistical tests. Such tests can identify, with a known probability, whether there are actual differences in the populations being compared.

For example, when an observed difference is significant at the 0.05 level, it implies that the probability is less than 0.05 that the observed difference could have occurred because of error from sampling, measurement or linking. Only statistically significant differences at the 0.05 level are noted in this report, unless otherwise stated. Values are considered statistically significantly different if their confidence intervals do not overlap.

Reproduced and edited from Brochu, P., T. Gluszynski and T. Knighton, *Measuring Up: Canadian Results of the OECD PISA Study: The Performance of Canada's Youth in Reading, Mathematics and Science*, Minister of Industry, Canada, 2010.



Rounding figures

Because of rounding, some values in figures might not exactly add up to the totals. Totals, differences and averages are always calculated on the basis of exact numbers and are rounded only after calculation.

OECD averages

The average for OECD countries is often presented in this report. The OECD average refers to the arithmetic mean of the respective country estimates that make up the OECD (35 countries in 2016).

Abbreviations used in this report

ESCS	PISA index of economic, social and cultural status
GDP	Gross domestic product
OECD	Organisation for Economic Co-operation and Development
PISA	Programme for International Student Assessment
PPP	Purchasing Power Parity
S.D.	Standard Deviation
S.E.	Standard Error

Active hyperlinks included in the report

Numerous active hyperlinks are included throughout the report, and the reader is invited to explore these additional resources that include relevant PISA and OECD reports, websites and videos.

Further information

For more information on the PISA results, the PISA assessment instruments, the methods used in PISA and PISA in general, please visit [OECD PISA](#).



Introduction: Understanding Your School's Results

The *OECD Test for Schools* is a student assessment that is linked to the knowledge base of the OECD's internationally recognized *Programme for International Student Assessment (PISA)*, a description of which is presented in this section of the report. While the international PISA assessment is intended to provide aggregate national results for international comparisons and to inform policy discussions, the *OECD Test for Schools* is designed to provide school-level results for benchmarking and school-improvement purposes.



THE OECD TEST FOR SCHOOLS: AN OVERVIEW

Are 15-year-old students at your school prepared to meet the challenges that the future holds? Can they analyze, reason and communicate their ideas effectively? Have they developed the knowledge and skills that are essential in order to successfully participate in 21st century societies? The *OECD Test for Schools* seeks to answer these questions through a student assessment that is directly linked to the knowledge base of the internationally recognized *Programme for International Student Assessment (PISA)*, administered every three years to students and schools from more than 80 countries and economies (see Box 1.1).

Box 1.1 Introduction to the OECD and PISA

The Organisation for Economic Co-operation and Development (OECD) is an international organization that seeks to improve the economic and social well-being of people around the world. The organization assists countries by providing empirical evidence and policy insights to support dialogues and reform processes. In the field of education, the OECD helps member countries improve the quality, equity and effectiveness of their education systems. The organization, headquartered in Paris, France, was founded in 1961 by 20 countries. As of 2016, there are 35 member countries.

The *Programme for International Student Assessment (PISA)* is an international study that was launched in 1997 by the OECD. PISA measures the competencies, skills and knowledge of 15-year-old students in countries around the world. The study is organized by the OECD every three years and aims to provide internationally comparable evidence on the quality and equity of student learning outcomes. In PISA 2015, 72 countries and economies participated, bringing the total number to more than 80 countries and economies who have participated in previous cycles.

Since 2000, the OECD and national partners in participating countries and economies have implemented PISA through an assessment of a randomly selected group of 15-year-old students. The students and participating school authorities (e.g., principals, directors) also fill in background questionnaires to provide information on the students' family backgrounds and how their schools are operated.

For each cycle of PISA, one of the three subjects, reading, mathematics or science, is the main area of assessment. One additional optional domain is also tested during each cycle. In PISA 2015, science was the main domain and collaborative problem solving, the optional domain tested. Results for PISA 2015 are presented in five volumes:

Volume I (2016): Excellence and Equity in Education, discusses student performance in the assessment domains, as well as engagement with and attitudes towards science such as students' expectations of following a science-oriented career path.

Volume II (2016): Policies and Practices for Successful Schools, looks at how performance is associated with school and school system characteristics such as school resources, school governance and learning environment.

Volume III (2017): Students' Well-Being focuses on students' home and school environments, examining topics such as how they communicate with friends and family and aspirations for future education.

Volume IV (2017): Students' Financial Literacy looks into how students understand money matters and how this is associated with their performance in the three assessed cognitive domains.

Volume V (2017): Collaborative Problem Solving examines abilities of students to work with two or more people in solving problems and how education helps build students' skills in group problem solving.

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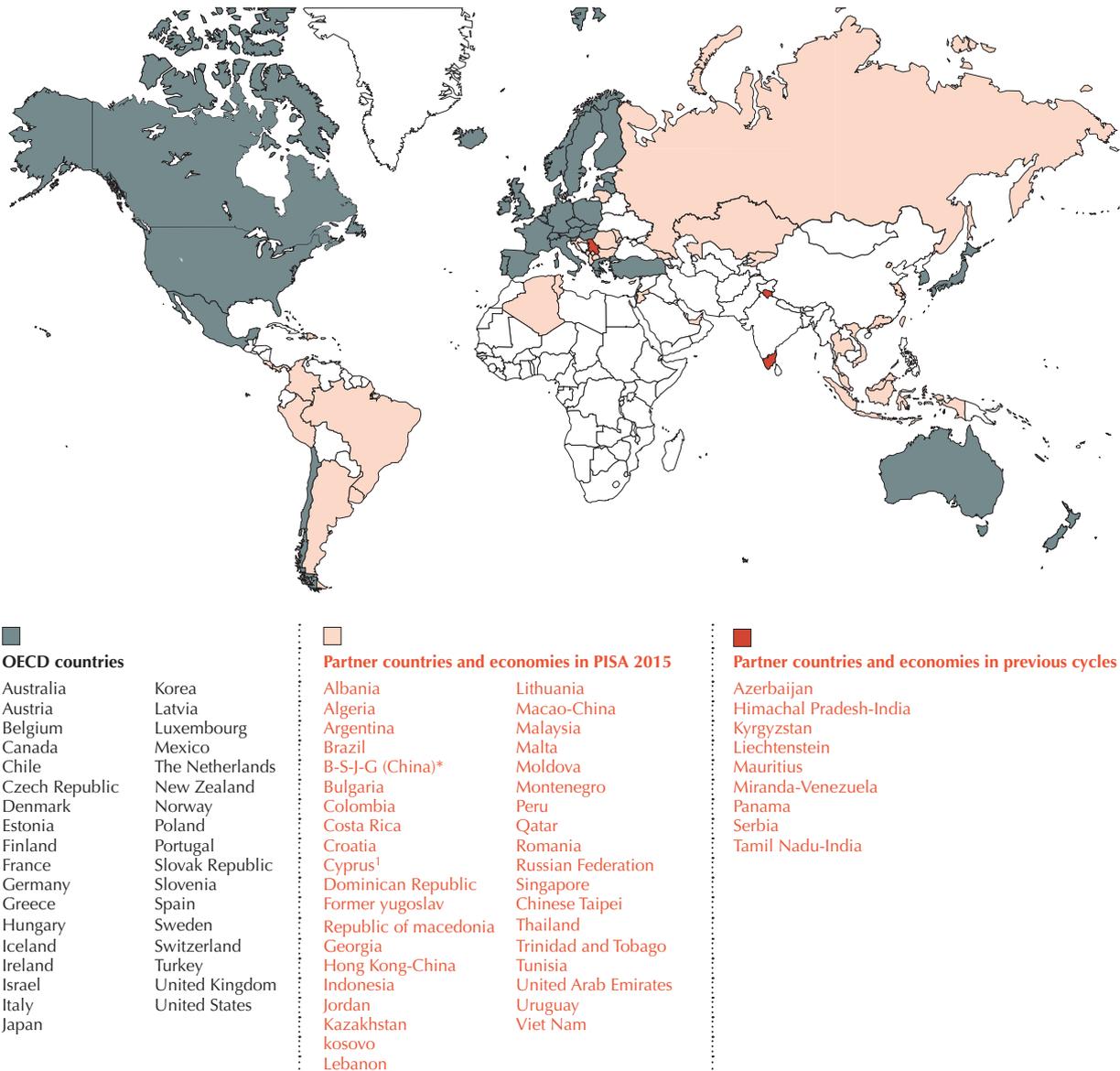


The figures and tables presented in the PISA reports include StatLinks©, which allows the reader of the e-books to click and download the data in Excel© files. In addition to the main PISA initial reports, there is a monthly series called “PISA in Focus,” which describes a policy-oriented PISA topic in a concise, user-friendly way.

To find out more about PISA and the OECD, go to:

[OECD PISA Publications](#)

Figure 1.1 ■ **Countries and economies that participated in PISA 2015**



* B-S-J-G (China) refers to the four PISA participating China provinces: Beijing, Shanghai, Jiangsu, Guangdong.

1. Note by Turkey: The information in this document with reference to “Cyprus” relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognizes the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the “Cyprus issue.”

2. Note by all the European Union member States of the OECD and the European Union: The Republic of Cyprus is recognized by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.



Your school's results from the *OECD Test for Schools* are comparable to PISA, using the same frameworks and scaling. And like the international PISA, the *OECD Test for Schools* measures 15-year-old students' applied knowledge and competencies in reading, mathematics and science. The assessment seeks not only to determine whether students can reproduce knowledge, but also examine how well they can extrapolate from what they have learned and apply it in unfamiliar settings, both within and outside of school.

However, while the international PISA assessment is intended to provide aggregate national results for international comparisons and to inform policy discussions, the *OECD Test for Schools* is designed to provide school-level results for benchmarking and school-improvement purposes.

This report presents your school's results from the *OECD Test for Schools*. It allows you to compare your students' levels of proficiency in reading, mathematics and science with the levels of other students in your country and in school systems around the world. The results can be used as a gauge of how prepared students at your school are to succeed in a global economy. This report will also provide you with examples of school practices from countries and economies that have shown consistently high results and made considerable progress due to school-improvement efforts and educational reforms.

What the OECD Test for Schools measures and how

The *OECD Test for Schools* follows the internationally recognized assessment frameworks used in the PISA studies. The frameworks were developed by international experts and are updated continuously to reflect subject matter developments and progress in assessment methods (see Box 1.2). The frameworks are based on the concept of literacy, which includes students' capacity to extrapolate from what they have learned and apply their knowledge and skills in real-life settings, as well as their capacity to analyze, reason and communicate effectively as they pose, interpret and solve problems in a variety of situations.

Box 1.2 **An Introduction to the PISA Assessment Frameworks**

The PISA frameworks establish the conceptual foundation for what the assessment measures. They focus on students' capacity to analyze, reason and communicate effectively as they pose, solve and interpret problems in a variety of situations. Age 15 is chosen as the target population of PISA because at this age students are approaching the end of compulsory education in most OECD and many non-OECD countries and economies.

The PISA assessment frameworks define competence as far more than the capacity to reproduce accumulated knowledge. According to PISA, competence is the ability to successfully meet complex demands in varied contexts through the mobilization of psychosocial resources, including knowledge and skills, motivation, attitudes, emotions and other social and behavioral components. Rather than assessing whether students can reproduce what they have learned, PISA measures whether students can extrapolate from what they have learned and apply their competencies in novel situations. Tasks that can be solved through simple memorization or with pre-set algorithms are those that are also easiest to digitize and automate. These types of skills, therefore, will be less relevant in a modern knowledge-based society and are not the focus of PISA.

To find out more about the PISA Assessment Frameworks, go to:

[*PISA 2015 Assessment and Analytical Framework: Science, Reading, Mathematics and Financial Literacy*](#)



In PISA and the *OECD Test for Schools*, students are presented with stimulus material, such as texts, diagrams, tables and/or graphs, which are followed by questions about the material. The questions are constructed such that required tasks closely resemble what students might encounter in everyday life. The *OECD Test for Schools* contains 47 questions in reading, 40 in mathematics and 54 in science. Example questions developed for the test are included in Annex C, and you can see all of the publicly available PISA questions [on the PISA website](#).

Test questions vary in format. Around half require students to construct their own responses. Some require a short answer. Others allow for more varied individual responses and require students to justify their viewpoints. The other half of questions are multiple-choice items for which students select either one choice among four or five alternatives or select one of two possible responses (“yes”/“no” or “agree”/“disagree”) to a series of propositions or statements. The questions are grouped into seven booklets that each requires up to 120 minutes of testing time. Each booklet includes a selection of questions, such that students answer overlapping groups of questions. Thus, students are tested in a wide range of topics while limiting testing time.

What is meant by PISA scales and proficiency levels?

The PISA scales enable comparisons of mean performance in reading, mathematics and science for different groups of students, such as students in a particular school and students in other countries. The scales are a common feature in all PISA studies that occur every three years.

Student performance on the PISA scales can be divided into proficiency levels that make scores more meaningful with regards to what students are expected to know and be able to do. Every proficiency level in reading, mathematics and science represents a specific level of student ability based on the tasks that students at this level can complete. Level 2 is a particularly important threshold, as PISA considers it the baseline level of proficiency at which students begin to demonstrate the competencies that will enable them to participate effectively and productively as students, workers and citizens.

At the upper end of performance, Levels 5 and 6 are the highest levels of proficiency in PISA. How successfully schools and education systems can develop students who perform at these levels is particularly relevant when looking at long-term global competitiveness. Detailed descriptions of all proficiency levels are included in Section 2 of the report.

Contextual questionnaires

Apart from the cognitive test items, the *OECD Test for Schools* includes two contextual questionnaires. One is completed by the principal or designate and collects information about the structure and organization of the school, student and teacher demographics and the school’s resources, policies and practices. Another questionnaire is completed by every student who participates in the assessment and includes questions about the student’s family and home, the school’s climate and the student’s strategies, attitudes and dispositions towards learning.

How your school’s results are presented in this report

In this report, your school’s results will be compared against countries’ and economies’ results from past PISA cycles. The results are presented in the following four sections:

Section 2, What Students at Your School Know and Can Do in Reading, Mathematics and Science, describes your school’s performance in terms of school-level means and student distributions in the PISA proficiency levels, including the percentage of highest-performing students and students who do not reach the baseline level of proficiency.



Section 3, The Learning Environment and Student Engagement at Your School, describes your school's classroom disciplinary climate, its teacher-student relations and students' attitudes towards learning as reported in the contextual questionnaires. The section shows how these elements are related to student performance at your school and explains international findings on the relationship between the learning environment and students' learning outcomes.

Section 4, Your School's Results in an International Context, places your school's results in an international context for benchmarking. Your school will be compared with the PISA 2015 results of a selected group of countries and economies, some of which are the highest-performing or have undertaken significant reforms and seen rapid improvements.

Section 5, Excellence and Equity at Your School, focuses on the performance of different groups of students within your school. Specifically, your school's results are disaggregated according to whether students are high- or low-performing, are advantaged or disadvantaged in terms of their socio-economic backgrounds and students' gender. The section also shows how these student groups from your school compare with the same student groups within other schools in your country.

The annexes of this report include a technical overview of the assessment, a summary of how the test was administered at your school, examples of test questions and tables of the most relevant results for all countries and economies that participated in PISA 2015.

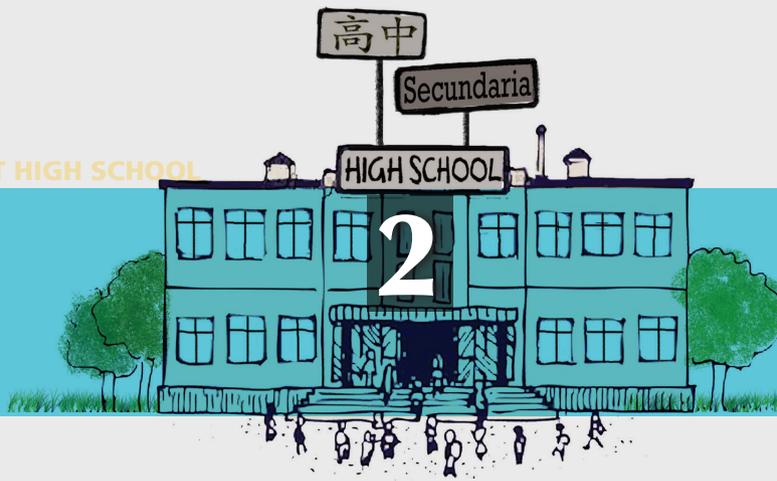
International case stories and insights on successful school-improvement efforts gleaned from PISA and other OECD research on education are sprinkled throughout the report. These stories – in the form of text boxes – describe how some schools and educators have succeeded in implementing reforms, addressing low performance and cultivating talented students. Links to additional resources are also provided, such as a video series that showcases local educators and policy makers from around the world telling their own stories about how they succeeded in improving student outcomes.

Box 1.3 **How individual schools benefit from the OECD Test for Schools: Promoting a culture of change**

The OECD Test for Schools is an important tool that schools can use to identify areas of improvement. Understanding student results in national or international contexts allows schools to make comparisons with top countries and economies in domains of cognitive performance in mathematics, science and reading, as well as motivation, confidence and a host of other student characteristics.

For example, Westminster School in the United Kingdom took the OECD Test for Schools in 2015. With their test results, they measured their school's performance in reading, mathematics and science through a global perspective and used these results to change and update practices within their different academic departments and administration.

Brighton College in the United Kingdom also participated in the OECD Test for Schools in 2015. The school wanted to learn more about their students' capacity to apply their knowledge in various contexts and their attitudes towards learning. They were particularly interested in exploring students' reading scores, as well as how students performed based on the six different reader profiles. Brighton College's results prompted the school to reassess its literacy strategy to encourage students to read more widely for pleasure.



What Students at Your School Know and Can Do in Reading, Mathematics and Science

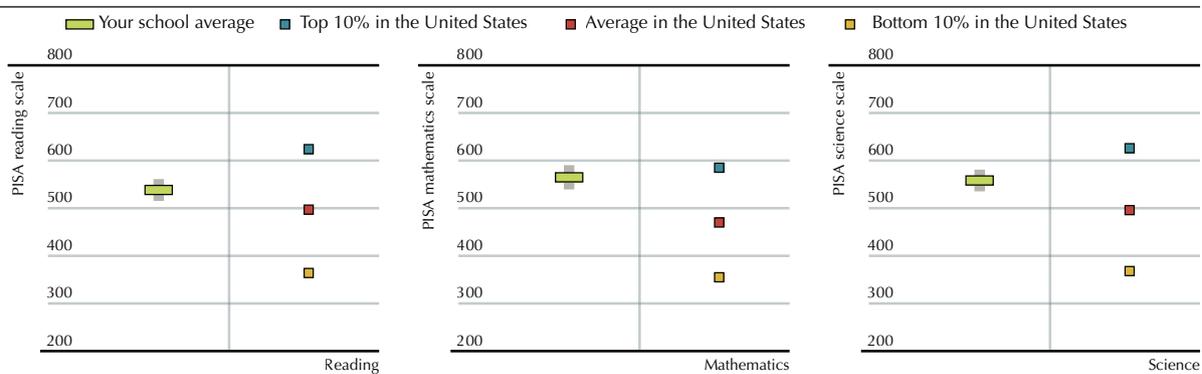
This section provides an overview of your school's performance on the *OECD Test for Schools*. It focuses on the distribution of the highest- and lowest-performing students at your school and the kinds of tasks that they can perform in each domain.

STUDENT PERFORMANCE AT YOUR SCHOOL COMPARED WITH THE UNITED STATES

As discussed in the previous section, the *OECD Test for Schools* measures students' knowledge and skills in three core subjects: reading, mathematics and science. To better understand your school's performance results, it is useful to begin by comparing them with the performance of students in other schools in your country. Figure 2.1 shows the mean performance results for your school in reading, mathematics and science in relation to the highest- and lowest-performing students in your country.

On the right-hand side of the charts are two performance thresholds related to the highest-performing students and the lowest-performing students in the United States in PISA 2015. The upper marker indicates the point above which 10% of the students in the United States perform. The lower marker indicates the point below which 10% of students in the United States perform. The figures also show the average scores for students in the United States in PISA 2015 in reading, mathematics and science.

Figure 2.1 ■ **Your school's performance in reading, mathematics and science compared with schools in the United States in PISA 2015**



Note: Shaded bars above and below the mean score represent a 95% confidence interval. In other words, in the case of the results of your school, we are 95% confident that if your school were to administer the test several times to students, your mean performance score would fall within this confidence interval.

Socio-economic context

Student performance on the PISA scales and across proficiency levels follows a very clear pattern. PISA 2015 results show that disadvantaged students across OECD countries are almost three times more likely than advantaged students not to attain the baseline level of proficiency in science. In the United States, 11% of the variation in student performance in science is explained by students' socio-economic background. In comparison, socio-economic background explains 22% of the variance in Peru and 21% in Hungary. However, for students in Iceland and the Former Yugoslav Republic of Macedonia, socio-economic background explains less than 10% of the variance in performance in science. It is important to note that these countries do not necessarily have a more or less advantaged socio-economic student population but they are able to minimize the impact of student's socio-economic background on student performance.

The next three figures, Figure 2.2, Figure 2.3 and Figure 2.4, locate your school's results in the socio-economic context of all schools from the United States that participated in PISA 2015. The scale on the left side of the figures (the y-axis) represents performance on the PISA reading, mathematics and science scales. The scale on the bottom (the x-axis) of the figure refers to the socio-economic status of students as measured by the PISA index of economic, social and cultural status (ESCS). The scale shows average index values of -3.0 to +3.0. The scale is standardized so that a value of 1 equals a difference of 1 standard deviation from the OECD average of 0.0. The important element to keep in mind is that as values increase (from left to right), the average socio-economic status of students increases: they are more advantaged in terms of their



socio-economic backgrounds. Thus, schools that are plotted towards the lower end of the scale (-1.5 for example) will appear on the left side of the figure, and one may conclude that students in these schools, on average, come from more disadvantaged backgrounds. Schools plotted with higher ESCS values, such as +1.0 or higher, (towards the right side of the x-axis) serve students primarily from more advantaged backgrounds.

In some cases, a student might take the OECD-based Test for Schools but not complete all items from the student questionnaire. If less than 80% of your students provided information about their socio-economic background, then a note will appear in figures that refer to the socio-economic status of your school's students. These results should be interpreted in consideration of how many students supplied such information.

Box 2.1 **Why low-performing students fall behind and how to help them succeed**

There is no country or economy participating in PISA that can claim that all of its 15-year-old students have achieved a baseline level of proficiency in mathematics, reading and science. In fact, about one in five students across OECD countries do not reach this level.

Poor performance in school has long-term consequences, both for the individual and for society as a whole. Reducing the number of low-performing students is not only a goal in its own right but also an effective way to improve an education system's overall performance and equity since low performers are disproportionately from socio-economically disadvantaged families.

PISA finds that a combination and accumulation of factors contribute to the likelihood that some students perform poorly in school. These factors include but are not limited to: coming from a socio-economically disadvantaged family, having an immigrant background, speaking a language at home that is different from the one spoken at school, being from a rural area, coming from a single-parent family and gender stereotypes.

Students' educational opportunities and engagement also matter. Students who had no or brief access to pre-primary education are more likely to be low performers than those who attended for a year or more. Low performers are also more common among students who have repeated a grade or who are enrolled in vocational programs.

Most importantly, students who make the most of available opportunities, such as attending school regularly, working hard at school, spending time doing homework and participating in extracurricular activities available at school, are less likely to perform poorly. Additionally, students are more likely to acquire at least basic proficiency in their school subjects when their teachers have high expectations for them, have a higher morale and respond to their students' needs.

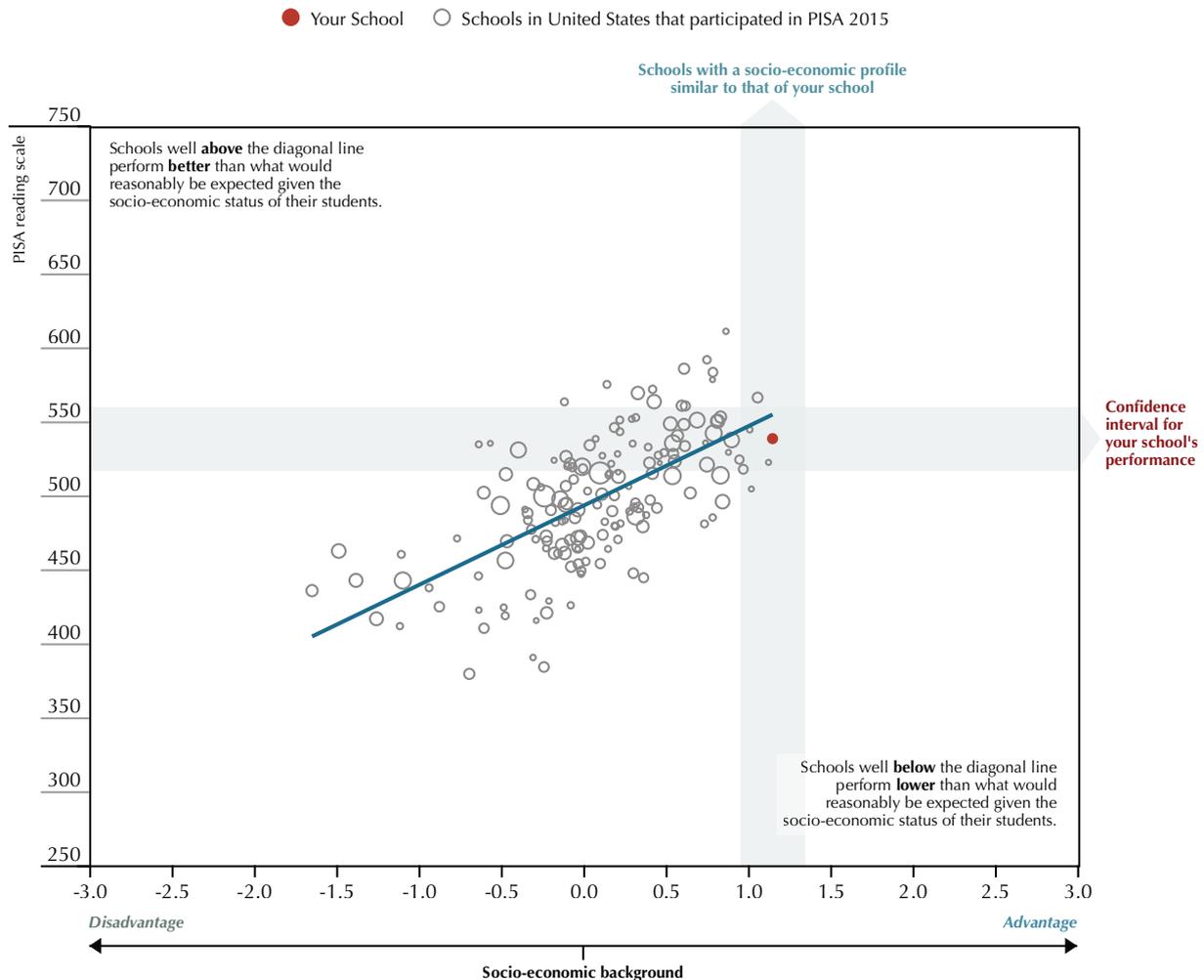
Overall, schools where there is more socio-economic diversity among students and less grouping by ability between classes tend to provide a better learning environment for struggling students.

Countries like Brazil, Germany, Japan and Mexico have shown that reducing the share of low performers in one or more subjects is possible. How? The first step is to prioritize addressing low performance in the education policy agenda. It is essential to identify the profile of low performers in a given country and develop a multi-pronged, tailored approach. Offering pre-primary education opportunities and remedial support in early grades, providing schools with language and/or psychosocial support, offering extracurricular activities and training teachers to work with low performers can help.

For more on what policy makers, educators, parents and students can do to address low performance and succeed in school, see:

[*Low-Performing Students: Why They Fall Behind and How To Help Them Succeed*](#)

Figure 2.2 ■ How your school's results in reading compare with schools in the United States in PISA 2015



Note: Size of the dot is proportional to the number of students enrolled at the school.

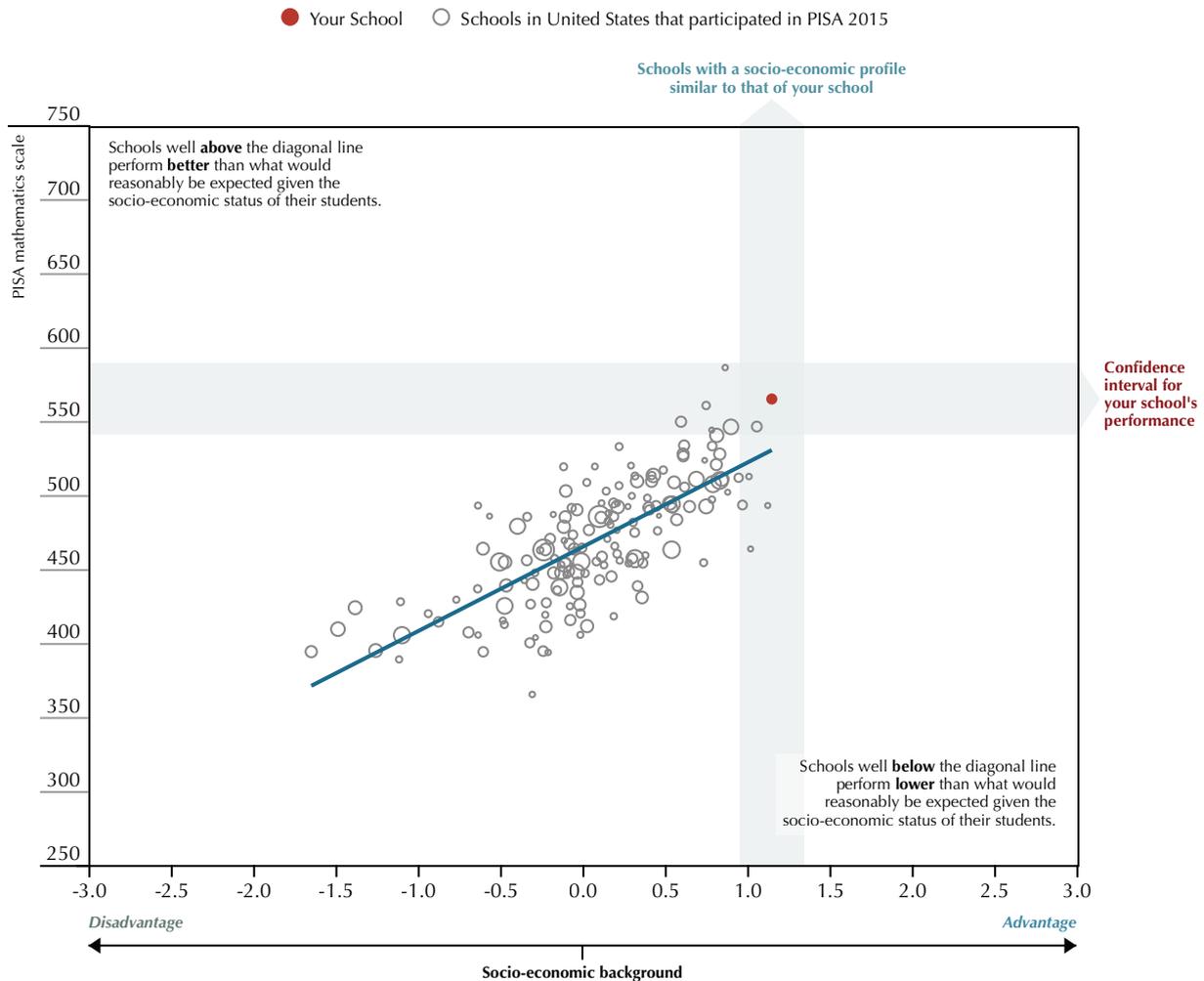
The diagonal line on each figure indicates the relationship between socio-economic background and performance. Schools well above the diagonal line perform better than what would reasonably be expected given the socio-economic status of their students while those well below do not perform as well as what would reasonably be expected.

There are also two shaded areas in each figure. The horizontal shaded area represents the confidence interval around your school's score on the PISA scale for a specific domain. The vertical shaded area represents the confidence interval around your school's value on the ESCS index. Where they overlap represents the area in which your school's results would be expected to be 95% of the time if the OECD Test for Schools were administered continuously in your school.

It is useful to compare your school's results not only with all schools from the United States in PISA 2015, but in particular with those whose students come from similar socio-economic backgrounds as yours. They can be found throughout the vertical shaded area. What is the performance of your school compared with the other schools in this shaded area? How does the performance of your school compare with its expected performance (the diagonal line) given the socio-economic background of your students?



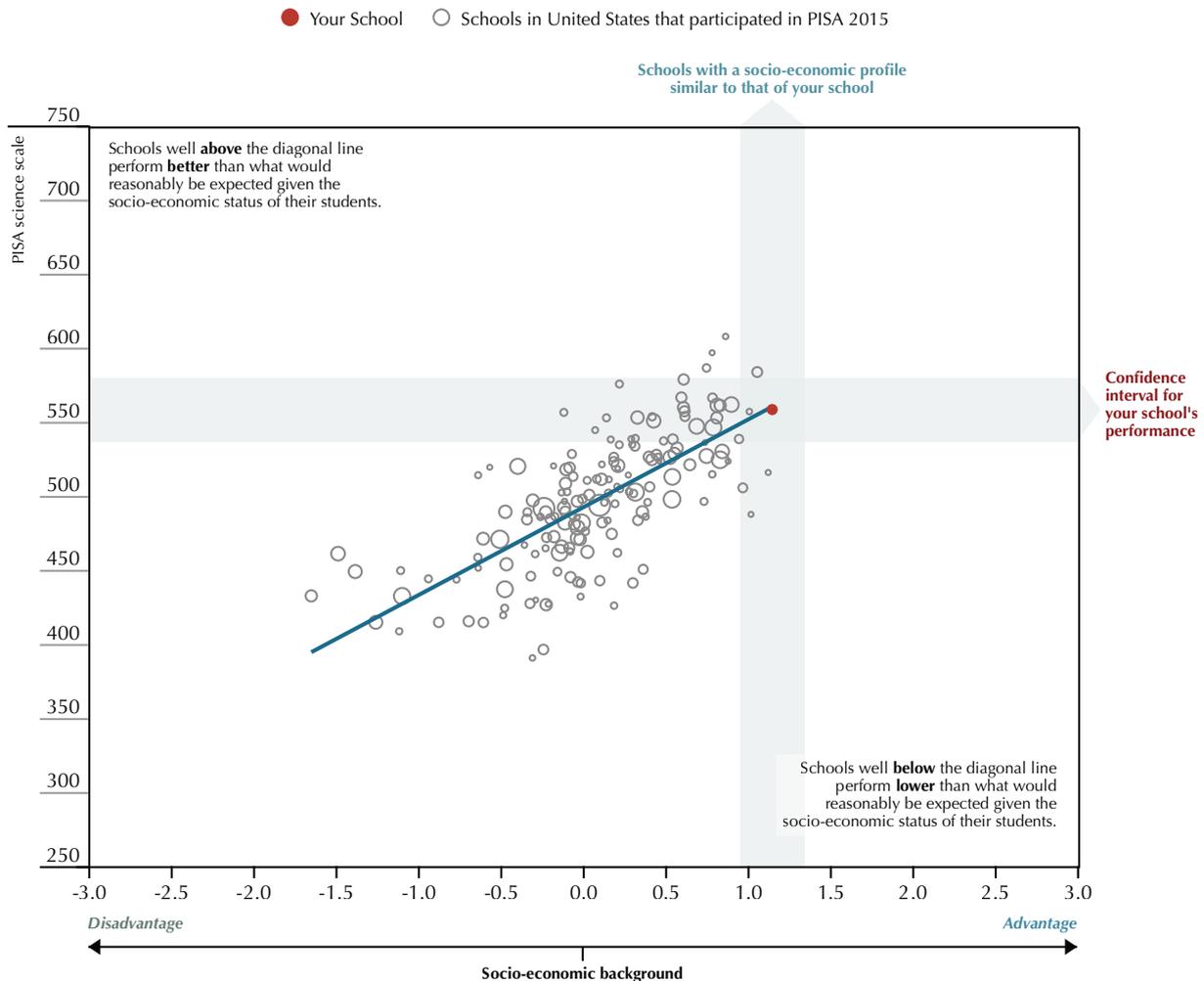
Figure 2.3 ■ How your school's results in mathematics compare with schools in the United States in PISA 2015



Note: Size of the dot is proportional to the number of students enrolled at the school.

Furthermore, it can be helpful to compare your school's results with schools in the horizontal shaded area whose students perform similarly but come from different socio-economic backgrounds. What are the socio-economic backgrounds of these schools compared with yours? Is your school achieving comparable performance with more or less advantaged students?

Figure 2.4 ■ **How your school's results in science compare with schools in the United States in PISA 2015**



Note: Size of the dot is proportional to the number of students enrolled at the school.

What students at your school know and can do in reading

How well do students at your school read? Can they extrapolate the information they need in written texts, interpret and reflect upon it critically in relation to their own experiences? And how do they compare with students across the United States who participated in PISA 2015?

Like the main PISA study, reading literacy in the *OECD Test for Schools* is defined as:

Understanding, using, reflecting on and engaging with written texts, in order to achieve one's goals, to develop one's knowledge and potential, and to participate in society.

This definition goes beyond the traditional notions of decoding information and literally interpreting what is written and focuses on more applied tasks. To provide a better understanding of the type of tasks used to assess student competencies, a selection of sample tasks can be found in Annex C.

Depending on the types of tasks that students successfully complete, students can be grouped into different levels of reading proficiency. Figure 2.5 presents short descriptions of what students are expected to know and be able to do at each proficiency level. A description of the assessment frameworks used to create these proficiency levels can be found in the annexes of this report.

Figure 2.5 ■ The six levels of reading proficiency in PISA¹

Level	Lower score limit on PISA scale	What students can do at this level of proficiency
6	698	Students at proficiency Level 6 are highly skilled readers. They can conduct fine-grained analyses of texts, which require detailed comprehension of both explicit information and unstated implications, and they can reflect on and evaluate what they read at a more general level. Students at this level have successfully completed most of the tasks presented to them in the reading assessment, demonstrating that they are capable of dealing with many different types of reading material. Hence, they are diversified readers who can assimilate information from unfamiliar content areas presented in atypical formats, as well as being able to engage with more familiar content with typical structures and text features. Another characteristic of the most highly developed readers is that they can overcome preconceptions in the face of new information, even when that information is contrary to expectations. Students at this level are capable of recognizing what is provided in a text, both conspicuous and more subtle information, while being able to apply a critical perspective to it, drawing on sophisticated understanding beyond the text.
5	626	Students at proficiency Level 5 can handle texts that are unfamiliar in either form or content. They can find information in such texts, demonstrate detailed understanding and infer which information is relevant to the task. They are also able to critically evaluate such texts and build hypotheses about them, drawing on specialized knowledge and accommodating concepts that might be contrary to expectations. An inspection of the kinds of tasks students at Level 5 are capable of suggests that those who get to this level and Level 6 can be regarded as potential “world-class” knowledge workers of tomorrow.
4	553	Students proficiency Level 4 are capable of difficult reading tasks such as locating embedded information, construing meaning from linguistic nuances and critically evaluating a text. Tasks at this level that involve retrieving information require the reader to locate and organize several pieces of embedded information. Some tasks at this level require interpreting the meaning of nuances in a section of text by taking into account the text as a whole. Other interpretative tasks require understanding and applying categories in an unfamiliar context. Reflective tasks at this level require readers to use formal or public knowledge to hypothesize about or critically evaluate a text. Readers must demonstrate an accurate understanding of long or complex texts whose content or form might be unfamiliar.
3	480	Students at proficiency Level 3 are capable of reading tasks of moderate complexity, such as locating multiple pieces of information, making links between different parts of a text and relating it to familiar everyday knowledge. Task at this level require the reader to locate, and in some cases recognize the relationship between, several pieces of information that must meet multiple conditions. Interpretative tasks at this level require the reader to integrate several parts of a text in order to identify a main idea, understand a relationship or construe the meaning of a word or phrase. They need to take into account many features in comparing contrasting or categorizing. The required information might not be prominent or there may be too much competing information, or there might be other obstacles in the text, such as ideas that are contrary to expectation or that are negatively worded. Reflective tasks at this level might require connections, comparisons and explanations, or they might require the reader to evaluate a feature of the text. Some reflective tasks require readers to demonstrate a fine understanding of the text in relation to everyday knowledge. Other tasks do not require detailed text comprehension but require the reader to draw upon less common knowledge.
2	407	Students at proficiency level 2 are capable of tasks that require the reader to locate one or more pieces of information, which might need to be inferred and might need to meet several conditions. Other tasks at this level require recognizing the main idea in a text, understanding relationships or construing meaning within a limited part of the text when the information is not prominent and the reader must make low-level inferences. Tasks at this level may involve comparisons or contrasts based on a single feature in the text. Typical reflective tasks require readers to make a comparison or several connections between the text and outside knowledge by drawing on personal experience and attitudes. PISA considers level 2 a baseline level of proficiency at which students begin to demonstrate the reading skills and competencies that will allow them to participate effectively and productively in life as they continue their studies and as they enter into the labor force and become members of society
1	335	Tasks at this level require the reader to locate one or more independent pieces of explicitly stated information; to recognize the main theme or author's purpose in a text about a familiar topic, or to make a simple connection between information in the text and common, everyday knowledge. Typically the required information in the text is prominent and there is little, if any, competing information. The reader is explicitly directed to consider relevant factors in the task and in the text.

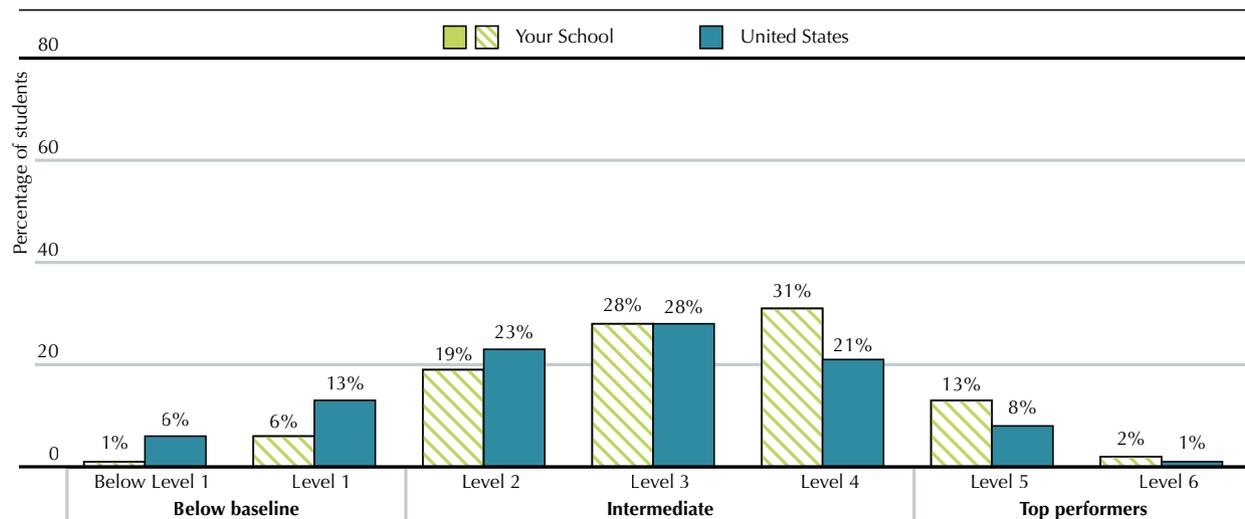
1. In PISA 2015, Level 1 proficiency in reading and science is disaggregated into Level 1b and Level 1a. In these domains in the *OECD Test for Schools*, Level 1a is considered Level 1, and Level 1b and below is considered below Level 1.

How students at your school perform in terms of proficiency levels in reading

Figure 2.6 shows the distribution of students at your school in the six proficiency levels in reading, compared with students in the United States in PISA 2015. If the bars are striped, the distribution of students at your school is statistically significantly different from that of the United States. If the bars are solid, the distribution is not statistically significantly different.

In the United States, 10% of students perform at or above Level 5 in reading, while 18% of students in Singapore perform at these highest levels. The kinds of tasks that students at Levels 5 and 6 are capable of doing suggest that those who reach Level 5 or above can be regarded as potential “world-class” knowledge workers of tomorrow.

Figure 2.6 ■ How proficient are students at your school in reading compared with students in the United States in PISA 2015



Note: Striped bars are an indication that the distribution of students in proficiency levels at your school is statistically significantly different from the distribution of students in United States. Solid bars are an indication that the distribution of students in proficiency levels at your school is not statistically significantly different from the distribution of students in United States.

In contrast, 19% of 15-year-olds in the United States do not reach Level 2 of reading proficiency. As described earlier, Level 2 is the baseline level at which students begin to demonstrate reading competencies that will enable them to participate effectively and productively as students, as workers and citizens. In the highest-performing countries and economies, such as Hong Kong (China) and Ireland in PISA 2015, the proportion of students who do not reach this level is around 10%.

A Canadian study that followed students who were assessed by PISA in 2000 showed that students who do not reach Level 2 face high risks of not completing post-secondary education and having difficulties in the labor market at age 19 and age 21. For example, more than 60% of students who performed below Level 2 in PISA 2000 had not received any post-school education by age 21 (see Box 2.2).



Box 2.2 **The link between reading performance and success in adult life**

Canada launched the “Youth in Transition Survey” in 2000, which interviewed 30,000 Canadian students who had participated in PISA 2000 every two years from ages 15 to 25. The survey shows that students in the bottom quartile of PISA reading scores were much more likely to drop out of secondary school and less likely to continue beyond grade 12 than those in the top quartile. High-performing students were more likely to continue with education at age 21 and did not enter the workforce right away. Students at the top PISA levels of reading proficiency (Levels 5 and 6) were 20 times more likely to go to university than those at or below Level 1. If students who were in the top quartile did enter the labor force, they were more likely to return to education later. Students who scored below Level 2 faced a disproportionately higher risk of poor participation in post-secondary education or low labor-market outcomes at age 19, and even worse outcomes at age 21. Also, women who had obtained high reading scores at age 15 earned 12% more than those with low scores. The relationship was weaker for men.

For students to become better readers, and overall learners, teachers can help promote parents’ involvement at home. In addition, parent-teacher partnerships need not be restricted to school-based activities. When teachers have trusting relationships with parents, they can share their knowledge about their students’ needs and preferences. Teachers can also support and inform parents on the best way to engage with their children and can discuss matters with students directly when parents face constraints that make regular involvement with their children difficult.

Teachers can develop programs to cultivate the desire to read. Programs such as “Drop everything and read” in the United States show children that reading for pleasure is a valuable activity. PISA suggests that students who have higher scores on the combined reading literary scale spend more time reading for pleasure and tend to have a wider reading repertoire. Teachers can encourage both students and parents to use libraries, support book clubs among students and among parents and establish periods dedicated to reading during the school day. As a result, parents should begin to see that reading to their young children is as essential as feeding and clothing them, and children grow up with the deeply ingrained sense that reading is both a valuable pursuit and a pleasure.

Parents, teachers and communities can dramatically affect how much children read and help nurture young adults who continue to develop their knowledge base and their ability to think critically long after they have left school.

To find out more about the effects of reading on Canadian students’ performance and other ways teachers and parents can encourage students to read, go to:

Pathways to Success:

[*How Knowledge and Skills at Age 15 Shape Future Lives in Canada*](#)

[*Let’s Read Them a Story! The Parent Factor in Education*](#)

What students at your school know and can do in mathematics

The *OECD Test for Schools* measures mathematics in terms of students’ capacity to formulate, employ and interpret mathematics in a variety of contexts. To provide a better understanding of the type of tasks used to assess students’ knowledge and skills in mathematics, a selection of sample tasks has been included in Annex C.

Depending on the tasks that students are able to complete successfully, students can be grouped into different levels of mathematics proficiency. Figure 2.7 presents short descriptions of what students are expected to know and be able to do at each level of mathematics proficiency.

Figure 2.7 ■ **The six levels of mathematics proficiency in PISA**

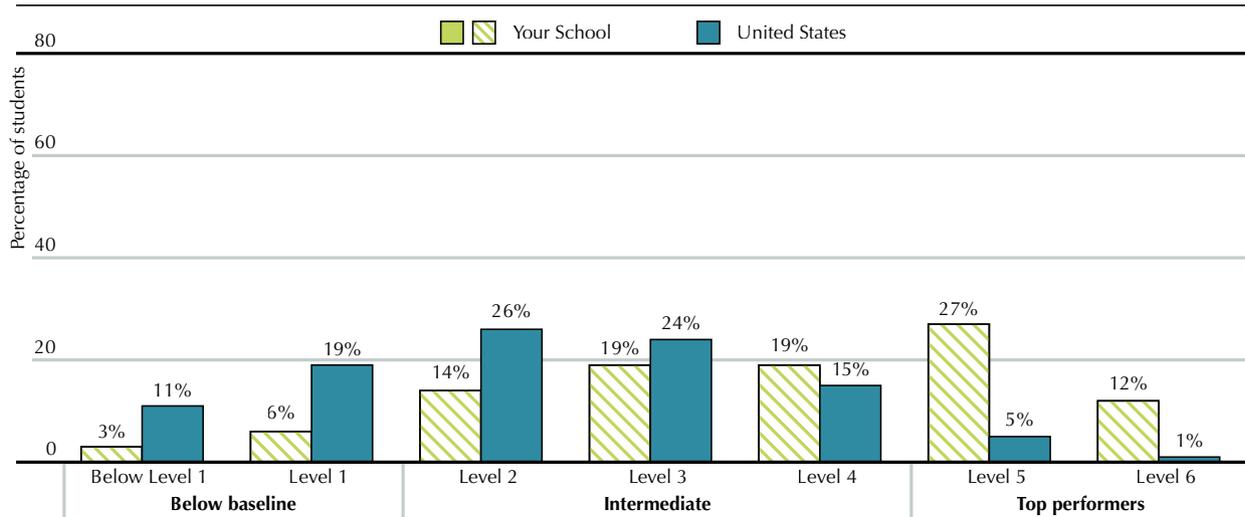
Level	Lower score limit	Characteristics of tasks
6	669	At Level 6, students can conceptualize, generalize and utilize information based on their investigations and modelling of complex problem situations, and can use their knowledge in relatively non-standard contexts. They can link different information sources and representations and flexibly translate among them. Students at this level are capable of advanced mathematical thinking and reasoning. These students can apply this insight and understanding, along with a mastery of symbolic and formal mathematical operations and relationships, to develop new approaches and strategies for attacking novel situations. Students at this level can reflect on their actions, and can formulate and precisely communicate their actions and reflections regarding their findings, interpretations, arguments, and the appropriateness of these to the original situation.
5	607	At Level 5, students can develop and work with models for complex situations, identifying constraints and specifying assumptions. They can select, compare and evaluate appropriate problem-solving strategies for dealing with complex problems related to these models. Students at this level can work strategically using broad, well-developed thinking and reasoning skills, appropriate linked representations, symbolic and formal characterisations, and insight pertaining to these situations. They begin to reflect on their work and can formulate and communicate their interpretations and reasoning.
4	545	At Level 4, students can work effectively with explicit models for complex, concrete situations that may involve constraints or call for making assumptions. They can select and integrate different representations, including symbolic, linking them directly to aspects of real-world situations. Students at this level can utilize their limited range of skills and can reason with some insight, in straightforward contexts. They can construct communicate explanations and arguments based on their interpretations, arguments and actions.
3	482	At Level 3, students can execute clearly described procedures, including those that require sequential decisions. Their Interpretations are sufficiently sound to be a base for building a simple model or for selecting and applying simple problem-solving strategies. Students at this level can interpret and use representations based on different information sources and reason directly from them. They typically show some ability to handle percentages, fractions and decimal numbers, and to work with proportional relationships. Their solutions reflect that they have engaged in basic interpretation and reasoning.
2	420	At Level 2, students can interpret and recognize situations in contexts that require no more than direct inference. They can extract relevant information from a single source and make use of single representational mode. Students at this level can employ basic algorithms, formulae, procedures or conventions to solve problems involving whole numbers. They are capable of making literal interpretations of the results.
1	358	At Level 1, students can answer questions involving familiar contexts where all relevant information is present and the questions are clearly defined. They are able to identify information and to carry out routine procedures according to direct instructions in explicit situations. They can perform actions that are almost obvious and follow immediately from the given stimuli.

How students at your school perform in terms of proficiency levels in mathematics

Figure 2.8 shows the distribution of students at your school across the six proficiency levels in mathematics compared with students in the United States in PISA 2015. As before, if the bars are striped, the distribution of students at your school is statistically significantly different from that of the United States. If the bars are solid, the distribution is not statistically significantly different.



Figure 2.8 ■ **How proficient are students at your school in mathematics compared with students in the United States in PISA 2015**



Note: Striped bars are an indication that the distribution of students in proficiency levels at your school is statistically significantly different from the distribution of students in the United States. Solid bars are an indication that the distribution of students in proficiency levels at your school is not statistically significantly different from the distribution of students in the United States.

About 21% of students in the United States score at or above proficiency Level 4 in mathematics – the level at which students can solve problems that involve visual and spatial reasoning, compared with the OECD average of 29%. In the highest-performing countries and economies, such as Singapore and Hong Kong (China), over 50% of students perform at Level 4 or higher. In the lowest-performing countries and economies in mathematics – the Dominican Republic and Kosovo – fewer than 1% of students reach Level 4 or higher.

At the other end of the scale, 29% of students in the United States do not reach the baseline Level 2 in mathematics – the level of proficiency at which students begin to demonstrate the kinds of skills that enable them to use mathematics in ways that are considered fundamental for their future development. Among these, 11% do not reach Level 1, while 19% reach Level 1 but not Level 2. In comparison, 7% of students from Macao (China) do not reach Level 2, while 91% of students from the Dominican Republic do not reach Level 2. Students who score below Level 1 (358 score points) cannot complete the most basic mathematical tasks from PISA and the *OECD Test for Schools*.

What students at your school know and can do in science

Unlike many traditional assessments of student performance in science, PISA and the *OECD Test for Schools* do not focus on measuring students' mastery of specific science content. Rather, they measure the capacity of students to engage with science-related issues and to think like a scientist. To provide a better understanding of the type of tasks used to assess students' science competencies, a selection of sample tasks has been included in Annex C. See also Sample Items from the *OECD Test for Schools*.

As with reading and mathematics, depending on the science tasks that they can successfully complete, students can be grouped into different levels of science proficiency. Figure 2.9 presents short descriptions of what students are expected to know and be able to do at each level of science proficiency. Level 2 has been established as the baseline level of science proficiency. It defines the level of achievement at which students begin to demonstrate the science competencies that will enable them to participate actively in real-life situations related to science and technology. Students with a score between 484 and 558 are proficient at Level 3. Students with a score of 708 and above are proficient at Level 6, while students with a score below 335 do not reach Level 1. Students below Level 1 usually cannot perform the most basic science tasks from PISA and the *OECD Test for Schools*.

Figure 2.9 ■ The six levels of science proficiency in PISA

Level	Lower score limit	Characteristics of tasks
6	708	At Level 6, students can draw on a range of interrelated scientific ideas and concepts from the physical, life and earth and space sciences and use content, procedural and epistemic knowledge in order to offer explanatory hypotheses of novel scientific phenomena, events and processes or to make predictions. In interpreting data and evidence, they are able to discriminate between relevant and irrelevant information and can draw on knowledge external to the normal school curriculum. They can distinguish between arguments that are based on scientific evidence and theory and those based on other considerations. Level 6 students can evaluate competing designs of complex experiments, field studies or simulations and justify their choices.
5	633	At level 5, students can use abstract scientific ideas or concepts to explain unfamiliar and more complex phenomena, events and processes involving multiple casual links. They are able to apply more sophisticated epistemic knowledge to evacuate alternative experimental designs and justify their choices and use theoretical knowledge to interpret information or make predictions. Level 5 students can evaluate ways of exploring a given question scientifically and identify limitations in interpretations of data sets including sources and the effects of uncertainty in scientific data.
4	559	At Level 4, students can use more complex or more abstract knowledge, which is either provided or recalled, to construct explanations of more complex or less familiar events and processes. They can conduct experiments involving two or more independent variables in a constrained context. They are able to justify an experimental design, drawing on elements of procedural and epistemic knowledge. Level 4 students can interpret data drawn from a moderately complex data set or less familiar context, draw appropriate conclusions that go beyond the data and provide justifications for their choices.
3	484	At Level 3, students can draw upon moderately complex content knowledge to identify or construct explanations of familiar phenomena. In less familiar or more complex situations, they can construct explanations with relevant cueing or support. They can draw on elements of procedural or epistemic knowledge to carry out a simple experiment in a constrained context. Level 3 students are able to distinguish between scientific and non-scientific issues and identify the evidence supporting a scientific claim.
2	409	At level 2, students are able to draw on everyday content knowledge and basic procedure knowledge to identify an appropriate scientific explanation, interpret data, and identify the question being addressed in a simple experimental design. They can use basic or everyday scientific knowledge to identify a valid conclusion from a simple data set. Level 2 students demonstrate basic epistemic knowledge by being able to identify questions that can be investigated scientifically.
1	335	At Level 1a, students are able to use basic or everyday content and procedure knowledge to recognize or identify explanations of simple scientific phenomenon. With support, they can undertake structured scientific enquiries with no more than two variables. They are able to identify simple causal or correlational relationships and interpret graphical and visual data that require a low level of cognitive demand. Level 1 a students can select the best scientific explanation for given data in familiar personal, local and global contexts.

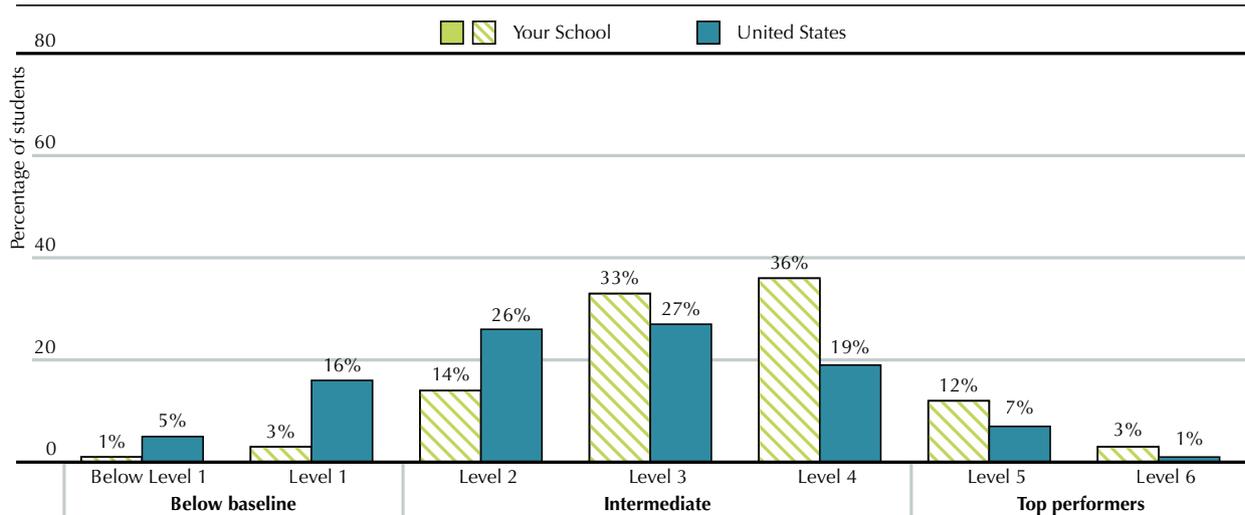
How students at your school perform in terms of proficiency levels in science

Figure 2.10 shows the distribution of students at your school across the six proficiency levels in science compared with students in the United States in PISA 2015. As with similar figures for reading and mathematics, if the bars are striped, the distribution of students at your school is statistically significantly different from that of the United States. If the bars are solid, the distribution is not statistically significantly different.

In the United States, 27% of students perform at or above Level 4 on the science scale, compared with the OECD average of 28%. At Level 4 students are expected to “use more complex or more abstract content knowledge” and “draw appropriate conclusions that go beyond the data and provide justifications for their choices.” In Singapore, more than half of all students perform at Level 4 or above in science, while in the Dominican Republic, fewer than 1% of students perform at or above Level 4. At the other end of the spectrum, 20% of the United States students on average score below Level 2, which is the level at which students “demonstrate basic epistemic knowledge by identifying questions that can be investigated scientifically.” In higher-performing education systems, such as Singapore and Japan, less than 10% of students perform below Level 2.



Figure 2.10 ■ How proficient are students at your school in science compared with students in the United States in PISA 2015



Note: Striped bars are an indication that the distribution of students in proficiency levels at your school is statistically significantly different from the distribution of students in United States. Solid bars are an indication that the distribution of students in proficiency levels at your school is not statistically significantly different from the distribution of students in United States.

Box 2.3 High autonomy combined with high accountability: Lessons from Estonia

PISA results suggest that when autonomy and accountability are intelligently combined, they tend to be associated with better student performance. At the country level, the greater the number of schools that autonomously define and elaborate their curricula and assessments, the better the performance of the entire school system, even after accounting for national income. Systems that grant schools greater discretion in deciding student-assessment policies, courses offered, the content of those courses and textbooks used are also those systems that show higher reading scores overall. In addition, PISA results show that school systems where most schools post achievement data publicly, average student performance is marginally higher in those schools that have autonomy over resource allocation.

Schools in Estonia have autonomy above the OECD average, including the capacity to make decisions on the curriculum, resource allocation and hiring and dismissing teaching staff. The high level of autonomy allows each school to decide its own way of teaching, the content taught, and the selection, remuneration and training of the teachers. Local schools also have high autonomy in the design, implementation, modification and improvement of curriculum in collaboration with a school's board of trustees, students, teachers and parents. Each school is allowed to use its own assessment and grading system on the condition that they are convertible to the national five-point scale. Under the discretion of schools, teachers can be awarded monetarily for additional work and for effective results. This high autonomy enjoyed by schools goes hand-in-hand with school accountability and in turn, high levels of autonomy go hand-in-hand with rigorous state regulation. The state sets national standards and establishes principles of education funding, state supervision and quality assessment.

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Outstanding performance in PISA

According to PISA 2015 students in Estonia are among some of the highest-performing, representing one of a handful of countries and economies with at least four out of five students mastering the baseline level of proficiency in science, reading and mathematics. In science, the mean score in PISA 2015 is 534, which puts Estonian students well above the OECD average as the second highest-performing OECD country. Similarly high levels of performance are seen in reading and mathematics, although this historically has not always been the case. For example, in 2009, Estonian students performed near the OECD average, however due to steady improvements in reading scores over the past two PISA cycles, they perform at a significantly higher level with a score of 519 in PISA 2015. Mathematics scores are also above the OECD average, with a mean performance score in the country of 520. Not only does Estonia achieve high levels of performance in education outcomes, its equity outcomes are also impressive.

The school system in Estonia, as evidenced by student outcomes measured in PISA, could be viewed as a model for greater autonomy to schools granted through successful policy implementation and accountability measures.

THE UNITED STATES AND PISA

In the United States, the average reading performance of 15-year-old students in PISA 2015 is 497 points on the reading scale, compared with the OECD average of 493 points in PISA 2015. Among countries and economies that participated in PISA 2015, Singapore and Hong Kong (China) are among the highest-performing, with averages of 535 and 527 points, respectively. Lebanon is the lowest-performing country or economy with 347.

In mathematics, the United States in PISA 2015 scored 470 points, compared with the OECD average of 490 points in PISA 2015. The highest-performing education system in mathematics in PISA 2015 is that of Singapore, with an average score of 564 points. Hong Kong (China), Macao (China) and Chinese Taipei are other high-performing countries and economies in mathematics.

The science performance of students in the United States is 496 points. The highest-performing education system in science is also that of Singapore, with a mean performance of 556. Students from Japan, Estonia, and Chinese Taipei are other high-performers internationally with at least 532 score points on average.

The United States has participated in every cycle of PISA since 2000. PISA results therefore allow the performance of students in the United States to be compared with that of their peers throughout the world over time.

In PISA 2015, the performance of students from the United States is average in reading and science among the 35 countries that currently comprise the OECD and below average in mathematics. These results are similar to those from PISA 2012. In fact, the results of the United States across all PISA cycles show that student performance in all three subjects has remained relatively stable (Figure 2.11).

While overall performance in the United States has not changed much, the level of equity has improved, particularly in science. In 2006, students' socio-economic status accounted for 17% of the variation in science performance. In 2015, students' socio-economic status accounts for 11% of the variation in science performance. Furthermore, in 2006, 20% of students from the United States were considered resilient in science, meaning they performed above expectations and among the top quarter of students with the same socio-economic status across all countries and economies in PISA. In 2015, 32% of students from the United States were considered resilient in science.



Figure 2.11 ■ **Mean performance scores for the United States in reading, mathematics and science in PISA cycles**

	PISA 2000	PISA 2003	PISA 2006	PISA 2009	PISA 2012	PISA 2015
	Mean score					
Reading	504 (7.0)	495 (3.2)		500 (3.7)	498 (3.7)	497 (3.4)
Mathematics		483 (2.9)	474 (4.0)	487 (3.6)	481 (3.6)	470 (3.2)
Science			489 (4.2)	502 (3.6)	497 (3.8)	496 (3.2)

Notes: Standard errors are shown in parentheses under the mean scores.

Shaded cells indicate that data are not available for those particular domains in the corresponding PISA cycle.

Box 2.4 **The sample of students and schools participating in PISA 2015 in the United States**

The purpose of the sampling procedures conducted as part of the main PISA studies every three years is to provide results of student performance that are statistically representative of 15 year-old students in the whole country. In the case of the United States for PISA 2015, a total of 5,712 students from 177 public and private schools participated. The schools and students were randomly selected and weighted so that results would be representative of the education system as a whole. At each of the participating schools, approximately 35 to 42 15-year-old students were invited to take part (unless the school had fewer than 35 eligible students, in which case all students were selected). The states of Massachusetts and North Carolina also participated individually in PISA 2015 and received state-level results.

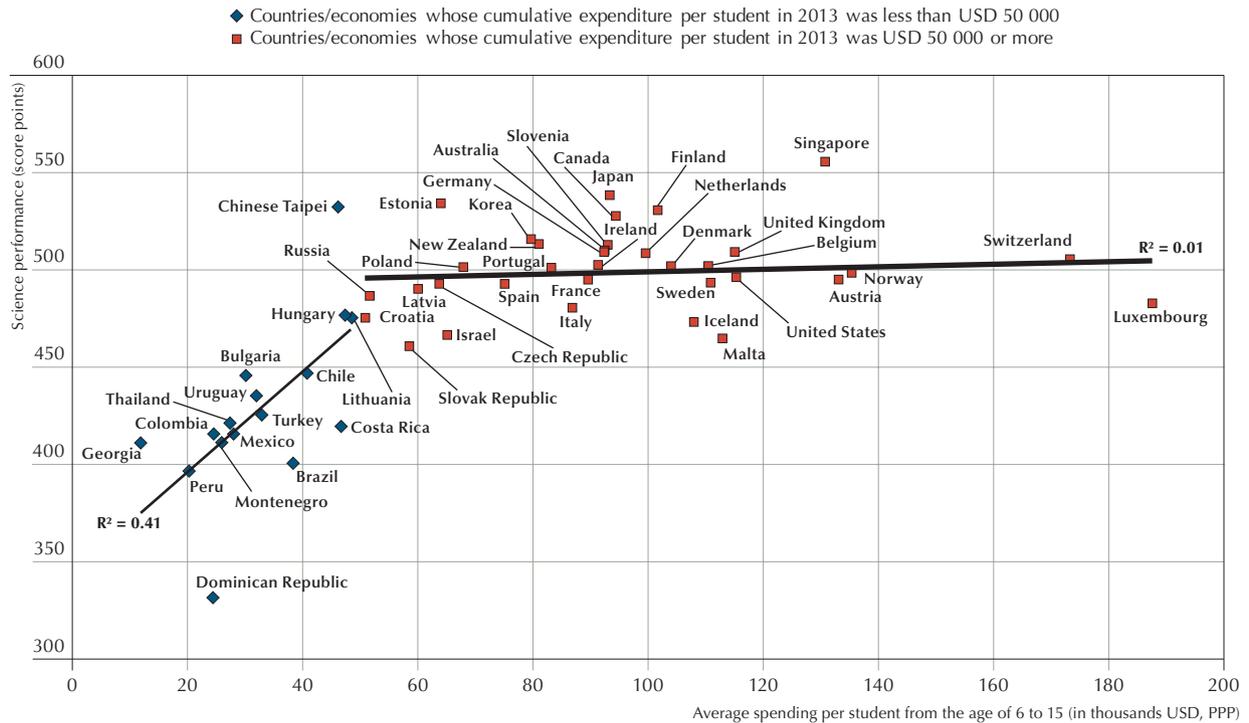
Expenditure per student explains 54% of the variation in student performance in science between PISA 2015 participants. PISA results show, however, that it is not just the amount of resources that impacts performance, but also how well countries allocate their resources. Chinese Taipei, for example, spends roughly USD 46 000 and Estonia about USD 66 000 to educate a student from age 6 to age 15. And both these countries and economies have higher performance than Austria, Norway, Switzerland and Luxembourg, which spend more than USD 132 000 per student over the same age range (see Figure 2.12 on spending per student). In the United States, about USD 115 000 is spent to educate a student from age 6 to age 15.

Across PISA participants, average science performance has remained largely unchanged between PISA 2006 and PISA 2015, the two cycles when science was the main domain. However, some countries and economies have seen marked improvements in learning outcomes. In Qatar, for example, the average performance in science increased by 68 points from 2006 to 2015. In Albania, average science performance increased by more than 30 points in three years, from 2012 to 2015. The trends shown by these PISA results indicate that system-level improvement is possible in a relatively short period of time.

PISA results, therefore, provide two key insights. First, it is not only the amount of resources that can affect the quality and equity across education systems, but how those resources are used. The second is that improvement is possible in a reasonable time frame, as shown by the improvement trajectories of some education systems around the world. To help put these and other insights from PISA into perspective, throughout this report the reader will find text boxes and references to OECD reports, research and resources (including videos) that analyze and provide examples of the education reforms in these and in other countries that are the highest-performing or that have seen rapid improvements in learning outcomes.

SAMPLE REPORT HIGH SCHOOL

Figure 2.12 ■ Spending per student from the age of 6 to 15 and science performance in PISA 2015

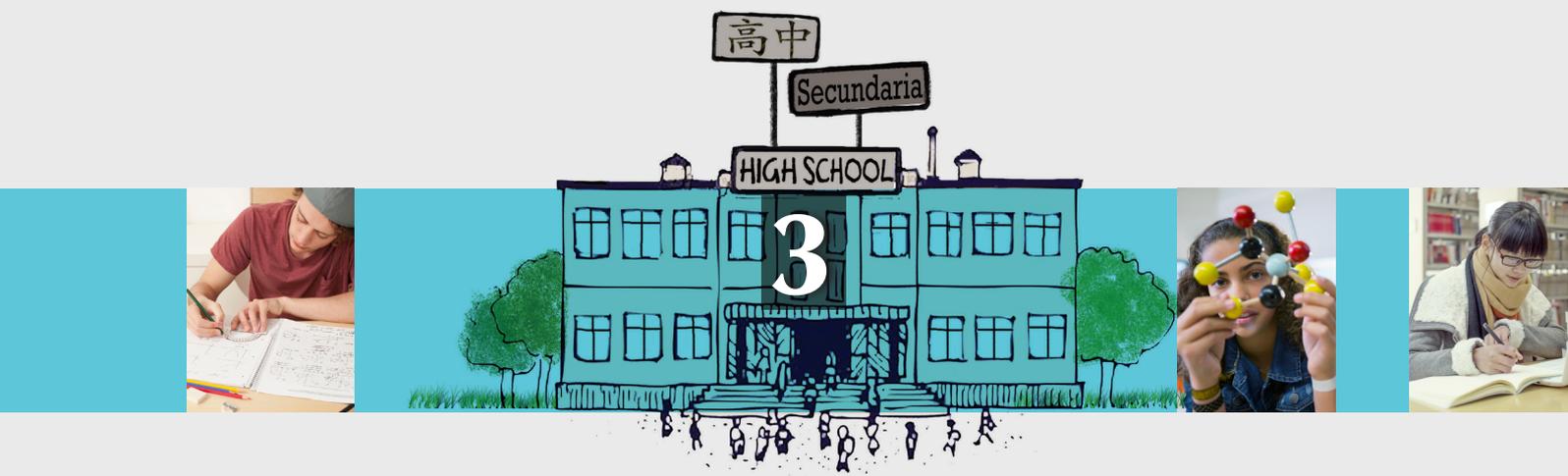


Note: Only countries and economies with available data are shown.

A significant relationship ($p < 0.10$) is shown by the thin line.

A non-significant relationship ($p > 0.10$) is shown by the thick line.

Source: OECD, PISA 2015 Database, Tables I.2.3 and II.6.58.



The Learning Environment and Student Engagement at Your School

PISA results show that a strong learning environment and high levels of student engagement are factors that consistently contribute to better learning outcomes. Based on your students' responses to a contextual questionnaire that was part of the *OECD Test for Schools*, this section situates your school's climate and your students' motivation and confidence in the context of your country.



A school's learning environment and its students' level of engagement can enhance or hinder student learning outcomes. Is the climate at your school conducive to learning? How motivated and confident are your students? And how do their levels of engagement relate to their performance?

Results for your school's learning environment, which include classroom disciplinary climate and teacher-student relations, will be compared with results from other schools in the United States. Student engagement factors, such as motivation and self-efficacy, will be compared within your school as well as with other schools in the United States.

Findings in this section of the report are based on responses to the contextual questionnaire that students completed as part of the *OECD Test for Schools*. Students around the world responded to the same questions as part of the international PISA study in 2015 and previous years.¹

THE LEARNING ENVIRONMENT AT YOUR SCHOOL

PISA shows that a strong learning environment is consistently and robustly associated with better student performance. In school systems around the world, students tend to perform better when classrooms are well disciplined and relations between students and teachers are amiable and supportive.

Box 3.1 From items to indices: How the OECD Test for Schools creates one index score based on student responses to a group of questions

In PISA and the OECD Test for Schools, there are a number of items, or questions, in the student contextual questionnaire that examine student perceptions about themselves and their school. These items ask students to rate how strongly they feel about a particular statement. Results of these items are reported as the percentage of students who responded in a certain way to each statement.

Furthermore, individual items that are related to a specific topic, such as the learning environment or student engagement, are categorized into groups, or indices. For example, a group of five items comprise the index of teacher-student relations, and a group of eight items comprise the index of student self-efficacy in science. Therefore, in addition to reporting the results of individual items (as a percentage of students who responded a certain way to a statement), results can also be reported for each index as a whole. These results are known as index scores, or composite scores for each index.

Index scores are scaled such that the OECD average is 0.0. A value of one represents one standard deviation away from the average. In this report, and particularly in this section, an index's results will be reported at the individual item-level (as a percentage of students who responded a certain way to each item) and as composite scores for the entire index (usually a number between -2.0 and +2.0).

Classroom disciplinary climate

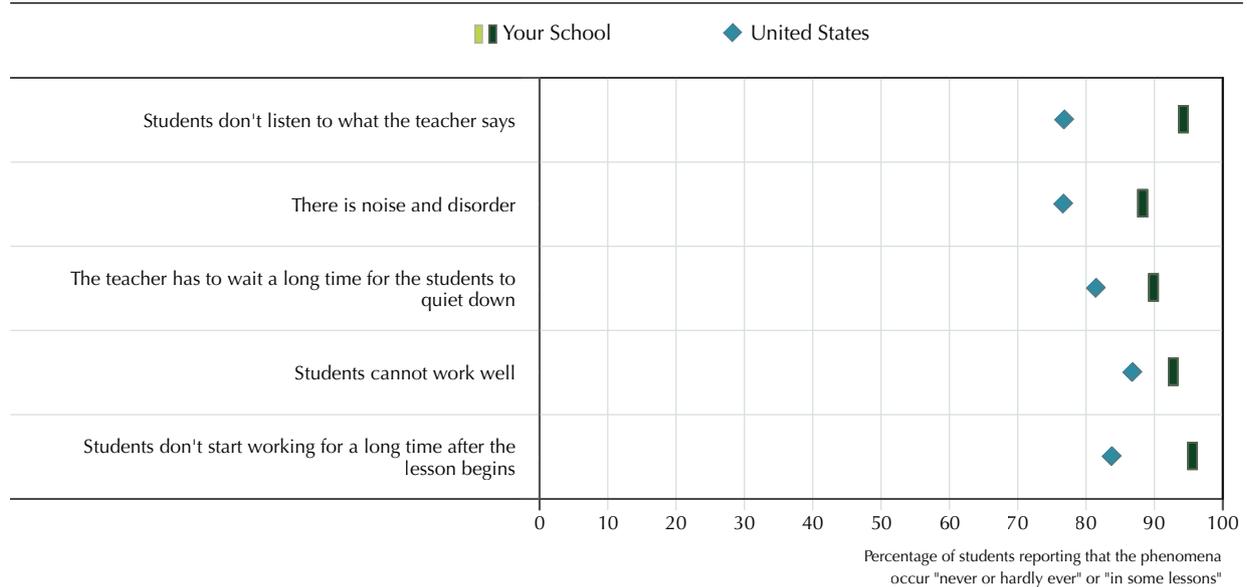
Figure 3.1 shows how students at your school responded to five questions about the classroom disciplinary climate in their science lessons compared with the students in your country who participated in PISA 2015. This figure shows the percentage of students who reported that the frequency of specific incidents occur in *some lessons or never or hardly ever* in their science lessons at your school and in the United States. The incidents include how often students don't listen to what the teacher says, there is noise and disorder, the teacher has to wait a long time for students to quiet down, students cannot work well or students don't start working for a long time after the lesson begins.

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1. While cognitive assessment of each domain occurs every PISA cycle, analysis of student attitudes towards each domain occurs only when a domain is the major domain of a PISA cycle (every nine years). Thus, results in this section will be compared to PISA results from different years, depending upon when a domain was most recently the major domain.



Figure 3.1 ■ Classroom disciplinary climate in science lessons at your school and in the United States in PISA 2015

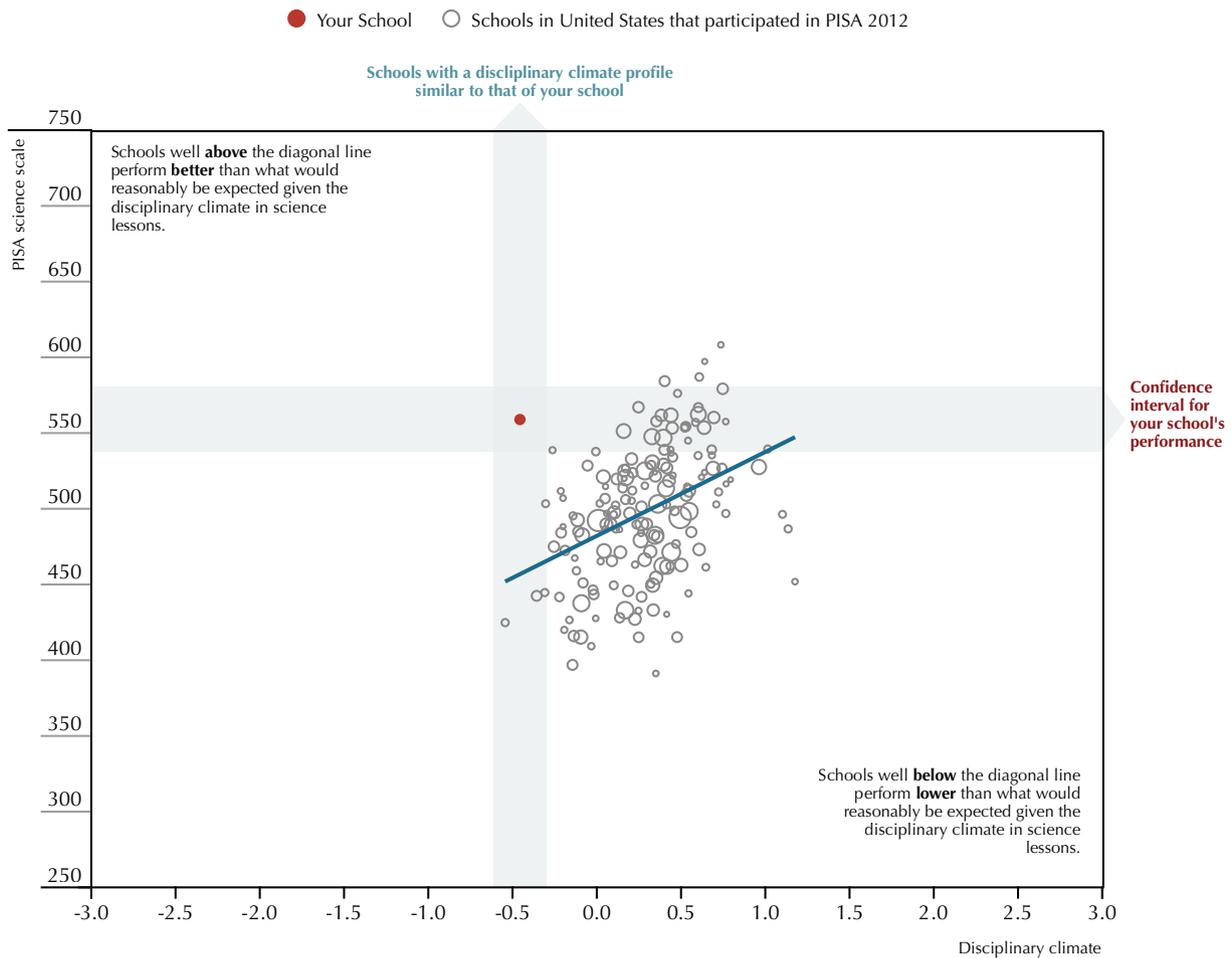


Note: Values for your school that are statistically significantly different from your country are marked in a darker tone

When comparing the classroom disciplinary climate at your school with that of your country, as shown in Figure 3.1, it should be noted that darker-toned markers indicate that the results are statistically significantly different from those of your school, while lighter-toned markers indicate that the results are not statistically significantly different.

In the United States, 83% of students who participated in PISA 2015 reported that they *never or hardly ever* or only *in some lessons* think that students don't start working for a long time after the lesson begins, and 76% think noise *never or hardly ever* or only *in some lessons* affects learning. As Figure 3.2 shows, however, not all students perceive the same classroom disciplinary climate in their schools.

Figure 3.2 ■ **Classroom disciplinary climate in science lessons and science performance at your school in the United States in PISA 2015**



Note: Size of the dot proportional to the number of students enrolled at the school.

In this figure the students' responses to the five questions shown in Figure 3.1 have been converted to an index score. The *higher* the score on this scale, the more *positive* the classroom disciplinary climate at the school. This is represented by the horizontal axis on the figure. Thus, the further to the right on the figure, the more positive is the classroom disciplinary climate at the school. Your school is represented by a red bubble in the figure, and all other schools in the United States are represented by hollow bubbles.

In the United States in PISA 2015, students, on average, reported a classroom disciplinary climate index in science of 0.3, which is higher than the OECD average of 0.0. A one unit increase in the index of disciplinary climate is associated with a 24 point increase in science performance. This relationship between a student's classroom disciplinary climate and his/her science performance is one of the strongest among all OECD countries.



Box 3.2 Teaching excellence through professional learning and policy reform

Teachers are expected to prepare students for jobs that have not yet been created, to use technologies that have not yet been invented and to solve unforeseen social and environmental problems. To meet such high expectations, governments, teachers' unions and professional bodies must create the support and organizational structures that can help teachers grow in their careers and meet the needs of students. While education reform is difficult to co-ordinate across regional and local jurisdictions, there are many examples of successful teacher development efforts around the world that have improved student learning outcomes.

In Singapore, beginning teachers participate in induction programs at the national and school levels. At the national level, they attend the three-day Beginning Teachers' Orientation Programme, which is conducted by the Ministry of Education and emphasizes the importance of the role of teachers in nurturing the whole child. It enables beginning teachers to consolidate their learning at the teachers institute and inducts new teachers into Singapore's teaching fraternity in the areas of professional beliefs, values and behaviors. Additionally, during the first two years of teaching, further guidance is provided to beginning teachers via the Structured Mentoring Programme, which enables teachers to learn practical knowledge and skills from assigned mentors who are experienced teachers at the school. The school has the autonomy to customize the program according to the learning needs of new teachers.

In Canada, the Ontario Teacher Leadership and Learning Programme, launched in 2007, supports teachers' self-directed professional development and leadership skills. They have the opportunity to share these skills with colleagues through conferences and storefronts, a virtual platform and in collaborative activities within each school involved. The program was developed in partnership between the Ontario Teachers' Federation and the Ontario Ministry of Education, and it rests on teachers designing and evaluating their own innovations and sharing what they have learned. Each funded project lasts 18 months and hundreds of teachers have participated. An evaluation of the program found that over 70% of the respondents reported that they have acquired new knowledge, improved their own practice, and developed leadership skills in facilitation and project management.

Based on these examples and many more, the OECD's Teaching Excellence through Professional Learning and Policy Reform: Lessons from around the World identifies the following actions needed to make education reform happen:

1. Strive for consensus about the aims of reform without compromising the drive for improvement.
2. Engage teachers not just in implementing reform but in designing it too.
3. Experimenting with policies on a smaller scale first can help build consensus on implementation and, because of their limited scope, can help overcome fears and resistance to change.
4. Backing reforms with sustainable financing will always be central. This is not only about money; it is crucial to build professional capacity and support.
5. All political players and stakeholders need to develop realistic expectations about the pace and nature of reforms to improve outcomes.
6. Build partnerships with education unions: putting the teaching profession at the heart of education reform requires dialogue between governments and unions.

For more information about the education policies and practices that help ensure teaching excellence, see:

[*Teaching Excellence through Professional Learning and Policy Reform: Lessons from Around the World*](#)

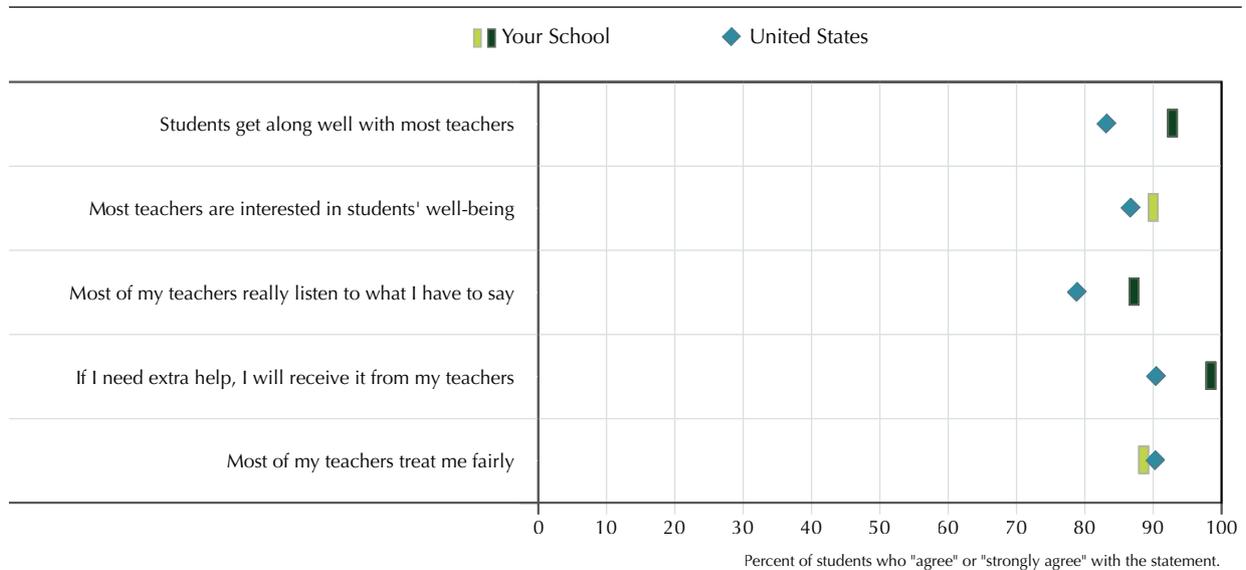


Teacher-student relations

Along with the classroom disciplinary climate, teacher-student relations are a key element of a school's learning environment and are positively associated with student engagement. Figure 3.3 shows to what extent students at your school agree with several statements regarding their relationship with their teachers. These statements reflect whether they get along well with most of their teachers, whether they feel that their teachers are interested in their well-being, whether the teachers listen to what the students have to say, whether the teachers provide extra help when needed and whether the students feel that teachers treat them fairly.

To contextualize your school's results, the figure also shows how students in other schools in the United States responded to the same questions in PISA 2012. As with similar figures, when comparing the teacher-student relations at your school to those of students in other schools, the darker-toned markers indicate whether the responses for students at your school are statistically significantly different from those of students in the United States who participated in PISA 2012.

Figure 3.3 ■ **Teacher-student relations in mathematics lessons at your school and in the United States in PISA 2012**



Note: Values for your school that are statistically significantly different from your country are marked in a darker tone

Teacher-student relations and mathematics performance

PISA results show that more positive teacher-student relations are, on average, associated with greater student engagement. Students who reported positive teacher-student relations are less likely to arrive late for school, skip classes or days of school than those who reported a weak sense of belonging and hold negative attitudes towards school.

In the United States in PISA 2012, students, on average, reported a teacher-student relations index of 0.2, which is higher than the OECD average of 0.0. The bottom quarter of students in terms of teacher-student relations reported an average index value of -0.9 and has a mean performance in mathematics of 446. In contrast, the top quarter of students in terms of teacher-student relations reported an average index value of +1.6 and has a mean performance in mathematics of 499. In other words, a student in the United States who is in the bottom quartile of teacher-student relations is 1.4 times more likely to also be in the bottom quartile in mathematics. This relationship between a student's reported teacher-student relations and his/her mathematics performance is stronger than the OECD average (1.2 times more likely).



Box 3.3 **The role of teacher motivation in teacher-student relations**

Motivation is a complex construct that can be defined as “the process whereby goal-directed activity is instigated and sustained” (Schunk, Pintrich, & Meece, 2008, p. 4), suggesting that motivation should be inferred from actions such as choices and effort rather than outcomes. In the education context, teacher motivation encompasses many factors including self-efficacy, values, intrinsic orientations and different types of goals.

Many researchers are focusing on learning more about the interplay between teacher-student relations and teacher motivation. For example, Holzberger et al. found a positive correlation between teacher self-efficacy and student-reported instructional practices their teachers engaged in, which encompassed teacher-student relationships (Holzberger, Phillipp, & Kunter, 2014). Another study by Watt and Richardson uncovered links between both teacher abilities and social motivations, with both having high expectations for students and also forming positive relationships with them (Watt & Richardson, 2014). Some evidence suggests that when teachers feel it is their responsibility to establish these positive relationships, students report higher teacher enthusiasm and teachers may be less likely to engage in differential treatment of students, such as prioritizing high-achieving over low-achieving students (Lauerman, 2014).

Past PISA reports underline the importance of these relationships, as positive teacher-student relationships tend to be correlated with student academic as well as emotional outcomes.

To read more about teacher motivation and teacher-student relations, see:

[*Teacher motivation research and its implications for the instructional process*](#)

[*ITEL Teacher Knowledge Survey*](#)

STUDENTS' READING HABITS AND THE RELATIONSHIP WITH PERFORMANCE

PISA results have shown that two factors are closely associated with performance in reading:

- Students who read a wide variety of materials for enjoyment are the most proficient readers. Although students who regularly read fiction tend to be high-performing, those who read a wider variety of materials for enjoyment achieve the highest scores in PISA. To assess this factor:

Students were asked to indicate how often they read magazines, comic books, fiction (novels, narratives and stories), non-fiction and newspapers because they want to. They could indicate that they read each type of material “never or almost never,” “a few times a year,” “about once a month,” “several times a month” and “several times a week.”

- Students who are highly aware of the most effective learning strategies to understand, remember and summarize information are more proficient readers than those students with low levels of effective learning strategies. To assess this factor:

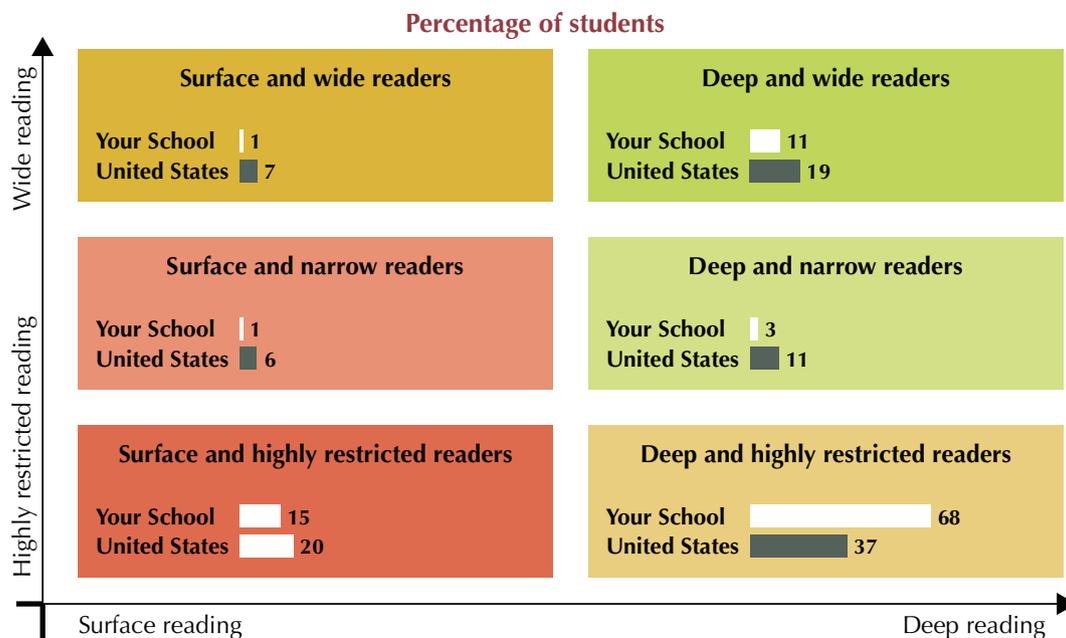
Students were asked to specify to what extent they believe that eleven reading strategies are effective, including strategies such as “I quickly read through the text twice,” “After reading the text, I discuss it with other people” and “I underline important parts of the text.” Student awareness of what strategies are the most effective was established by comparing the rating of students with those of international reading experts.



Figure 3.4 describes six types of reader profiles that consider students' reading habits and their understanding of effective learning strategies, building on the evidence of the strong association between these two factors and students' reading proficiency. Students who are "deep and wide readers" (the top-right corner on the figure) have a deep understanding of the most effective learning strategies and they also read a wide variety of materials for enjoyment. In the opposite corner of the figure, students who are "surface and highly restricted readers" have a poor understanding of the most effective learning strategies and they spend little time reading any type of material for enjoyment.

Figure 3.4 ■ Reader profiles at your school and in the United States in PISA 2009

	Surface	Deep
Wide	<p>Surface and wide readers</p> <p>These students have low levels of awareness about effective strategies to understand, summarize and remember information, but they read a wide variety of materials regularly, including fiction and non-fiction books. In the United States, 7% of 15-year-old students are surface and wide readers.</p>	<p>Deep and wide readers</p> <p>These students are those who have high levels of awareness about effective learning strategies and who also read all sorts of materials, including fiction and non-fiction books for enjoyment. In the United States, 19% of students are deep and wide readers.</p>
Narrow	<p>Surface and narrow readers</p> <p>Students with this reader profile have low levels of awareness about effective learning strategies and their reading habits are narrow in the sense that they do not read a wide variety of materials, but they do read some materials regularly for enjoyment. This profile accounts for 6% of students in the United States.</p>	<p>Deep and narrow readers</p> <p>Students in this group also have high levels of awareness about effective learning strategies, but their reading habits are more <i>narrow</i> than those of <i>deep and wide readers</i>. This reader profile accounts for 11% of students.</p>
Highly restricted	<p>Surface and highly restricted readers</p> <p>Students in this group have low levels of awareness about effective learning strategies and they spend little time reading any type of printed material for enjoyment. In the United States, 20% of students are surface and highly restricted readers.</p>	<p>Deep and highly restricted readers</p> <p>These students are aware of effective learning strategies, but they do not regularly read any printed material for enjoyment. With 37% of students being deep and highly restricted readers, this profile accounts for the largest number of students in the United States.</p>



Note: Values that are statistically significantly different from your school are marked in a darker tone.



For each reader profile, the figure shows the percentage of students at your school in the category and the percentage of students across the United States as measured by PISA 2009. Darker bars indicate that the percentage of students of a particular reader profile at your school is statistically significantly different from the percentage of students in your country.

How well different types of students read

To better understand the relationship between reading performance and reading habits, Figure 3.5 shows the mean reading performance for students in each reader profile at your school, in the United States and in other countries and economies that participated in PISA 2009. On the right-hand side of the figures are the corresponding proficiency levels at which the students are reading.

Across OECD countries, students in the group of “deep and wide readers” tend to show higher reading performance than those in the other reader profiles, with an average score of 546. These students have high levels of awareness about effective learning strategies and read varied types of materials regularly, including fiction and non-fiction books. In contrast, students who are grouped in one of the three profiles of “surface” readers in the figures have less awareness of effective learning strategies, which is reflected in their lower reading performance on average (e.g., surface and highly restricted readers have an average reading score of 427 across the OECD). In the United States, students in the group of “deep and wide readers” have an average reading performance of 539 points, compared with those in the group of “surface and highly restricted readers” with an average performance of 458.

Box 3.4 Using OECD Test for Schools to foster reading and critical thinking skills

Chantilly High School has always performed well on standardized assessments. In 2012, they participated in the OECD Test for Schools to determine how they compare with schools globally. The results identified some unexpected realities about students’ abilities to analyze and apply information, their reading skills and behaviors and teacher-student relations. The school used the results as a framework from which to develop school-improvement goals and a school-wide focus on critical reading, critical thinking and strengthening relationships in the school.

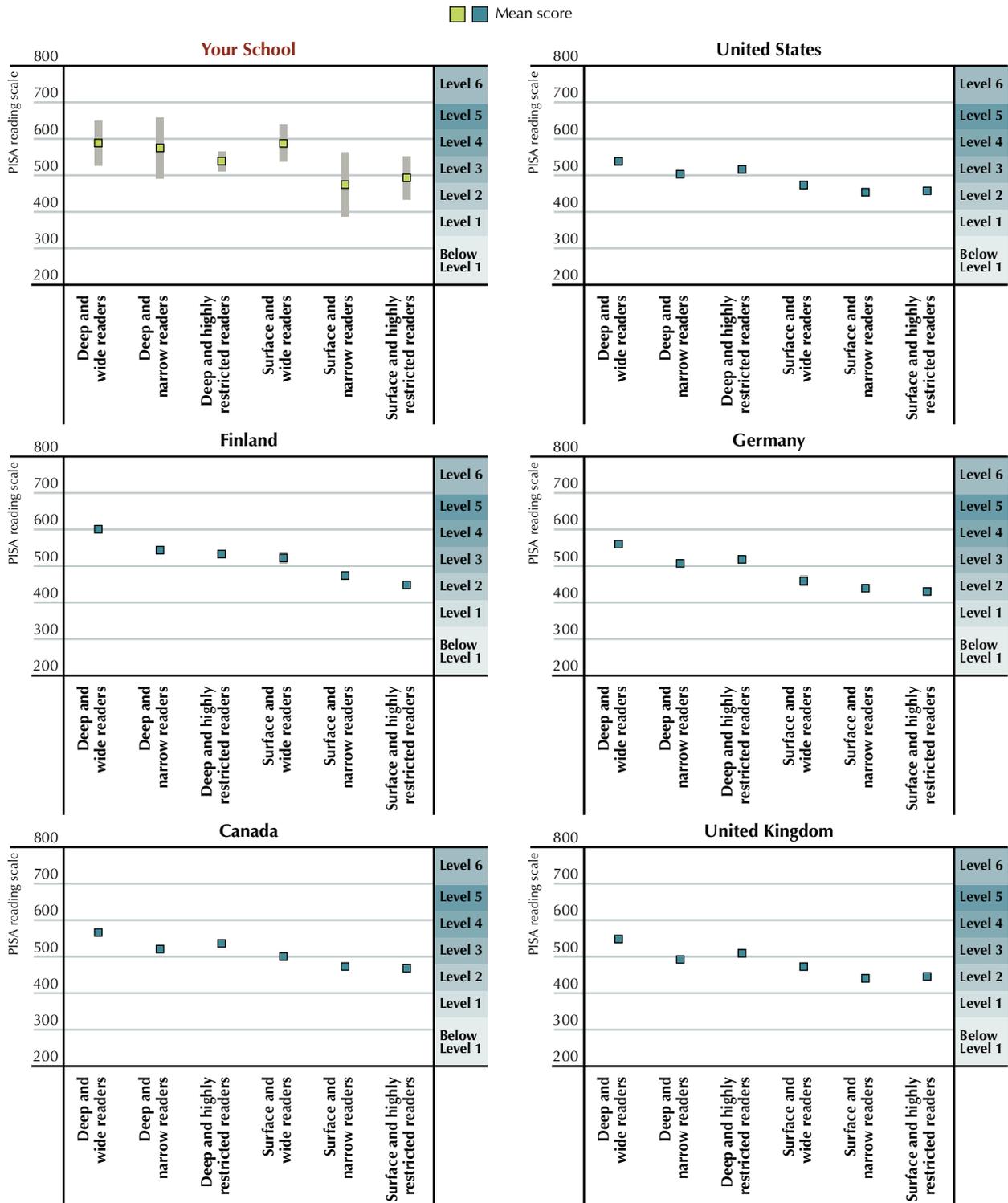
To achieve its newly set goals, Chantilly purchased a research-based reading program, created a fiction book room, added classroom libraries and selected a school-wide common book for summer reading. The school also hired a resource teacher to support teachers in the classroom, facilitate collaboration among teachers, model instructional strategies and demonstrate how to develop higher order questions.

Critical reading and critical thinking initiatives were implemented across content areas. The English department standardized its assessments by using rubrics that promote deep reading, math and science tests no longer focused on multiple choice content but rather included more short answer questions that required critical thinking. Additionally, the principal included critical thinking tips in the weekly newsletter, which were successful in prompting teachers to assess the ways in which they can integrate critical thinking into classroom instruction. Teachers also shared strategies and successful practices with one another.

Lastly, Chantilly looked for ways to support teachers in strengthening relationships and engagement with students. At the start of the year, teachers were given advice about how to build relationships with students and the school scheduled more events and activities among the faculty to enhance morale and provide opportunities for teachers to socialize outside of the school setting. As a result of these efforts, Chantilly has seen more deliberate professional development planning around its areas of focus, more intentional instructional planning on teachers’ part to support the three school foci and school staff reporting improved working conditions.



Figure 3.5 ■ How well different types of readers read at your school, in your country and internationally in PISA 2009



Note: Shaded bars above and below the mean scores represent a 95% confidence interval. In other words, in the case of the results for your school, we are 95% confident that if your school were to administer the test several times, your mean performance scores would fall within this confidence interval.



STUDENTS' ATTITUDES TOWARDS MATHEMATICS AND THE RELATIONSHIP WITH PERFORMANCE

The focus of the next set of figures shifts from reading to mathematics. The figures seek to answer such questions as: How motivated are students at your school to learn mathematics? How confident are they in their abilities to solve difficult mathematics tasks? How are students' motivation and self-belief related to learning outcomes in mathematics?

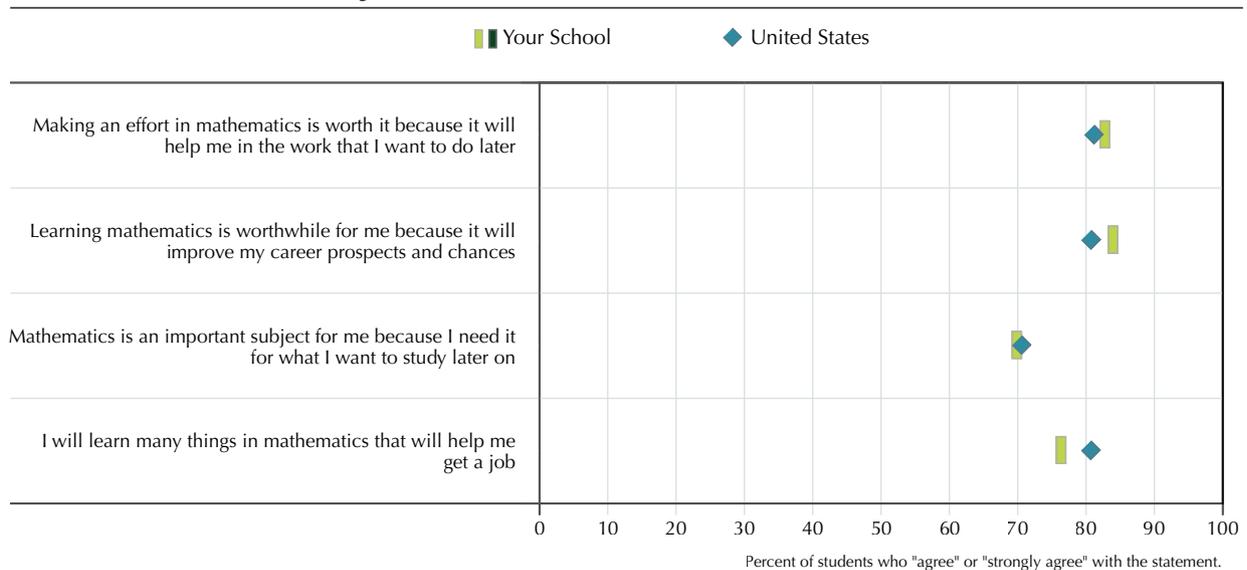
Instrumental motivation in mathematics

Students at your school responded to four questions regarding their *instrumental motivation* to learn mathematics, or how important they believe mathematics will be in their own lives as they move on to further studies and the labor market. Instrumental motivation can be an important predictor for course selection, career choice and job performance (Eccles, 1994). The results of PISA 2012, in which the main focus was mathematics, show that students who reported low levels of instrumental motivation to learn mathematics do not score as highly in mathematics as those who reported that mathematics will affect their future education and career prospects.

Figure 3.6 shows how your students responded to statements about instrumental motivation in mathematics and how those responses compare with those of other students in the United States. The markers represent the percentage of students who *strongly agree* or *agree* with each statement about instrumental motivation in mathematics. As in previous figures, darker-toned markers indicate that your school's responses are statistically significantly different from the responses of other students in the United States.

Across the United States, 81% of students agree or strongly agree that "making an effort in mathematics is worth it because it will help me in the work that I want to do later"; 80% agree or strongly agree that "learning mathematics is worthwhile for me because it will improve my career prospects and chances"; 70% agree or strongly agree that "mathematics is an important subject for me because I need it for what I want to study later on"; and 80% agree or strongly agree that "I will learn many things in mathematics that will help me get a job."

Figure 3.6 ■ **Students' instrumental motivation in mathematics at your school and in the United States in 2012**



Note: Values for your school that are statistically significantly different from your country are marked in a darker tone



As mentioned previously, PISA results show that instrumental motivation in mathematics can be related to performance in mathematics. In the United States in PISA 2012, students, on average, reported an instrumental motivation in mathematics index of 0.1. The bottom quarter of students in this index reported an average value of -1.1 and has a mean performance in mathematics of 470. In contrast, the top quarter of students in terms of instrumental motivation in mathematics reported an average index value of +1.4 and has a mean performance in mathematics of 510. A change in one unit of instrumental motivation in mathematics in the United States is associated with a change of 15 points in mathematics performance in the PISA scale.

Students' self-efficacy in mathematics

Successful learners often believe in their own *self-efficacy*, or how confident they are in their ability to solve tasks related to mathematics. In fact, students' self-efficacy is one of the strongest predictors of their performance, explaining on average 29% of the variance in mathematics performance across OECD countries in PISA 2012.

One might ask if students' beliefs about their abilities simply mirror their performance. However, research shows that confidence helps to drive learning success, rather than simply reflecting it. Students need to believe in their own capacities before making the necessary investments in learning strategies that will help them achieve higher performance (Zimmerman, 1999). Across OECD countries in PISA 2012, greater self-efficacy in mathematics is associated with a 49 point increase on the PISA mathematics scale, more than a full year of schooling.

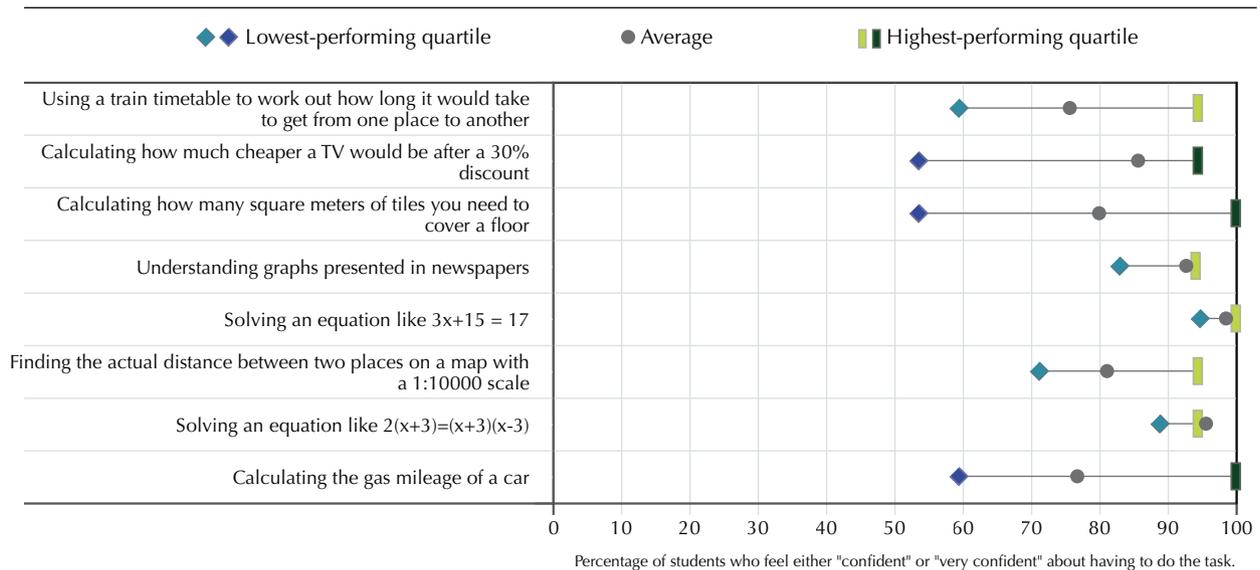
Figure 3.7 shows how students at your school responded to eight items about their *self-efficacy in mathematics*. They were asked how confident they would feel if asked to complete each of the mathematics tasks mentioned in the figure. The values in the figure represent the percentage of students who responded they are *very confident* or *confident* about having to do the task.

To illustrate the relationship between self-efficacy in mathematics and performance in mathematics, separate results are shown for the highest- and lowest-performing students in mathematics. Green markers represent the responses for the top quartile and blue markers represent the bottom quartile of students from your school in terms of mathematics performance. If the responses of the highest- and lowest-performing student quartiles are statistically significantly different from each other, then the markers appear in a darker tone. A circle represents the average value of student responses at your school for that item.

In the United States in PISA 2012, students, on average, reported a self-efficacy in mathematics index of 0.1. The bottom quarter of students in this index reported an average value of -1.0 and has a mean performance in mathematics of 424. In contrast, the top quarter of students in terms of self-efficacy in mathematics reported an average index value of +1.5 and has a mean performance in mathematics of 553. A change in one unit of self-efficacy in mathematics in the United States is associated with a change of 50 points in mathematics performance in the PISA scale. Self-efficacy in mathematics is a strong predictor of performance and explains 31% of the variance in mathematics performance in the United States, which is higher than the OECD average of 29%.



Figure 3.7 ■ Students' self-efficacy in mathematics at your school among the highest - and lowest - performing students



Note: Darker colored markers indicate that the difference between the high and low markers is statistically significantly different from one another.

Box 3.5 Attitudes towards mathematics & anxiety

Math anxiety is an example of how competence in mathematics is complex and not only dependent on cognitive abilities, but also on attitudes and emotional characteristics. Students who suffer from math anxiety tend to panic when they are confronted with numbers, not just in mathematics class but also more generally, such as when they are asked to tell the time. These students are more likely to avoid mathematics-related activities and exposure to numbers in general, which can reinforce poor performance.

Math anxiety can arise in various different ways. It can be rooted in poor basic numerical and spatial competences, or develop due to social factors such as being taught by teachers who themselves suffer from math anxiety. There is also a gender bias in math anxiety, in that female students more typically suffer from it than male students. This can be further reinforced by cultural stereotypes such as “boys are good at math and girls at reading.”

A number of countries and economies acknowledge the relationship between attitudes towards mathematics and exposure to mathematics, and have included the development of positive attitudes towards mathematics as one of the goals of their mathematics curricula.

Korea revised its mathematics curriculum, first in 2007 and then in 2011, to address students' attitudes towards mathematics. Previously, Korean curricula had fostered the cognitive aspects of mathematics teaching, while attitudes towards mathematics were considered as secondary, albeit instrumental, for developing students' cognitive abilities. Results from PISA confirmed this, as they showed that Korean students consistently displayed high performance in mathematics and problem solving, but had low interest and self-confidence in mathematics. As part of the 2011 revision of the mathematics curriculum, some content was eliminated or rearranged to significantly reduce students' study load, creating some time for creative and self-directed activities to foster interest in and motivation to learn mathematics (Lew et al, 2012).

In Singapore, attitudes towards mathematics are one of the five key elements of the mathematics framework that is at the heart of its mathematics curriculum (Ministry of Education of Singapore, ...



2012). The framework believes mathematics education should enable students to develop positive attitudes towards mathematics, including beliefs about its usefulness, interest and enjoyment in learning mathematics, confidence in using mathematics and perseverance in solving problems.

For more information, see:

[The Neuroscience of Mathematical Cognition and Learning](#)

[Equations and Inequalities](#)

STUDENTS' ATTITUDES TOWARDS SCIENCE AND THE RELATIONSHIP WITH PERFORMANCE

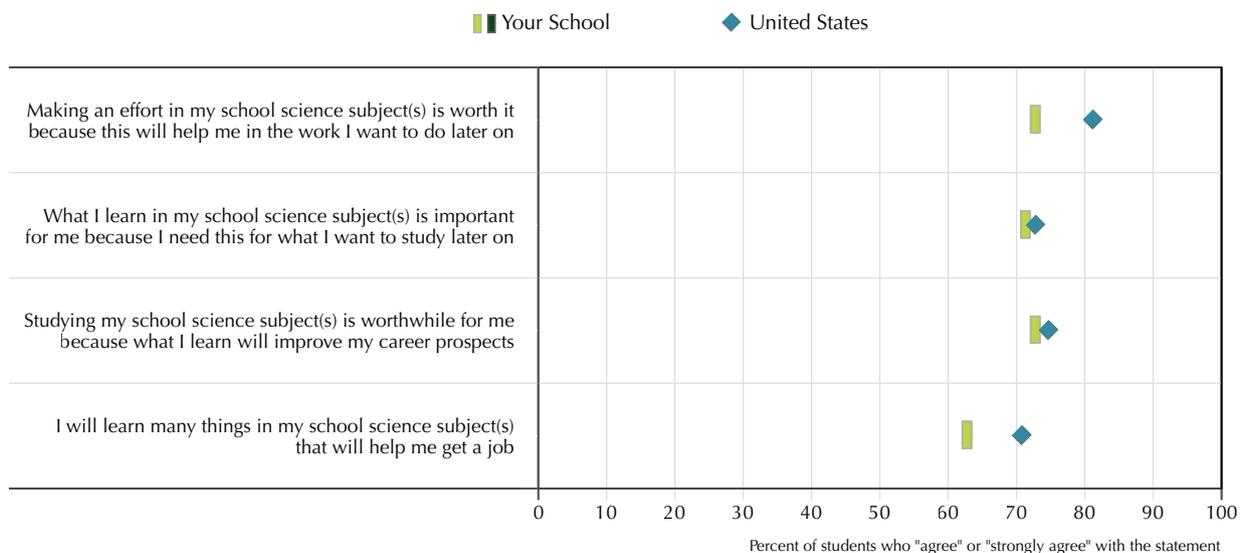
In this last set of figures, the focus shifts to students' motivation and self-efficacy in science, the main subject area in PISA 2015.

Instrumental motivation in science

As with mathematics, instrumental motivation to learn science refers to what extent students believe science is relevant for their future careers and studies (Wigfield & Eccles, 2000) and is consistently related to science performance. For example, in PISA 2015, students from OECD countries who were in the top quartile of their country in terms of instrumental motivation in science scored, on average, 25 points higher in science than students who were in the bottom quartile.

Figure 3.8 shows how students at your school responded to four questions regarding their instrumental motivation to learn science. The questions focus on how important they see science for their own lives as they move on to further studies and the labor market. The values in the figure represent the percentage of students who *strongly agree* or *agree* with statements about their instrumental motivation. Green markers represent the average responses from students in your school. Blue markers represent the average responses from students in the United States in PISA 2015.

Figure 3.8 ■ **Students' instrumental motivation in science your school and in the United States in PISA 2015**



Note: Values for your school that are statistically significantly different from your country are marked in a darker tone



Across the United States, 81% agree or strongly agree that “making an effort in my school science subject(s) is worth it because this will help me in the work I want to do later on”; 72% agree or strongly agree with “What I learn in my school science subject(s) is important for me because I need this for what I want to study later on”; 74% agree or strongly agree that “studying my school science subject(s) is worthwhile for me because what I learn will improve my career prospects”; 70% agree or strongly agree with “I will learn many things in my school science subject(s) that will help me get a job.”

As mentioned above, students and schools with greater instrumental motivation in science tend to perform higher in science. Across the OECD, PISA 2015 results show a positive relationship between instrumental motivation in science and science performance. The bottom quartile of students in this index scores, on average, 493 in science, while the top quartile of students in this index scores 518. Overall, across OECD countries, a one unit increase in the instrumental motivation in science index is associated with a nine point increase in science performance. The United States is one of nine OECD countries (out of 35 in total) in which this relationship is not observed to a statistically significant degree. Nevertheless, the strong international evidence about the link between instrumental motivation in science and science performance suggests that schools might consider focusing on the former in order to improve the latter.

Students’ self-efficacy in science

Improvements in performance and in self-confidence usually mirror each other: students with higher academic abilities are more confident and, in turn, students with higher confidence have the drive to improve their abilities. Students with lower self-efficacy, in spite of their abilities, risk underperforming in science (Bandura, 1997) and may not exert the necessary effort to accomplish various tasks in science class, which may further undermine performance. In PISA 2015, students from OECD countries who were in the top quartile in their country in terms of self-efficacy in science scored 68 points higher, on average, than students from the bottom quartile in their country in terms of self-efficacy in science.

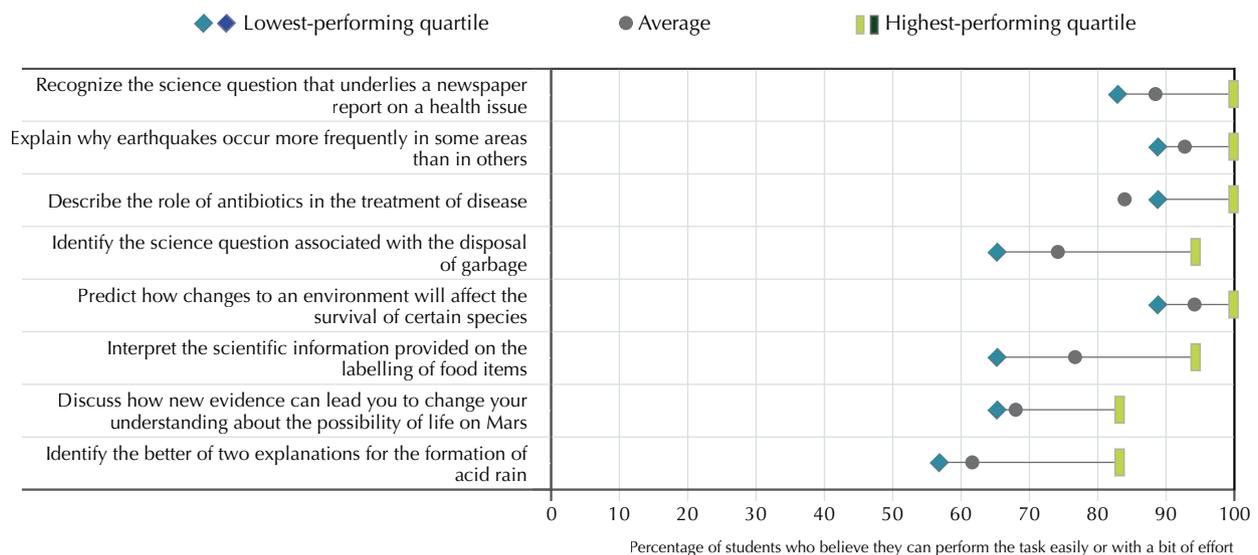
Figure 3.9 shows how students at your school responded to eight questions regarding their self-efficacy in science. They were asked how confident they feel about having to do each of the science tasks mentioned in the figure. The values reported by the figure represent the percentage of students who responded they can perform the tasks *easily* or *with a bit of effort*.

To illustrate the relationship between self-efficacy in science and performance in science, responses for the highest- and lowest-performing student quartiles from your school are shown as differently colored markers in the figure. A circle represents the average value of your school. If the responses of the highest- and lowest-performing student quartiles are statistically significantly different, then the markers appear in a darker tone.

Overall, at least half of all students in the United States believe they can accomplish all the specified science tasks “easily” or “with a bit of effort.” The task that inspires the most confidence in the United States is, “Explain why earthquakes occur more frequently in some areas than others.” Over three-quarters (78%) of students in the United States believe they can complete this task “easily” or “with a bit of effort.” The task that students in the United States feel least confident in completing successfully is, “Identify the better of two explanations for the formation of acid rain.” Only 55% of students believe they can do this “easily” or “with a bit of effort.”

In the United States in PISA 2015, students, on average, reported a self-efficacy in science index of 0.3. The bottom quarter of students in this index reported an average value of -1.2 and have a mean performance in science of 471. In contrast, the top quarter of students in terms of self-efficacy in science reported an average index value of $+1.9$ and have a mean performance in science of 536. A change in one unit of self-efficacy in science in the United States is associated with a change of 17 points in science performance in the PISA scale, and students in the bottom quartile of this index are roughly 1.5 times as likely to be in the bottom quartile of science performance.

Figure 3.9 ■ **Students' self-efficacy in science at your school among the highest- and lowest- performing students**



Note: Darker colored markers indicate that the difference between the high and low markers is statistically significantly different from one another.

Box 3.6 Using the OECD Test for Schools to foster self-efficacy, motivation and better teacher-student relations

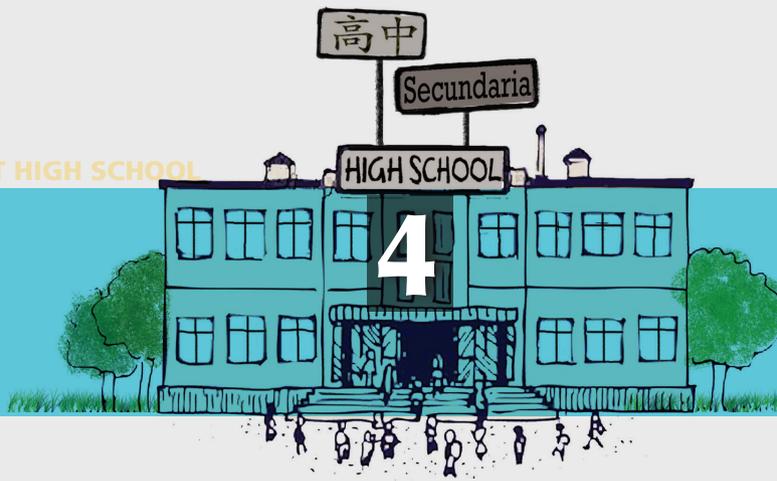
The School of Science and Engineering (SEM) participated in the OECD Test for Schools 2012 pilot and again during the 2013-2014 administration. The results from both years provided valuable information about the areas in which SEM could improve.

While SEM students performed quite well in all content areas, the school implemented practice shifts in the classroom to move more students to proficiency Levels 5 and 6 in mathematics, reading and science. There was a change regarding mathematics lessons, which included moving away from grading homework assignments and towards assessing content mastery with daily quizzes. The school also implemented new problem-solving techniques to improve students' critical thinking and problem-solving skills.

SEM's results also demonstrated a very strong school climate, but there was still room for improvement, specifically within the areas of student self-efficacy, student motivation, and teacher-student relations. For example, ten percent of students did not see a long-term role for mathematics in their lives, students reported the lowest self-efficacy for tasks related to life skills (e.g., reading a train timetable or using a map) and teacher-student relations were weaker with respect to how teachers engaged with and were available for students. In response, SEM created student surveys to collect feedback about teachers, provided more opportunities for one-on-one time for teachers and students, added more real-world problems to math courses and assigned students to teachers based on student performance and student interests.

Overall, SEM's participation in the OECD Test for Schools drove a focus on data-driven practices. During common planning, instructional coaches shifted discussions from operational and procedural items to the systematic use of item-level, data analysis on all assessments. The use of this data helped to inform lesson plan design, instructional calendars and curriculum redesign. With a focus on data, teachers developed personal professional development plans and were encouraged to attend any conferences they felt would strengthen their content knowledge or quality of instruction.

Source: America Achieves.



Your School's Results in an International Context

This section places your school's performance in the context of countries and economies from around the world. Examples of how education systems have addressed low performance and fostered the talent of students are included throughout this section.



The *OECD Test for Schools* reports results in reading, mathematics and science on the PISA scales. This allows your school to compare its results to those of students and schools in all countries and economies that participated in PISA 2015. Throughout this section, several comparison countries and economies have been selected in order to provide an international benchmark for understanding your school's results, as described in Box 4.1.

Box 4.1 **Education performance in PISA around the world: International comparison as a tool for success**

To make comparisons more meaningful, a group of countries and economies is used for most of the comparisons presented in the report. The education systems of this group of countries and economies are the highest-performing or have undergone significant reforms and have seen rapid improvement in recent years. Therefore, they represent a wide range of education systems and models as well as diverse policies and practices that are relevant for school-improvement efforts.

In many countries, better performance results have been driven largely by reducing the percentage of students who perform at the bottom end of the performance distribution – below Level 2 – indicating progress towards greater equity in learning outcomes. Portugal and Qatar for example, reduced their share of low-performing students in science while also increasing the number of top-performing students. Similar trends in mathematics were also noted in some countries and economies such as Sweden which also saw an increase in the numbers of students attaining baseline and high levels of proficiency. Sweden saw the percentage of students who scored below Level 2 shrink by six percentage points, from 27% to 21% between 2012 and 2015, with a simultaneous increase of students who scored at or above Level 5 by more than two percentage points. Norway saw an improvement in the minimum proficiency achieved by 90% of its students in mathematics and also managed to reduce the gap between its highest- and lowest-performing students.

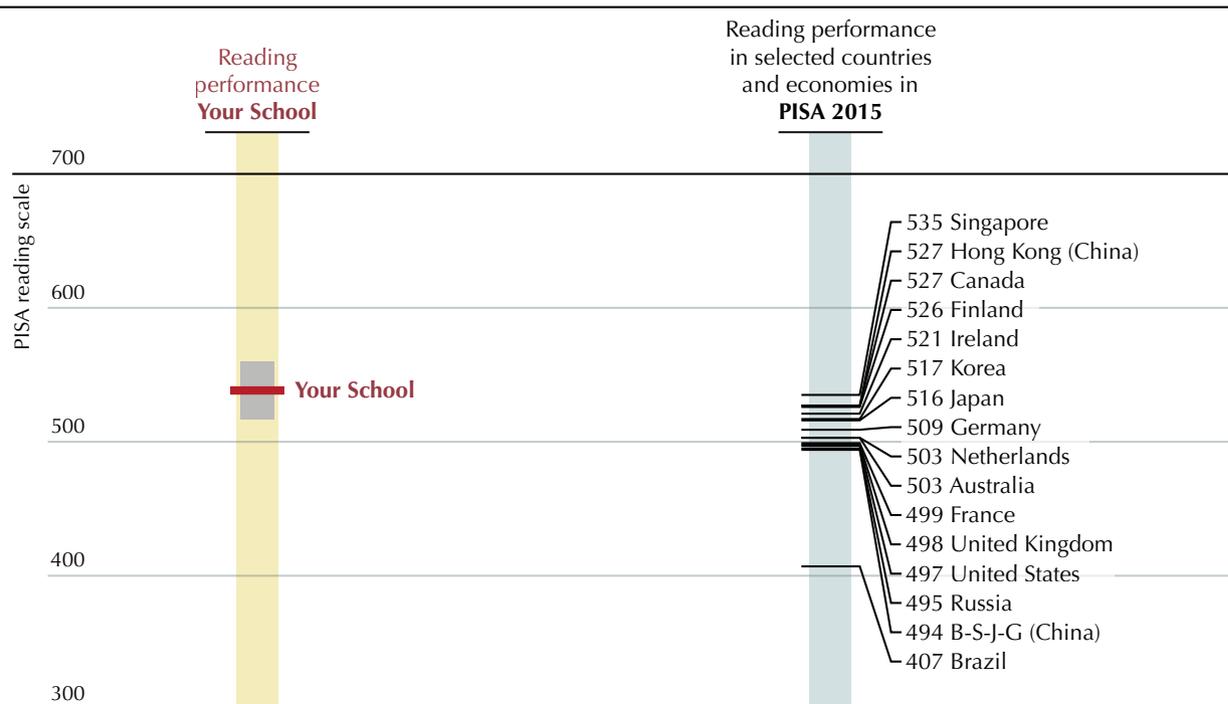
Depending on your school's national context, the comparison countries selected may not include all of the ones in this text box or in other parts of the report. The lessons that can be learned from these countries' experiences, nonetheless, are valuable and worth noting.

YOUR SCHOOL'S PERFORMANCE IN READING IN AN INTERNATIONAL CONTEXT

Figure 4.1 shows your school's performance on the PISA reading scale (along the vertical axis on the left-hand side of the figure) with a 95% confidence interval around your school's mean score. On the right-hand side of the figure, the average results in reading in PISA 2015 for a group of comparison countries and economies are also presented.



Figure 4.1 ■ How students at your school compare with the average of students from selected countries and economies in reading in PISA 2015



Note: Shaded bars above and below the mean scores represent a 95% confidence interval. In other words, in the case of the results for your school, we are 95% confident that if your school were to administer the test several times, your mean performance scores would fall within this confidence interval.

Although the above figure shows overall student performance, large variations of student performance exist behind these average scores. Thus, to make meaningful comparisons using your school's reading performance, it is also useful to look at how your school compares with different groups of schools internationally.

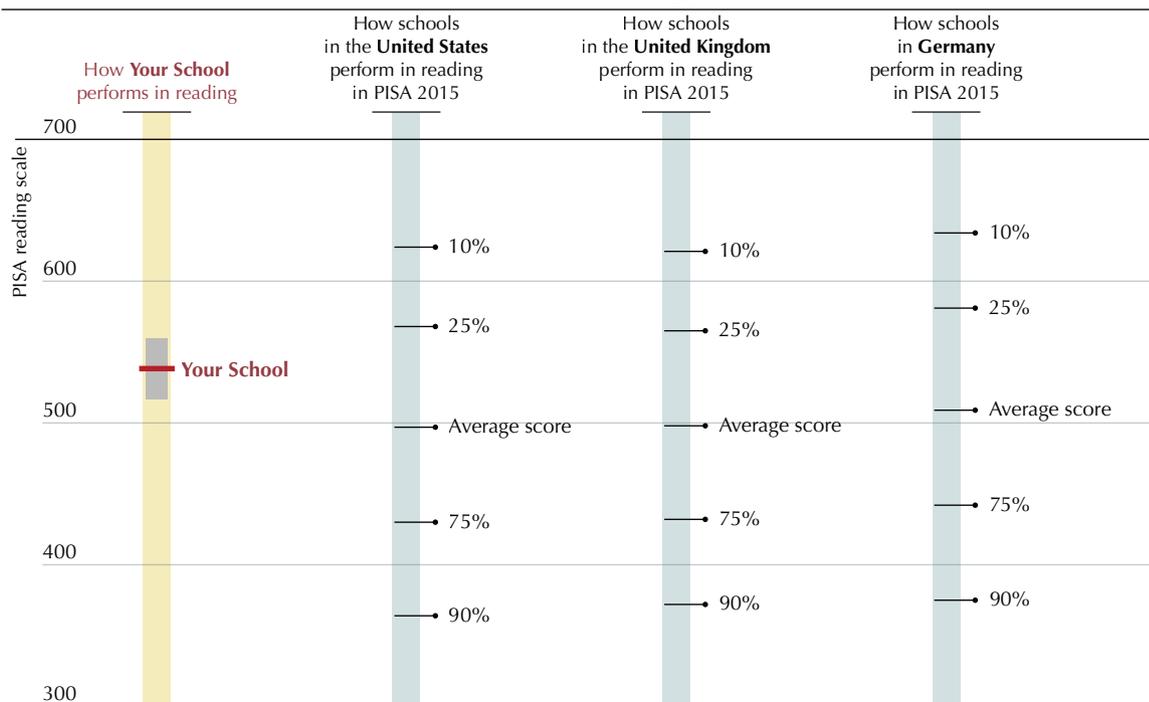
In Figure 4.2, your school's mean score is again presented on the PISA reading scale along with a 95% confidence interval. To the right, the performance of groups of schools that participated in PISA 2015 from the United States, Germany and the United Kingdom are presented.

For each comparison country or economy, five horizontal markers show how different groups of schools performed. The first marker at the top of each scale shows the cut-off score above which the top 10% of students in schools in that country performed.¹ The second marker from the top of the scales represents the score above which the top 25% of students in schools performed.

The third marker for each of the scales shows the average score in a country or economy. The two lower markers for each country represent the points above which 75% and 90% of students in schools perform, respectively. Given the differences in student performance between Germany and the United Kingdom, your school's mean scores will correspond to very different percentiles of performance within these countries and economies.

1. In this and other references to a specific percentage of students in schools, the number of schools is weighted by the number of enrolled students at those schools. In other words, the group of schools is composed of the top schools that, in total, enroll a specified percentage of the student population from a country or economy. For example, the top 10% of students in schools is composed of the top performing schools that, together, account for 10% of the student population of a country or economy.

Figure 4.2 ■ How your school compares with schools in other countries and economies in reading in PISA 2015



Notes: Shaded bars above and below the mean scores represent a 95% confidence interval. In other words, in the case of the results for your school, we are 95% confident that if your school were to administer the test several times, your mean performance score would fall within this confidence interval. For example, the legend “10%” refers to the highest performing schools that account for 10% of the total number of students in the country.

Box 4.2 Using the OECD Test for Schools for national collaboration and international comparison: Examples from Spain

A group of 15 schools from the Asociación de Colegios Privados e Independientes (CICAE), a network of independent schools in Spain, participated in the PISA-based Test for Schools (the name for the OECD Test for Schools outside of the United States) in 2016. The schools wanted to know how, as individuals and as a group, they compare with schools and education systems internationally. They were also interested in the specific content of the PISA framework, such as creatively applying knowledge and competencies in unknown situations, which is closely aligned with the skills the schools seek to develop in their students.

All 15 schools agreed to share their results openly and anonymously, without ranking, to stimulate conversation about how Spanish schools perform internationally. While the results were generally positive, they also revealed areas for improvement, particularly when looking at proficiency level distributions in comparison with school systems around the world. Furthermore, the schools recognized that, in the Spanish context, they were relatively advantaged in terms of their students' socio-economic status. Using their test results, they were able to focus more closely on comparisons with schools around the world that have similar socio-economic contexts.



The next figure locates your school's performance in the context of individual schools from other countries and economies in PISA 2015. Each bubble represents one school. Similar to the charts from Section 2 of this report, the scale on the left side of the figure (the y-axis) represents performance on the PISA reading scale. The scale on the bottom (the x-axis) of the figure refers to the socio-economic status of students as measured by the PISA index of economic, social and cultural status (ESCS). The scale shows average index values from -2.0 to +2.0 and is standardized such that a value of one equals a difference of one standard deviation from the OECD average of zero. As values increase from left to right, the average socio-economic status of students increases: they are more advantaged in terms of their socio-economic backgrounds. Thus, schools that are plotted towards the lower end of the scale (-1.5 for example) will appear on the left side of the figure, and one may conclude that students in these schools, on average, come from more disadvantaged backgrounds. Schools plotted with higher ESCS values, such as +1.0 or higher (towards the right side of the x-axis), serve students primarily from more advantaged backgrounds.

The diagonal lines on the figure indicate the relationship between socio-economic background and performance in each of the comparison countries and economies. Schools well above their country or economy's diagonal lines perform better than what would reasonably be expected given the socio-economic status of their students. Schools well below the lines perform not as well as what would reasonably be expected.

There are also two shaded areas in the figure. The horizontal shaded area represents the confidence interval around your school's score on the PISA scale. The vertical shaded area represents the confidence interval around your school's value on the ESCS index. Where they overlap represents the area in which your school's results would be expected to be found 95% of the time if the OECD Test for Schools were administered continuously in your school.

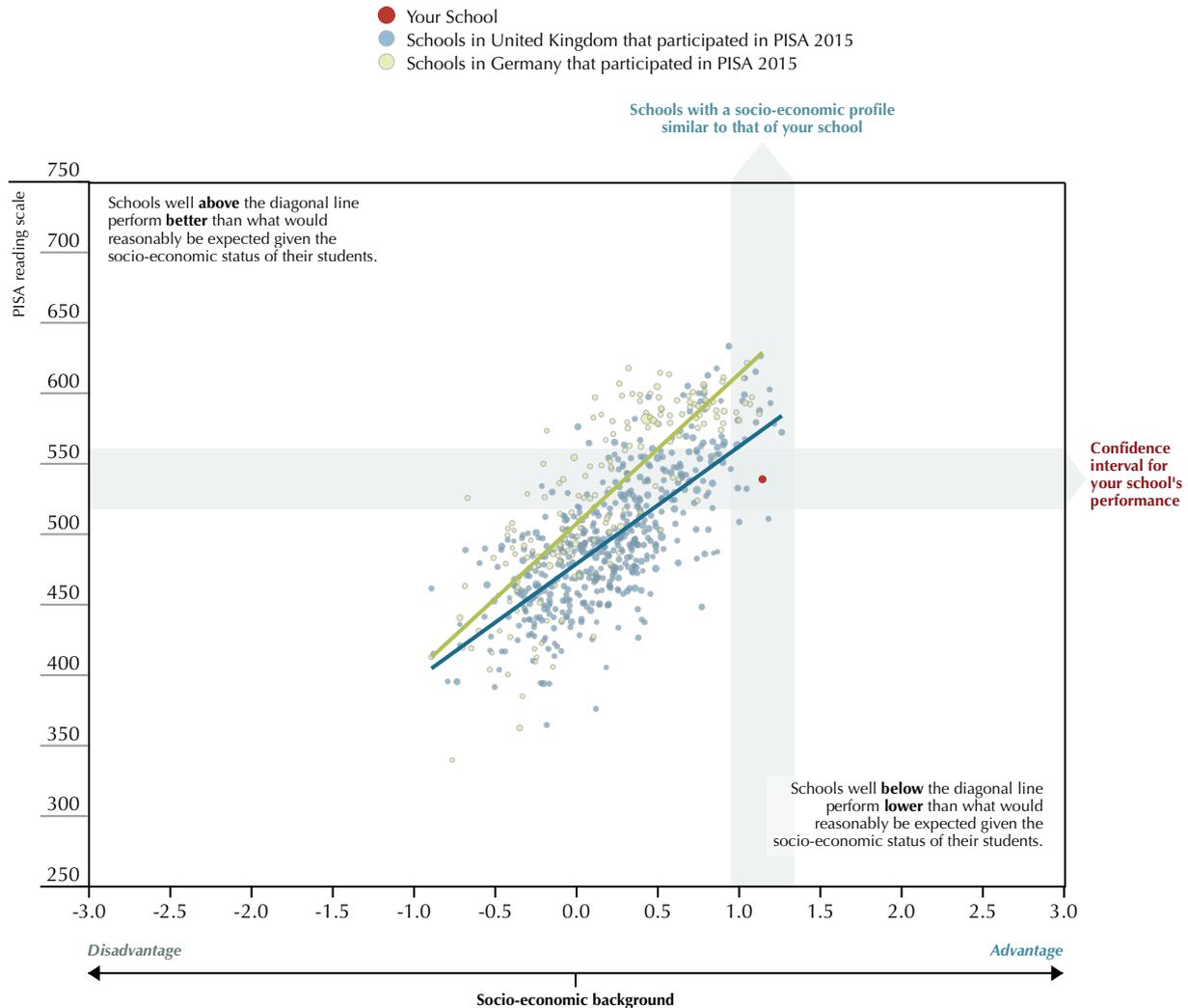
Several insights can be drawn from the information contained in this figure. First, focusing only on the comparison countries or economies, their diagonal lines can be compared to determine the size of their respective relationships between ESCS and student performance. A steeper line indicates a larger correlation between ESCS and performance (i.e., there would be large performance differences between schools with students from different socio-economic backgrounds). A flatter line indicates a smaller correlation (i.e., there would be small performance differences between schools with students from different socio-economic backgrounds).

Second, how close each country's or economy's schools are to their respective diagonal lines indicates the strength of the relationship between ESCS and performance. If schools are closely clustered around their country's or economy's line, then schools perform close to expectations given their students' socio-economic backgrounds. If schools are far away from their country's or economy's line, then schools' performance tends to be much higher or lower than would be expected given their students' socio-economic backgrounds.

The mean score of the United States in reading is 497. This is not statistically significantly different from the United Kingdom's score of 498, but is statistically significantly lower than Germany's average score of 509, which are also statistically significantly different from each other. This difference is reflected in the following figure. Germany's schools are, in general, positioned higher on the chart than the United Kingdom's schools, indicating higher performance. The regression line for Germany's schools, however, is steeper than that of the United Kingdom's schools. This suggests that socio-economic status in Germany has a larger effect on student performance than in the United Kingdom.

Your school's results can be compared with schools from these countries using the same methods described in Section 2 of this report. What would its relative performance be if it were located in one of these countries? How does its performance compare with schools from these countries that have students from a similar socio-economic background as yours (in the vertical shaded area)? Is your school achieving its level of performance with more or less advantaged students than schools from these countries (in the horizontal shaded area)?

Figure 4.3 ■ How your school's results in reading compare with schools in the United Kingdom and Germany in PISA 2015



Note: Size of the dot is proportional to the number of students enrolled at the school.

Student performance at your school across reading proficiency levels

The mean score for your school in reading is based on the average of the students who were tested. It is, however, important to look beyond this mean score and examine the distribution of student performance in your school. The *OECD Test for Schools* uses the PISA proficiency levels for this purpose.

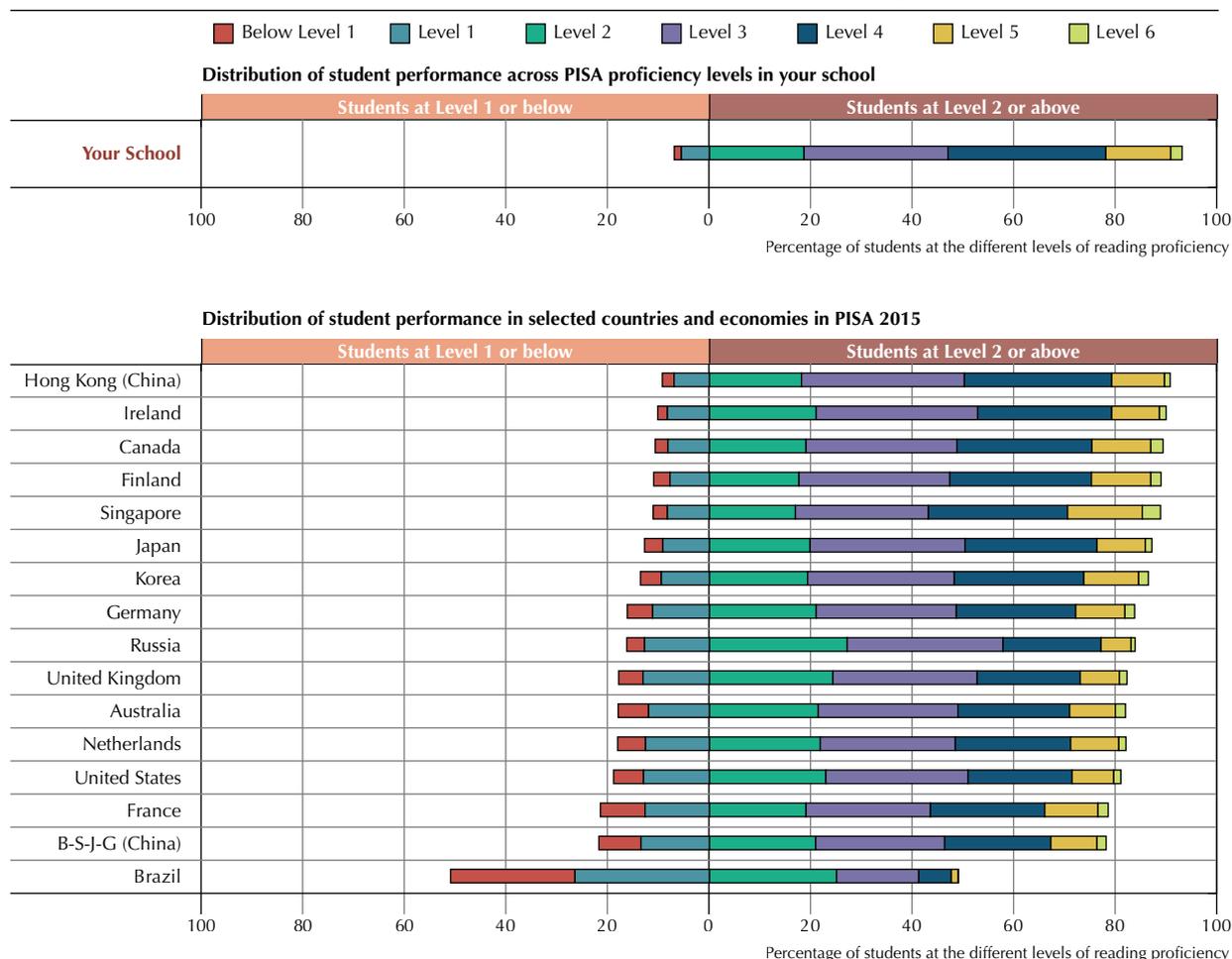
As discussed previously in Figure 2.5, students who reach proficiency Levels 5 and 6 are well on their way to becoming the skilled knowledge workers of tomorrow. Proficiency Level 2 is considered the baseline level at which students begin to demonstrate the reading skills and competencies that will allow them to participate effectively and productively in life. Students below this level, while not necessarily illiterate, do not show the basic proficiency necessary to ensure their success later in their lives.

Your school's distribution of student performance across proficiency levels is presented in Figure 4.4, which shows the percentage of 15-year-olds at your school who reached each of the six proficiency levels. The figure shows a dark vertical line at the 0% value of the x-axis such that the percentage of students at Level 1 or below is found on the left-hand side and the percentage of students at Level 2 or above is on the right-hand side.



For reference, the lower part of the figure shows the distribution of student performance across reading proficiency levels in selected countries and economies that participated in PISA 2015. Countries and economies in this part of the figure are ranked in ascending order according to the percentage of students below Level 2.

Figure 4.4 ■ **How the distribution of student performance at your school compares with student performance in selected countries and economies in reading in PISA 2015**



Note: Countries are ranked in ascending order of the percentage of students below 'Level 2'.

Box 4.3 Collaboration and professional development for teachers: Lessons from Japan

Teacher policies and learning opportunities are different around the world. In some countries, teachers are able to benefit from continuous professional development, collaborative learning and sharing on best practices. This can be important for enhancing professional competences, pedagogical knowledge and maintaining motivation and interest in a profession that experiences high rates of burnout and attrition.

In Japan, teachers participate in lesson study, in which groups of teachers review their lessons and look at ways to improve them, in part by analyzing student errors. Lesson study provides one of the most effective mechanisms for teachers' self-reflection as well as being a tool for continuous improvement. Observers of Japanese elementary school classrooms have long noted the consistency

...



and thoroughness with which a math concept is taught and the way in which the teacher leads a discussion of mathematical ideas, both correct and incorrect, so that students gain a firm grasp on the concept. This school-by-school lesson study often culminates in large public research lessons.

For example, when a new subject is added to the national curriculum, groups of teachers and researchers review research and curriculum materials and refine their ideas in pilot classrooms for a year before holding a public research lesson, which can be viewed electronically by hundreds of teachers, researchers and policy makers. The tradition of lesson study in Japan also means that Japanese teachers are not alone. They work together in a disciplined way to improve the quality of the lessons they teach. That means that teachers whose practice lags behind that of the leaders can see what good practice is. Because their colleagues know who the poor performers are and discuss them, the poor performers have both the incentive and the means to improve their performance. Since the structure of the East Asian teaching workforce includes opportunities to become a master teacher and move up a ladder of increasing prestige and responsibility, it also pays for the good teacher to become even better.

YOUR SCHOOL'S PERFORMANCE IN MATHEMATICS IN AN INTERNATIONAL CONTEXT

Figure 4.5 shows your school's performance in mathematics on the PISA scale (on the vertical axis on the left-hand side of the figure) with a 95% confidence interval around the mean score. On the right-hand side of the figure, the average results in mathematics in PISA 2015 for a group of comparison countries and economies are also presented.

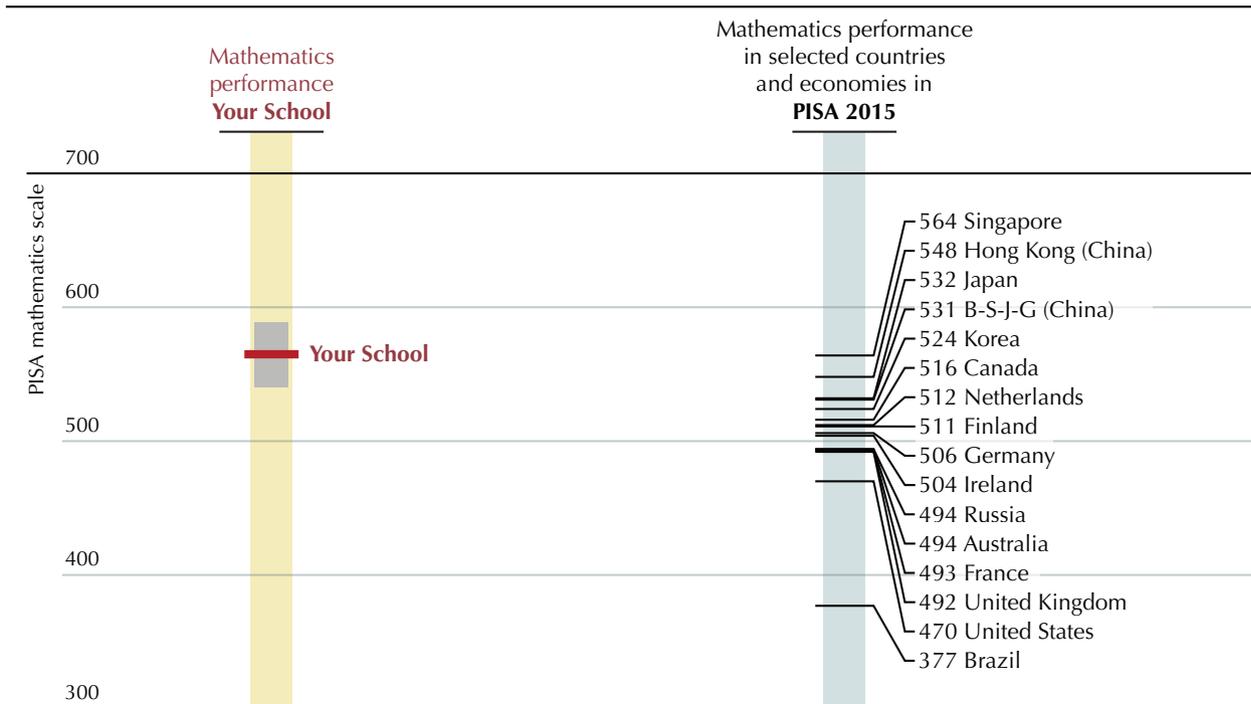
Box 4.4 Teacher support, induction and mentoring in Singapore

Singapore believes teachers are key for better education. The Ministry of Education (MOE) generally recruits teachers from the top one-third of each cohort. Each applicant is assessed based on his/her suitability for teaching, taking into consideration his/her content knowledge, personal qualities and experience. Applicants are interviewed by a panel that includes experienced principals. Prospective teachers then undergo paid pre-service training at the National Institute of Education (NIE). The strong partnership that NIE has with MOE ensures that NIE's pre-service programs are aligned to the national curriculum and are relevant to the learning needs of students.

After graduation, Singapore continues to invest in its teachers. They receive support in the form of structured induction and mentoring in schools and access to beyond-school professional learning workshops. Lifelong professional development in the teaching profession is also important in Singapore. Teachers have access to 100 hours of professional development per year, mostly at no cost to the teacher. Some of the professional learning in content and pedagogical knowledge is facilitated by the curricula specialists, master teachers and NIE staff. Much professional development is also school-based, where every school is a professional learning community with teachers involved in professional learning teams. These school-based professional learning opportunities are designed by school leaders and staff developers in each school. In addition, there are a number of networked learning communities driven by teacher academies. These communities provide the platforms for teachers to learn collaboratively and promote the spread of effective practices across the entire system.



Figure 4.5 ■ **How students at your school compare with selected countries and economies in mathematics in PISA 2015**



Note: Shaded bars above and below the mean scores represent a 95% confidence interval. In other words, in the case of the results for your school, we are 95% confident that if your school were to administer the test several times, your mean performance scores would fall within this confidence interval.

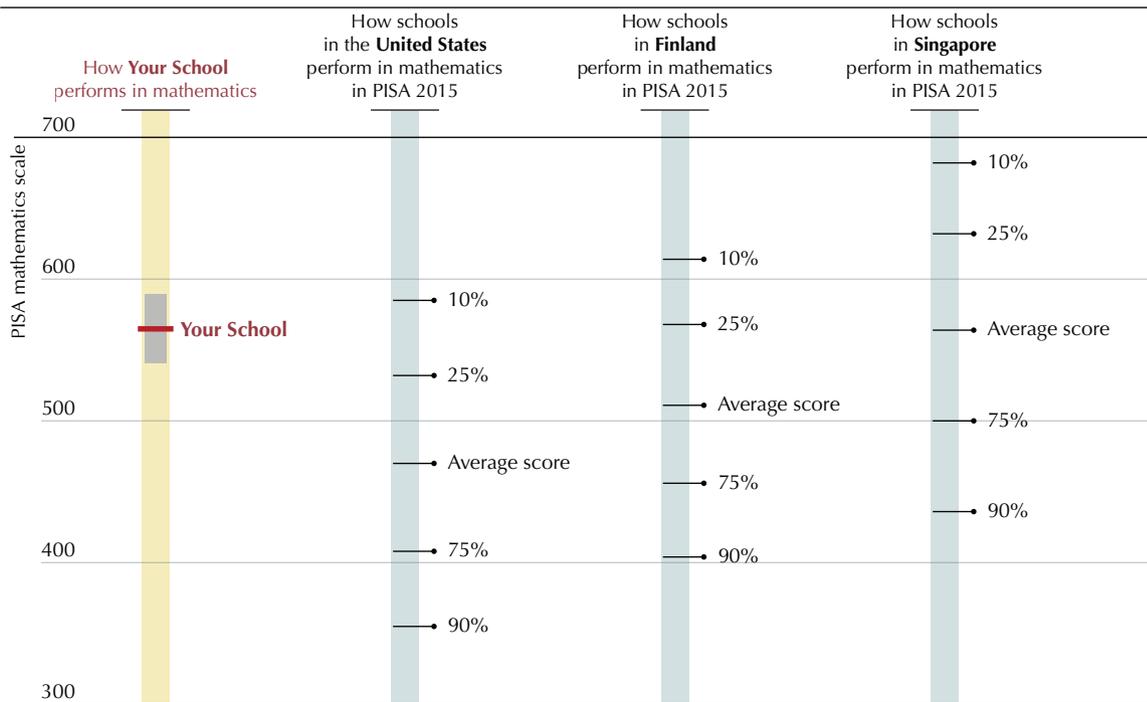
In order to contextualize your school's performance, it is useful to compare your school's results with those of groups of schools internationally. In Figure 4.6, your school's mean score is presented on the PISA mathematics scale along with a 95% confidence interval. The performance of groups of schools that participated in PISA 2015 from the United States, Finland and Singapore are presented to the right of your school's results.

As with earlier similar figures, the first markers on the scales show the cut-off scores above which 10% of students in the top schools perform for the particular country or economy. The second markers from the top show the scores above which 25% of students in schools perform for the country or economy. The third marker for each of the scales shows the the average score in a country or economy. The bottom two markers for each country and economy show the points above which 75% and 90% of students in schools perform.

This figure allows you to compare your school's results in mathematics with those of groups of schools in your country and other countries and economies in PISA 2015. Given the differences in student performance between Finland and Singapore, your school's mean scores will correspond to very different percentiles within these entities.

The next figure plots your school's performance in mathematics in the context of schools from other countries and economies. Similar to Figure 4.3, ESCS is shown on the x-axis while performance on a PISA scale, mathematics in this case, is shown on the y-axis. Schools from two countries and economies that participated in PISA 2015 are represented as differently colored bubbles. Diagonal lines represent the relationship between ESCS and mathematics performance for schools in these countries and economies.

Figure 4.6 ■ How your school compares with schools in other countries and economies in mathematics in PISA 2015



Notes: Shaded bars above and below the mean scores represent a 95% confidence interval. In other words, in the case of the results for your school, we are 95% confident that if your school were to administer the test several times, your mean performance score would fall within this confidence interval.

For example, the legend "10%" refers to the highest performing schools that account for 10% of the total number of students in the country.

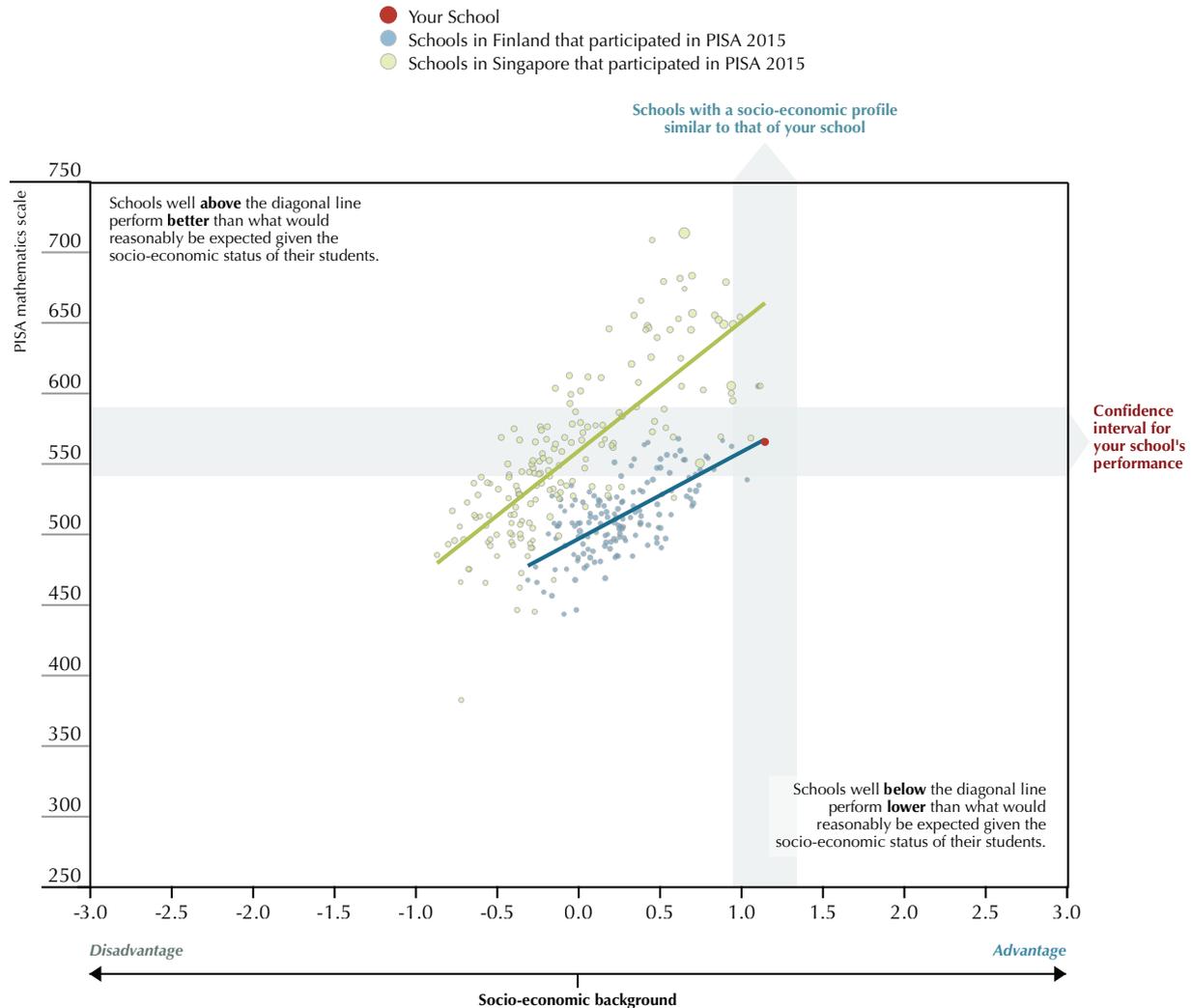
The mean score of the United States in mathematics is 470. This is statistically significantly lower than Finland's mean score of 511 and Singapore's mean score of 564, which are also statistically significantly different from each other. As can be seen in the figure, Singapore's schools are, in general, positioned higher on the chart than Finland's schools, indicating higher performance.

The regression lines for these countries' schools reveal interesting trends. While Singapore's is positioned higher, reflecting the higher average performance of its schools, Finland's is less steep. This suggests that the effect of socio-economic status on mathematics performance in Finland is, on average, smaller than in Singapore.

It is useful to consider your school's results in comparison to the educational environments of these countries and economies. How does your school's performance compare with schools with students from a similar socio-economic background in these countries and economies? Would your school be performing above expectations in the context of these different education systems?



Figure 4.7 ■ **How your school's results in mathematics compare with schools in Finland and Singapore in PISA 2015**



Note: Size of the dot proportional to the number of students enrolled at the school.

Student performance at your school across mathematics proficiency levels

In addition to your school's average performance, it is also important to look at the different levels of performance in mathematics reached by your students, as discussed previously and described in Figure 2.7. A summary of how to interpret the PISA proficiency levels follows:

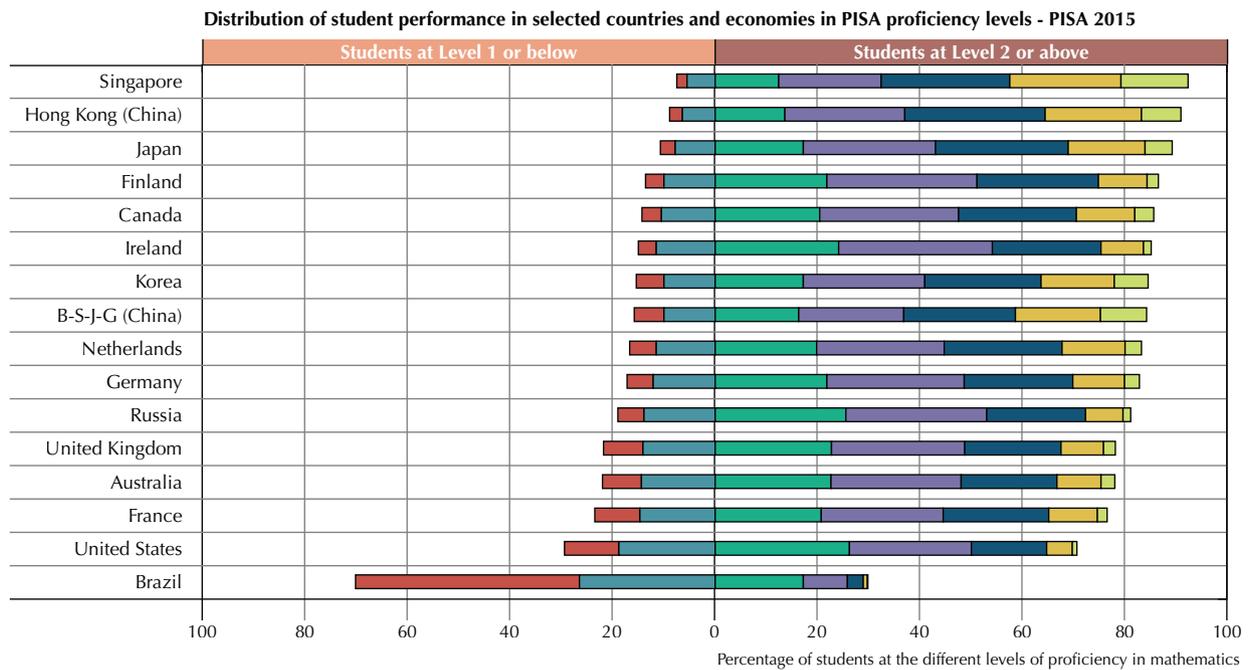
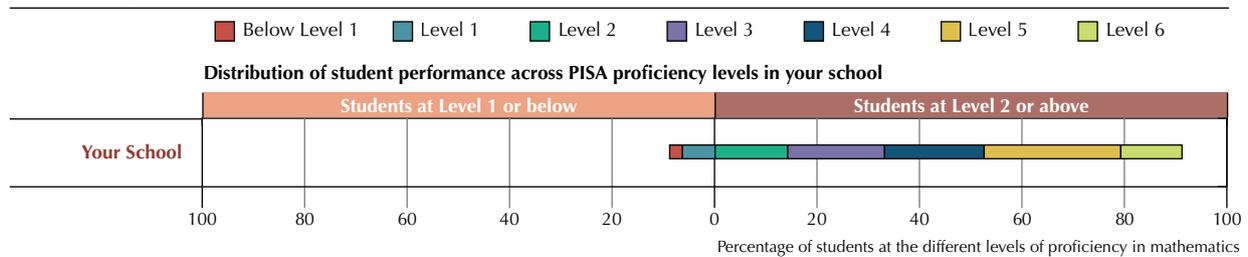
- Students who reach proficiency Levels 5 and 6 are the most capable students around the world. At these levels, students can model complex situations, identify constraints and specify assumptions. They can also reflect on their actions and communicate their interpretations and reasoning.
- Proficiency Level 2 is considered by PISA as a baseline level of mathematics proficiency at which students begin to demonstrate the kind of skills that enable them to use mathematics in ways considered fundamental for their future development. Students below this level are likely to find basic mathematical tasks that the assessment measures as challenging or too difficult.



Your school's distribution of student performance across proficiency levels in mathematics is presented in Figure 4.8, which shows the percentage of 15-year-olds at your school who reached the six proficiency levels. The figure shows a dark vertical line at the 0% value of the x-axis such that the percentage of students at Level 1 or below is found on the left-hand side of the figure and the percentage of those at Level 2 or above is found on the right-hand side.

The lower part of the figure shows the distribution of student performance across mathematics proficiency levels in selected countries and economies that participated in PISA 2015. Countries and economies in this part of the figure are ranked in ascending order of the percentage of students below baseline proficiency Level 2.

Figure 4.8 ■ How the distribution of student performance at your school compares with student performance in selected countries and economies in mathematics in PISA 2015



Note: Countries are ranked in ascending order of the percentage of students below 'Level 2'.



Box 4.5 **What PISA 2012 showed regarding student achievement in mathematics?**

Results from PISA have shown that certain learning and teaching strategies are associated with higher student performance in mathematics. PISA 2012, which focused on mathematics as the main subject area of assessment, shows that factors such as students' confidence in their ability to perform and their anxiety when dealing with mathematics problems consistently play a large role when it comes to performance. School leaders and local educators are increasingly looking at how effective strategies can be fostered within schools and classrooms to enhance the learning environment and improve learning outcomes, in particular for students from disadvantaged backgrounds. The following are some of the findings from PISA 2012 with regards to students' achievement in mathematics:

- PISA 2012 results reveal that a **student's strong sense of his or her own ability to learn mathematics is strongly associated with performance. Students who are more perseverant and more open to problem solving perform at higher levels in mathematics.**

For example, students who feel they can handle a lot of information, who are quick to understand and seek explanations for things and who like to solve complex problems score 30 points higher in mathematics, on average, than those who are less open to problem solving. Among high achievers, the difference between these two groups of students is even greater – an average of 38 score points, nearly the equivalent of a year's schooling.

- PISA results also show that **student attitudes such as motivation and confidence are strongly associated with higher performance, while a student's negative self-beliefs can manifest itself in anxiety towards mathematics. Some 30% of students reported that they feel helpless when doing mathematics problems.**

In many countries, students' motivation, self-beliefs and disposition towards learning mathematics were positively associated not only with how well they perform in mathematics but also with how much better these students perform compared with other students in their school. On the other hand, across OECD countries, greater mathematics anxiety was associated with a 34-point lower score in mathematics – the equivalent of almost one year of school. Between 2003 and 2012, mathematics self-efficacy tended to increase in those countries that also showed reductions in students' level of mathematics anxiety.

PISA 2012 results also show that even when girls perform as well as boys in mathematics, they reported less perseverance, less openness to problem solving, less motivation to learn mathematics and higher levels of anxiety towards mathematics than boys, on average; they were also more likely than boys to attribute failure in mathematics to themselves rather than to external factors.

The importance of these factors with regard to students' mathematics performance is the reason that the results for your school include information on disciplinary climate, teacher-student relations and students' attitudes towards learning (e.g., instrumental motivation and self-efficacy in mathematics and science).

To find out more about effective teaching and learning strategies in the classroom, go to:

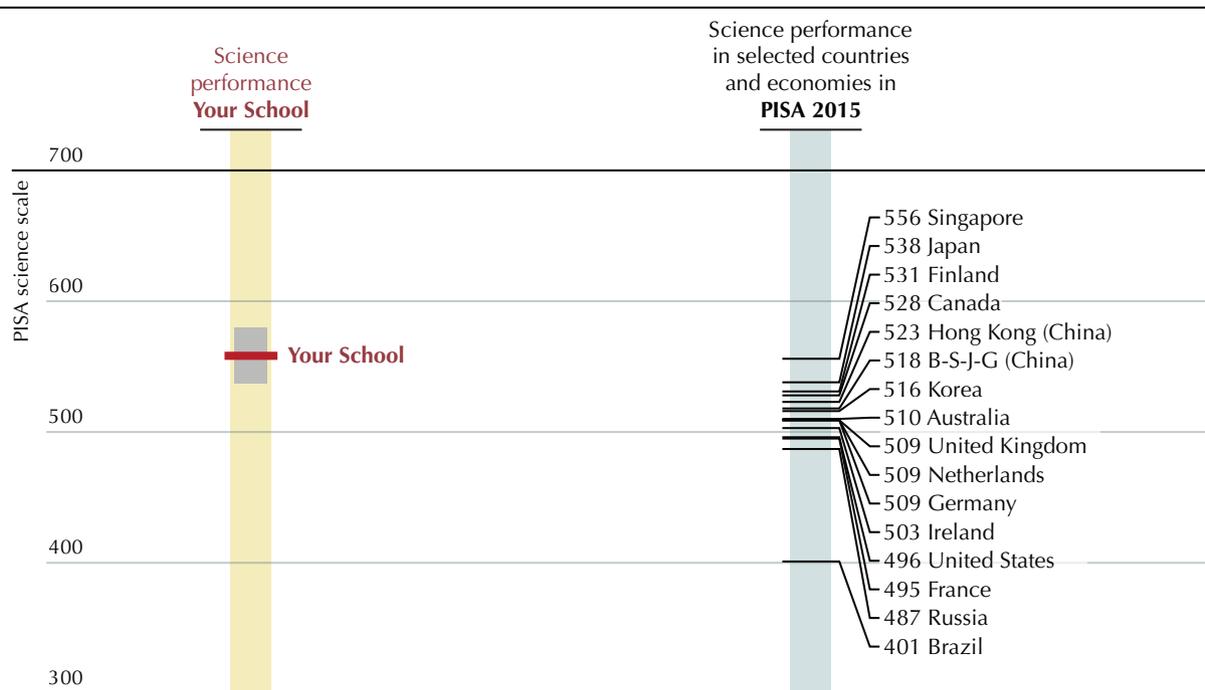
- [PISA Brief on Gender: Are boys and girls equally prepared for life?](#)
- [PISA in Focus 35: Who are the school truants?](#)
- [PISA 2012 Results: Ready to Learn – Students' Engagement, Drive and Self-Beliefs \(Volume III\)](#)
- [Creating Effective Teaching and Learning Environments: First Results from TALIS](#)



YOUR SCHOOL'S PERFORMANCE IN SCIENCE IN AN INTERNATIONAL CONTEXT

Figure 4.9 shows your school's performance on the PISA science scale (along the vertical axis on the left-hand side of the figure) with a 95% confidence interval around your school's mean score. The right-hand side of the figure shows the average results in science in PISA 2015 for a group of comparison countries and economies.

Figure 4.9 ■ How students at your school compare with selected countries and economies in science in PISA 2015

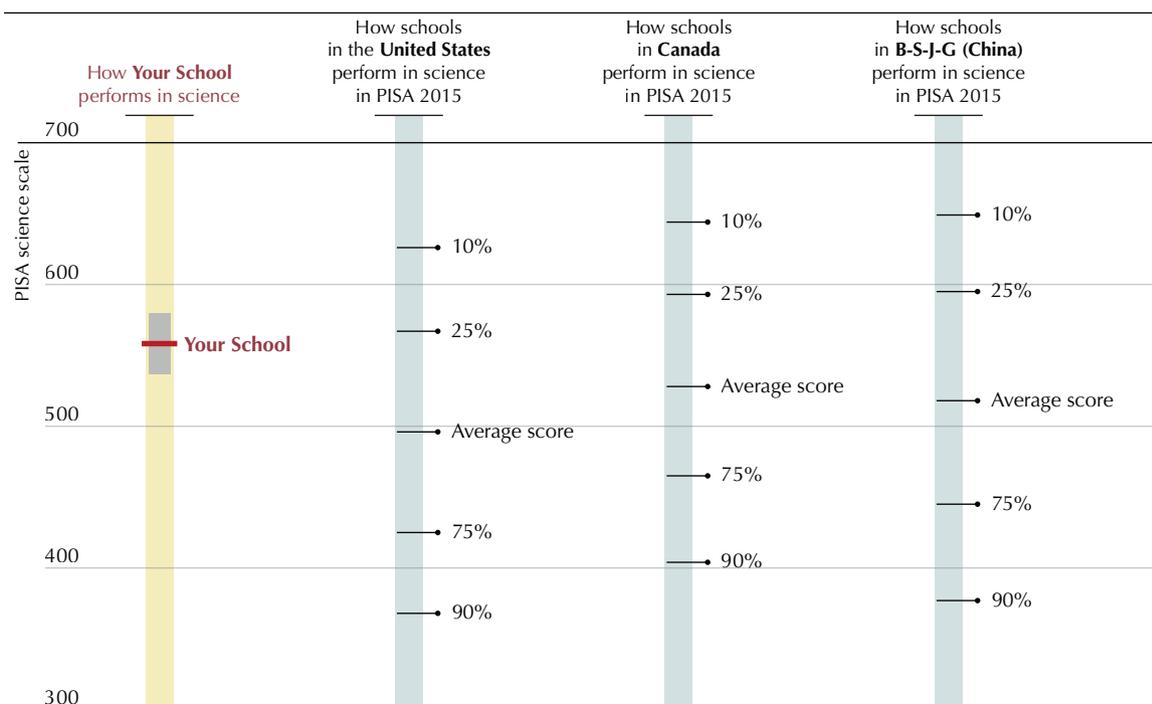


Note: Shaded bars above and below the mean scores represent a 95% confidence interval. In other words, in the case of the results for your school, we are 95% confident that if your school were to administer the test several times, your mean performance scores would fall within this confidence interval.

Figure 4.10 presents your school's mean score on the PISA science scale along with a 95% confidence interval next to the results of groups of schools in your country and other countries and economies. As before, the first marker on the scales represents the cut-off scores above which 10% of students in schools perform in science for the particular country or economy. The second markers from the top show the scores above which 25% of students in schools perform for the country or economy in science. The middle markers show the average score in a country or economy. The bottom two markers for each country and economy show the points above which 75% and 90% of students perform in science. Given the differences in student performance between Beijing-Shanghai-Jiangsu-Guangdong, hereafter referred to as B-S-J-G (China) and Canada, your school's performance will correspond to different performance percentiles in these countries or economies.



Figure 4.10 ■ How your school compares with schools in other countries and economies in science in PISA 2015



Notes: Shaded bars above and below the mean scores represent a 95% confidence interval. In other words, in the case of the results for your school, we are 95% confident that if your school were to administer the test several times, your mean performance score would fall within this confidence interval. For example, the legend “10%” refers to the highest performing schools that account for 10% of the total number of students in the country.

The next figure situates your school’s performance in science in the context of schools from B-S-J-G (China) and Canada. Similar to Figure 4.3 and Figure 4.7, schools are plotted as bubbles according to their ESCS and score on the PISA science scale. Confidence intervals for your school’s ESCS and science score are shown as vertical and horizontal shaded areas, respectively.

The mean score of the United States in science is 496. This is statistically significantly lower than the mean score of B-S-J-G (China), which is 518, and Canada’s mean score of 528, which are not statistically significantly different from each other. As can be seen in the figure below, the distribution of schools from B-S-J-G (China) and Canada demonstrate similar overall results. However, B-S-J-G (China)’s schools occupy a broader range in the figure.

Vertically, Canada’s schools are clustered more closely together than B-S-J-G (China)’s schools. In other words, Canadian schools have a smaller range of performance in science. These results suggest that Canada has less between-schools variation than B-S-J-G (China) and PISA 2015 data corroborate this conclusion. In Canada, between-schools variation explains 14% of the total variation in science performance. In B-S-J-G (China), between-schools variation explains 63% of the total variation in science performance.

At the student-level, the mean ESCS index in B-S-J-G (China) is -1.1, while the mean ESCS index in Canada is 0.5. This disparity is also reflected at the school-level in the following figure. Schools from B-S-J-G (China) are generally less advantaged than schools in Canada and are thus positioned further to the left on the chart. As mentioned previously, the range of socio-economic status between schools in B-S-J-G (China) is wider than in Canada. Looking to the right side of the chart, the most advantaged schools in B-S-J-G (China) are almost as advantaged as the most advantaged schools in Canada. Moving leftwards across the chart,

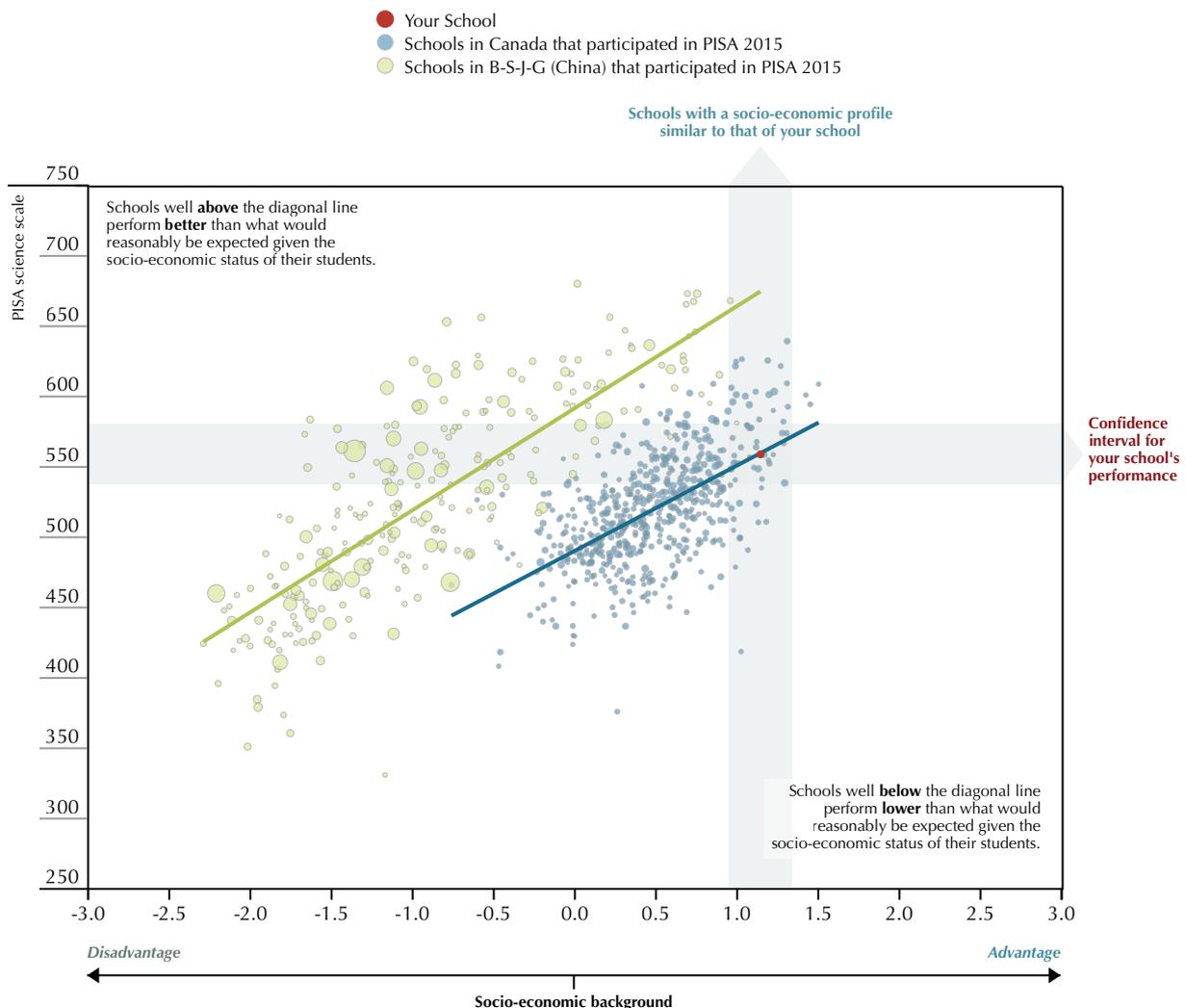


however, one can see that the least advantaged schools in B-S-J-G (China) are much less advantaged than the least advantaged schools in Canada.

The regression lines for both countries' schools have similar slopes, suggesting that socio-economic status in these countries has a similar effect on their schools' performance in science. B-S-J-G (China)'s regression line, however, is positioned above Canada's. This suggests that, given students of similar socio-economic backgrounds, a school would be expected to score higher in B-S-J-G (China) than in Canada.

How does your school perform in the context of these countries and economies? Is it performing as would be expected given its students' socio-economic status? Are many schools performing better or worse than your school when considering the ESCS of the schools?

Figure 4.11 ■ **How your school's results in science compare with schools in Canada and B-S-J-G (China) in PISA 2015**



Note: Size of the dot proportional to the number of students enrolled at the school.

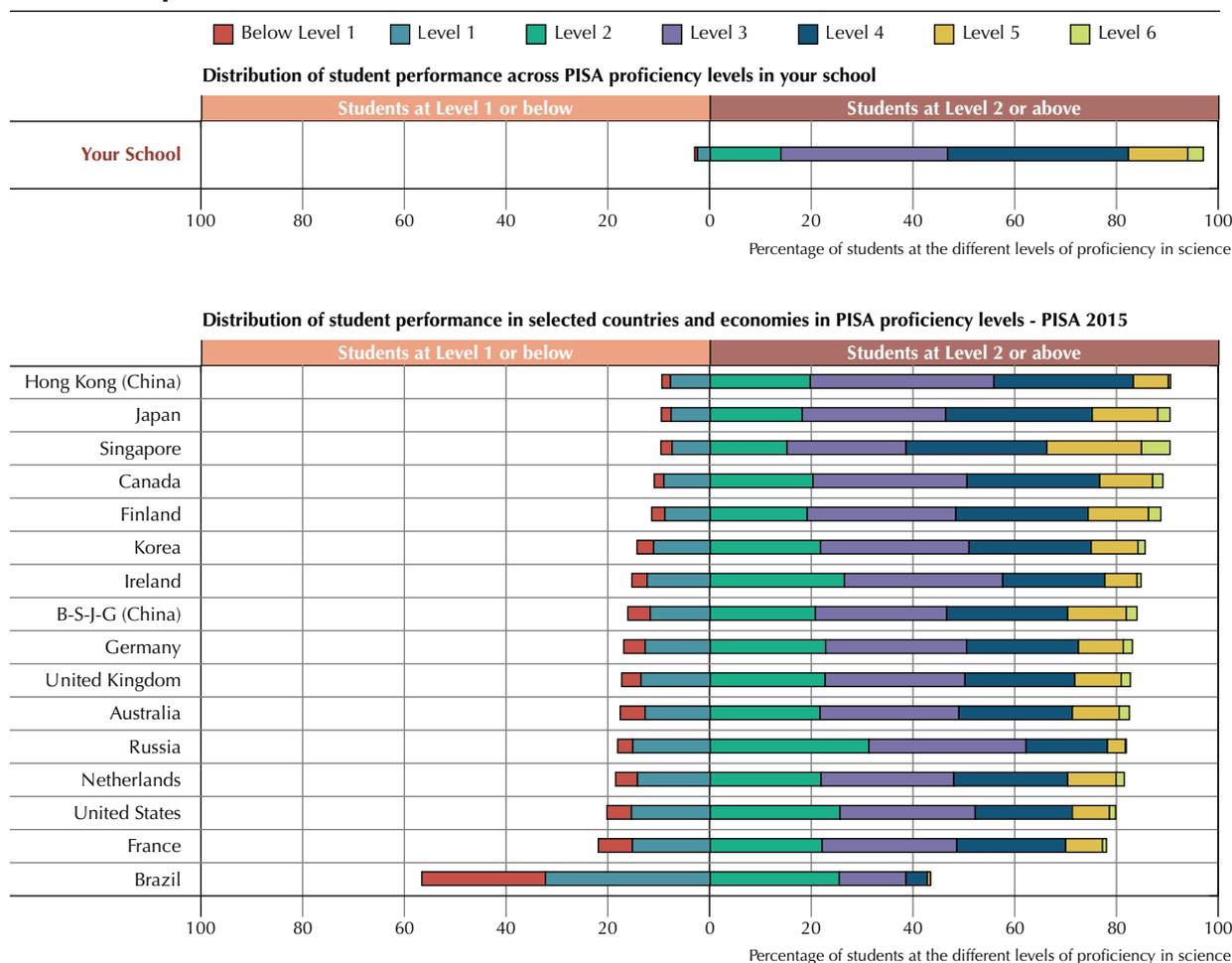
Student performance at your school across science proficiency levels

The score for your school in science is based on the average score of the students who were tested. To go beyond this mean value, it is useful to look at the different levels of performance in science reached by different students at your school, as described in Figure 2.9. Your school's distribution of student performance



across proficiency levels in science is presented in Figure 4.12, which shows the percentage of 15-year-olds at your school who reached the six proficiency levels. The figure shows a dark vertical line at the 0% value of the x-axis such that the percentage of students at Level 1 or below is found on the left-hand side and the percentage of students at Level 2 or above is on the right-hand side. The lower part of the figure shows the distribution of student performance across science proficiency levels in selected countries and economies that participated in PISA 2015.

Figure 4.12 ■ **How the distribution of student performance at your school compares with student performance in selected countries and economies in science in PISA 2015**



Note: Countries are ranked in ascending order of the percentage of students below 'Level 2'.

Students who reach proficiency Levels 5 and 6 are on track to become world-class knowledge workers. These students can draw on a range of interrelated scientific ideas and concepts from the physical, life, earth and space sciences and use content, procedural and epistemic knowledge in order to offer explanatory hypotheses of novel scientific phenomena, events and processes. In interpreting data and evidence, they are able to discriminate between relevant and irrelevant information and can draw on knowledge external to the normal school curriculum. They can distinguish between arguments that are based on scientific evidence and theory and those based on other considerations.

Proficiency Level 2 is considered by PISA to be a baseline level at which students begin to demonstrate the science competencies that will enable them to participate actively in life situations related to science and technology. Although students below this level might be able to use basic content and procedural



knowledge to recognize or identify explanations of simple scientific phenomenon, they do not demonstrate the baseline proficiency in science that would enable them to be successful in science-related endeavors.

When looking at this figure, it is useful to consider whether your school is stimulating students to achieve at world-class levels (Levels 5 and 6) while simultaneously ensuring that few students are performing below proficiency Level 2. Or, conversely, a school may show results that indicate most students are performing at Levels 2, 3 and 4, with few students achieving at the highest levels internationally.

Box 4.6 **Learning from the OECD Test for Schools: Two schools' efforts to decrease the percentage of students performing below Level 2**

Arroyo Grande High School's (AGHS) 15-year-old students participated in the OECD Test for Schools 2012 pilot. The school's results from the pilot showed that 29% of students at Arroyo Grande performed below Level 2 in reading, 39% in mathematics, and 20% in science. In response to these results, AGHS took significant action. The school focused on revising its formative assessments to provide more valuable data and help teachers understand how to embed critical thinking skills into classroom instruction. The school also implemented a school-wide focus on critical reading and writing, which included the use of rubrics by each department to help teachers assess and support students' progress. In addition, AGHS also shifted its school schedule to allow for more professional learning time for teachers. These changes paid off. After taking the OECD Test for Schools during the 2013-2014 school year, the percentage of students performing below Level 2 decreased by 8% in reading, 7% in mathematics and 6% in science.

When Blue Valley High School (BVHS) also took the assessment during the 2012 pilot, 22% of students performed below Level 2 in mathematics, meaning that almost a quarter of students were ill-prepared to compete with their global peers. In response to these results, the school began its improvement process by sharing the data with staff and students. Conversations with students regarding the data led to increased buy-in among students as they learned about global assessments and why the OECD Test for Schools is valuable. The school felt that these conversations prompted students to become more motivated to take learning seriously and perform well.

BVHS also began working closely with its feeder middle schools to implement specific curricular approaches, including solving problems in class to provide students with support and ensure understanding and making problems more interesting and relevant to students' lives. At the high school level, BVHS implemented a number of initiatives such as developing critical thinking activities during professional learning community meetings, administering frequent formative assessments to ensure that students understand the basics, promoting test corrections (where students first explain why their response to a test question was incorrect and then have to solve it correctly) and devoting class time to working through problems.

When the school took the OECD Test for Schools again during the 2013-2014 school year the percentage of students performing below Level 2 in mathematics had dropped to less than 2%. Moving forward, BVHS is working on continuing conversations with staff about the proficiency levels so that teachers understand what students need to know in order to be globally competitive. The school is also focusing on reviewing sample questions and incorporating those into classroom assignments and assessments.



Box 4.7 What PISA shows regarding student attitudes in science

Educators across OECD countries are mindful of today's challenges of meeting a growing demand for science-related qualifications among young adults entering the workforce. In PISA 2015, the majority of students across OECD countries reported a positive disposition towards learning science. Almost two-thirds (64%) of students reported that they are interested in learning about science, and 66% said they agree or strongly agree that they enjoy acquiring new science knowledge. However, this enjoyment and interest in science does not necessarily predict what students believe will be their career trajectories. Almost one in four (24%) students reported that they expected to work in a career where they would need further science training past compulsory education. Of these students, the largest share envisages a career in a health-related field such as doctor, nurse or veterinarian.

One challenge facing educators, therefore, is to ensure that students are motivated *and* well prepared to achieve scientific excellence in the future. How can schools foster and strengthen engagement in science-related areas and such that young adults leave school with the motivation and capacity to continue learning throughout life? The following are some of the insights from the most recent PISA cycle regarding factors surrounding student interest and achievement in science:

- **More students now expect to have science-related careers**

PISA 2006 also asked students about career expectations, which allows for a comparison over time in beliefs about pursuing science-related occupations. In comparison to 2006, the share of students expecting to work in a science field has increased, which is mostly attributable to the higher proportion of students interested in working in a health-related occupation.

PISA 2015 results also show that female students are almost as likely to choose scientific study and science careers as males; however they will choose different fields within science. Female students are much more likely to anticipate a career in health, such as working as a doctor or nurse, than a career in engineering or ICT.

- **The expectation of pursuing a career in science is related to science proficiency**

Across OECD countries, the highest-performers in science are more likely to expect to have a career in science by the age of 30. Among these students, 42% of students expect to have a career in science versus only 13% of students who score below proficiency Level 2.

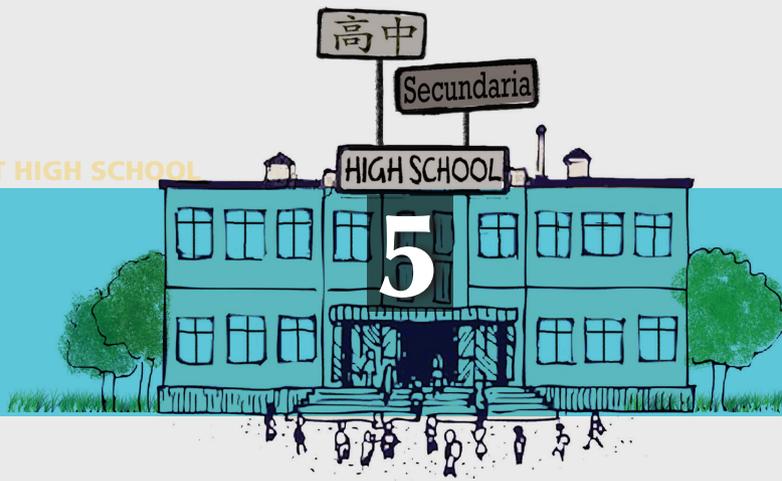
- **Students in 2015 reported participating in more science-related activities than their counterparts in 2006.**

However, only a small group of students reported that they participate regularly, or even very often, in science-related activities outside of school. Across OECD countries, about 23% of students said they watched TV programs about science, which was the most popularly reported activity to engage in, and 19% at least regularly visit science websites. This varies from country to country, however, as students in Korea are more inclined to attend a science club than watch a science program on TV, whereas students in France tend to gravitate more towards visiting websites about science topics.

- **Students who participate in more science-related activities perform better in science.**

Countries that saw an increase in students engaging in science activities outside of the classroom also saw increases in students' sense of self-efficacy in science as well as their intrinsic motivation to learn science, both of which are related to higher levels of performance. Student experiences and dedication are important drivers of performance in science, as are student attitudes and motivations.

However, boys are more inclined to report this motivation than girls. Across OECD countries, boys were more likely to agree with statements such as "I enjoy acquiring new knowledge in science", suggesting a between gender difference in intrinsic motivation to learn science.



Excellence and Equity at Your School

To what extent is high performance distributed equitably within your school? This section focuses on the performance of different groups of students in your school and presents their results alongside their international counterparts.



While attaining high overall educational performance is important, equally important is ensuring that high performance is achieved by all students. Achieving educational excellence without equity could indicate a lack of fairness and risks producing social disparities. On the other hand, attaining widespread, low achievement is also not a desirable outcome.

An education system that achieves equity of outcomes is one in which students' circumstances, such as gender or socio-economic background, do not influence their performance. Almost all students would reach baseline levels of literacy in all domains and many would attain the very highest levels of proficiency. Ensuring that ambitious goals are met for all students, therefore, is a characteristic of the most successful educational systems.

Box 5.1 **Within-country and within-schools results**

In this report, most results related to countries and economies are reported as within-country results. For example, if a result refers to the scores of the top and bottom 25% of students from a country in terms of socio-economic status, then the result is referring to the scores of the quarter of students within the country who are the most advantaged and the scores of the quarter who are the least. While this is a useful measure, it may overlook some schools in a country or economy. In most countries and economies, students do not enroll in schools randomly. Instead, they are sorted based upon proximity, ability or preferences. Therefore, a within-country result is likely to over-represent students from some schools and under-represent students from others (e.g., the most advantaged 25% of students in a country or economy may only come from 10% of the schools).

An alternative method is to compare within-schools results from countries and economies. Unlike a within-country result, a within-schools result is a "mean of means" that represents all schools in a country or economy. If, for example, an entity's result refers to the scores of the top and bottom 25% of students within-schools in terms of socio-economic status, this result is produced by calculating the average score of the top and bottom 25% of students in terms of socio-economic status in *each school* in a country or economy. The mean scores from each school are then averaged to produce the mean score within-schools of the top and bottom 25% of students in terms of socio-economic status in a country or economy. In effect, the information represents the results of the average school in a country or economy.

This section of your school's report focuses on equity, with special attention to the results of specific groups of students within your school. Thus, this section will primarily compare your school's results with within-schools results, and not within-country results, from other countries and economies. This distinction is clearly identified in accompanying figures and in the text of this section.

Methodology

Two different types of within-schools analyses are performed in this section. The first is identifying student quartiles, which is used when comparing the highest- and lowest-performing students from your school in each domain to their global peers. To calculate this result, within each school in a country or economy, the student scores that represent the top and bottom quartiles of performance (the scores above and below which 25% of students are found) in each domain are identified. These scores are then averaged across all schools in the respective country or economy to produce within-schools, country-level results in each domain for these same performance percentiles.

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A second type of within-schools result is a group average. This methodology is already described above, in which mean scores (as opposed to the single score that corresponds with a quartile) are calculated for student groups within a school, and then those scores are averaged across schools. This method is used to analyse results according to students' socio-economic status and gender.

Data selection and mean scores

Certain restrictions on the PISA 2015 data were made in order to allow for accurate within-schools computations. To be included for such analyses, schools must have had at least 20 students tested and 80% of the tested students must have reported information about their socio-economic status. For analyses related to gender, the data were further limited by excluding single-gender schools. Finally, for a country's results to be reported, at least 50% of its schools must be eligible after the aforementioned criteria were applied. Due to these measures, the within-schools mean scores for countries and economies will differ between analyses with respect to socio-economic status and gender, as the number of schools used to produce each set of results differs slightly. Furthermore, the within-schools country-level results will differ from the within-country results that appear elsewhere in this report and in PISA 2015 reports.

Considerations

Due to the way in which within-country and within-schools results are produced, it is useful to understand how they might be influenced by different factors and what types of results should be expected. Importantly, the range of student performance within a single school is usually smaller than the range of student performance within a country or economy. Thus, achievement gaps according to the highest- and lowest-performing students in a school (expressed as scores corresponding to quartiles) tend to be smaller when looking at within-schools results for a country or economy, compared with within-country results. Similarly, within-schools variance according to socio-economic background (expressed as average scores) also tends to be smaller than within-country variance, as a single school's population rarely represents the entire range of socio-economic status within a country or economy.

Finally, purposeful sorting of students into schools can strongly affect within-schools results across countries and economies. If a country or economy sorts students into schools based upon ability, students who attend the same school would perform similarly. The within-schools achievement gap for this country or economy would therefore be smaller relative to other entities. Nevertheless, the within-country achievement gap for this country or economy could be large relative to other entities.

HIGH- AND LOW-PERFORMING STUDENTS

In order to understand the relationship between educational excellence and equity, it is useful to first consider the overall within-schools performance gap among students across PISA participating countries and economies. PISA findings show that the range of within-schools student performance in a country or economy can vary greatly. In Sweden, for example, the top-performing quartile of students within-schools scores above 554 in science while the bottom quartile of performance within-schools scores 421, producing a performance gap of 133 points. In the Netherlands, on the other hand, the performance gap between the highest- and lowest-performing students is 82 points, with averages of 539 and 457 points, respectively.



In addition to showing how within-schools performance variation can differ across countries and economies, these results indicate that performance and parity are not mutually exclusive. An education system can be both high-performing, with a high overall score, and have a relatively small gap between its highest- and lowest-performing students.

Your school's highest- and lowest-performing students

The score difference between your school's highest- and lowest-performing students can indicate how wide learning outcomes are at your school. A gap that is larger than that of other schools in your country might suggest that your school has less learning outcomes parity, on average, than other schools in your country. A smaller gap, on the other hand, might suggest that your school has greater parity.

Figure 5.1 shows the difference in performance between the top and bottom quartiles of students in your school. There are three sets of charts, one for each domain. In each set of charts, your school's result is displayed next to the average within-school results of comparison countries and economies.

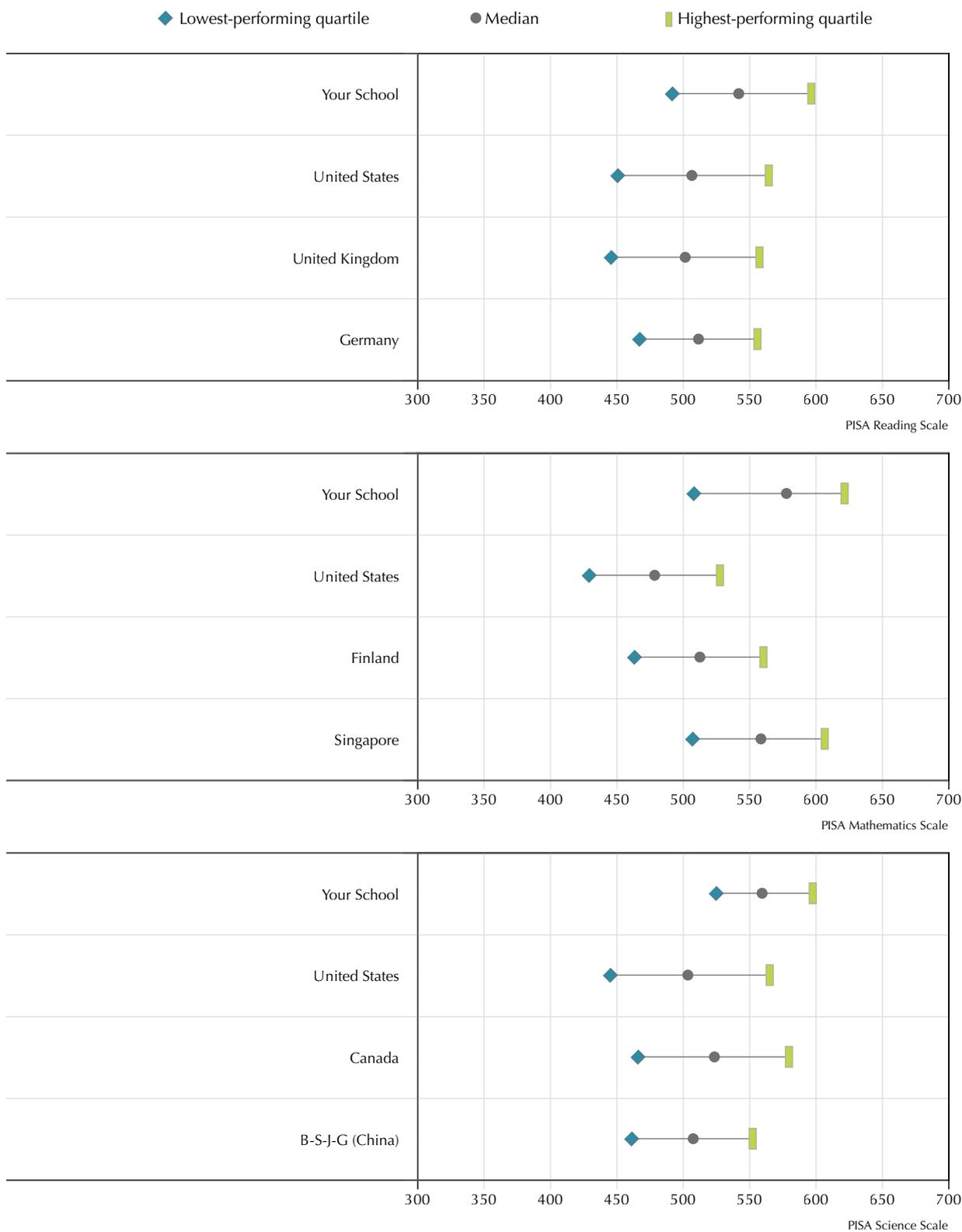
In the individual charts that depict your school's results, the top marker represents the point above which 25% of students at your school perform. The bottom marker represents the point above which 75% of students at your school perform. A line connects these two markers and shows the performance gap between the top and bottom student quartiles. A circle on the line represents the median performance of all students at your school.

In the individual charts that depict the results of other countries and economies, the green marker shows the point at which 25% of students *in each school* in that country or economy perform on average. The blue marker in each country or economy's chart shows the point above which 75% students *in each school* in that country or economy perform on average. Together, these two markers represent the average, within-school gap in each country or economy.

In the United States, the median within-schools score in science is 504, with a within-schools gap of 123 points between the top and bottom quartiles of students within-schools. In comparison, Canada scores higher and has a similarly sized gap. Its median within-schools score in science is 524, with a gap of 116 points between its 25th and 75th student percentiles within-schools. B-S-J-G (China) has a median within-schools science score of 508 and a gap of 94 points.



Figure 5.1 ■ How the highest- and lowest-performing students perform in reading, mathematics and science within your school and within schools in other countries and economies





Box 5.2 **School resources and closing the achievement gap**

As countries seek to enhance the performance of all students while reducing achievement gaps between different groups of students, there is a growing effort to ensure that resources are directed to those areas where improvements in teaching and learning can best be achieved. Fiscal pressures related to the global financial crisis, demographic developments influencing the size and composition of student populations, the rising importance of education and more educated parents have all contributed to a renewed interest in optimal distribution and use of resources in education.

Regarding school size, research shows that in time of fiscal constraints, consolidating schools is an appealing policy option for governments under pressure to reduce spending. Large schools are often seen as more efficient than small schools: they can use facilities to full capacity, buy large amounts of materials at lower cost and hire support staff to reduce administrative burden on teachers. However, such calculations often forget about hidden costs of consolidation, such as increased transportation cost and time for staff and students. There is also evidence that the student body in large schools is often divided with some students taking full advantage of the broader learning options and others not participating at all. Younger students and those from less advantaged families are more vulnerable and may disengage when lacking personalized attention.

The OECD conducts intensive country case studies to determine priority actions for improving the use of schools resources in that country. In Estonia, for example, the government operates an extensive school network able to ensure full access to education with emphasis on providing access to early education in rural areas. However, room for improvement remains. The size of the student population has contracted considerably while the sizes of the school network and the teaching workforce have not adjusted to the same extent. As a result, there are many small schools with small classes in Estonia. In this context, and given the shifting demographics, the further consolidation of the school network is a policy priority. Developing planning capacity, co-ordination mechanisms and inter-municipal collaboration is important in creating a more efficient and equitable school network.

Another example comes from a review of the Slovak Republic, where the use of human resources can be improved. There is considerable autonomy in the management of the teaching workforce at the local level. Schools are mainly responsible for recruiting, developing and dismissing teachers. This is strength in a system where schools are individually judged on their ability to improve student learning. School leaders also have room to develop the competencies of their teaching bodies in agreement with school development plans. However, there are indications of some inequitable distribution of teachers across schools. In addition, there are some challenges to the preparation of teachers, low participation rates in teacher professional development, teacher certification processes weakly linked to the core work of teachers while school leader development is hindered by the limited capacity for school leader appraisal. While there is a need both to ensure the continuous entry of new talent into the teaching profession and to constantly motivate in-service teachers, there is no need to increase the overall size of the teaching workforce. On the contrary, much-needed school consolidation is likely to require a reduction in the number of teachers. This entails developing strategies for reallocating, redeploying and retiring teachers currently employed in schools which will be affected by school (or class) consolidation. Other areas of priority are bringing teacher certification closer to teaching practices, improving the framework for the provision of professional development, making initial teacher education more selective and better linked to school practices and developing capacity for school leader appraisal.

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For further insights on school resources, see:

[*OECD Reviews of School Resources: Estonia 2016*](#)

[*OECD Reviews of School Resources: Slovak Republic 2015*](#)

[*School Size Policies: A Literature Review*](#)

While the previous figure shows the distribution of student performance in each domain separately, it is also useful to consider student performance across all three domains. Students who attain Level 5 proficiency in all domains are considered academic all-rounders. Singapore has the highest percentage of students within-schools who are top performers, with 12% on average. These students are well prepared to pursue further studies and navigate job markets in a competitive, knowledge-based global economy. How many academic all-rounders an education system produces is an indication of how successfully the system nurtures educational excellence.

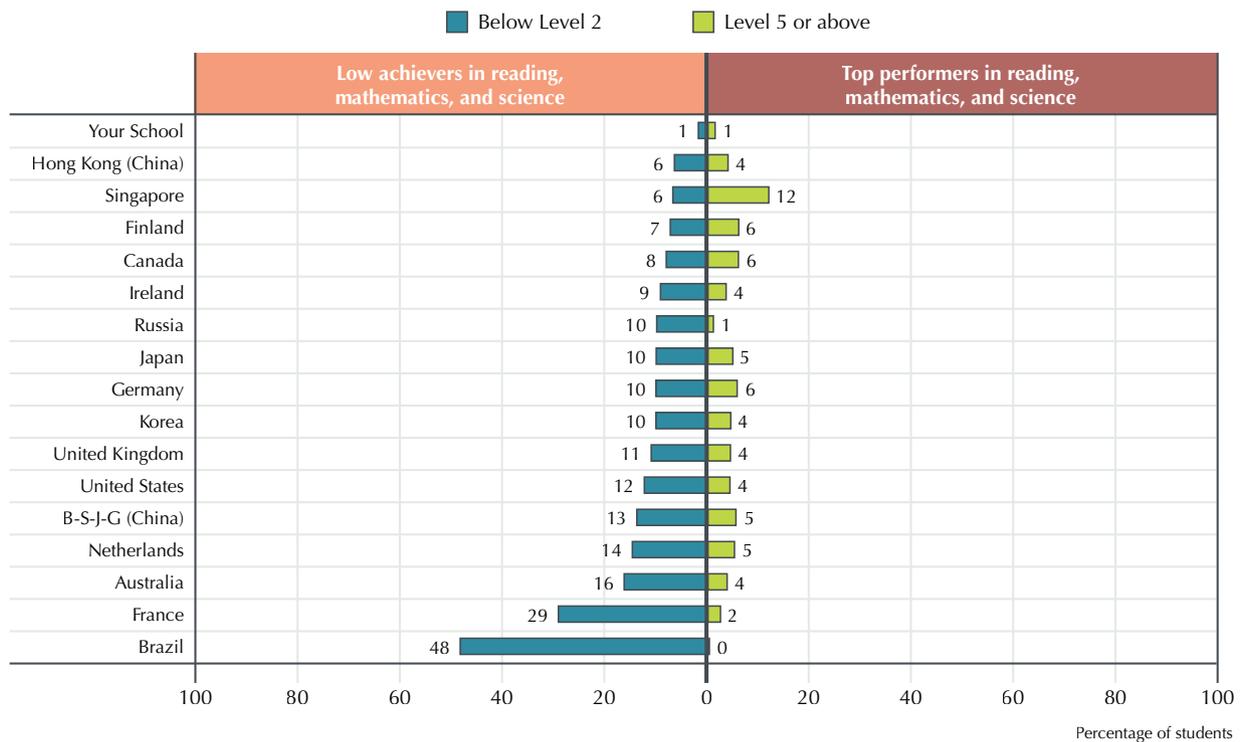
The counterparts to top performers are at-risk students who do not meet Level 2 baseline proficiency in any domain. In Algeria, within-schools, an average of 74% of students are at risk. These students can complete only the simplest and most obvious tasks and can be expected to encounter difficulty in future educational and professional pursuits. How few at-risk students an education system produces is an indication of how successfully the system nurtures equity.

How many students at your school demonstrate high achievement in all three domains? How many students do not demonstrate baseline competence in any domain? The next figure can help illustrate the range of learning outcomes in your school. It shows the extent and distribution of student achievement at your school and other countries and economies, using the PISA proficiency levels defined in Section 2 of this report. A dark vertical line in the middle of the figure separates two groups of students. On the left side of the line is the percentage of students who achieve below Level 2 baseline proficiency in all domains (at-risk students). On the right side of the line is the percentage of students who attain at least Level 5 proficiency in all domains (academic all-rounders).

When interpreting this figure, it is helpful to consider the concentration students on both sides of the vertical line. A large concentration of students on either side of the line suggests that your students are high- or low-performing, on average, in all domains. On the other hand, a large concentration of students on both sides of the line might suggest that learning outcomes at your school are varied, with some students excelling more than others. Having very few students on either side of the line might indicate that your students are neither particularly high- nor particularly low-performing.

For instance, in PISA 2015, Hong Kong (China) and Austria produce a similar amount of academic all-rounders within-schools (4%). It is important to note, however, that Hong Kong (China) has a much smaller percentage of at-risk students within-schools than Austria (6% compared with 13%). These results suggest that, while both these entities have achieved some educational excellence, Hong Kong (China) has achieved more educational equity.

Figure 5.2 ■ Students in the highest and lowest proficiency levels in all domains within your school and within schools in selected countries and economies in PISA 2015



Box 5.3 Another challenge for teachers: Integrating students with an immigrant background

Are teachers well-equipped to help migrant children integrate into their new communities? A finding from PISA is the significant cross-country variation in performance between immigrant students and students without an immigrant background, even after accounting for socio-economic status. While the culture and the education acquired before migrating might have an impact on student performance, the country where immigrant students settle matters more.

For example, students from Arabic-speaking countries who settled in the Netherlands score 100 points higher in mathematics than students from the same countries who settled in Qatar, even after accounting for socio-economic differences. Albanian students in Greece score 50 points higher in mathematics than Albanian students of similar socio-economic status in Montenegro, a difference that is very close to the average performance difference between Greece and Montenegro. While students born in China do better than their non-immigrant peers in virtually every country, this advantage varies widely across countries too. These findings indicate how public policy can help integrate immigrant children

PISA results also suggest that the well-being of immigrant students is affected not just by cultural differences between the country of origin and the host country, but also by how schools and communities help immigrant students deal with daily problems of living, learning and communicating. For example, almost 90% of students from Iraq who settled in Finland reported feeling like they belong at school, but only 69% of students from Iraq who settled in Denmark reported the same. The policies and practices countries use to integrate migrant students into schools largely determine whether integration is successful or not.

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So what can schools and teachers do?

- **Provide language instruction quickly**

Combining language and content learning, as soon as it becomes feasible, has proven to be most effective in integrating children with an immigrant background into education systems. While language assistance is important, it should be in addition to, rather than instead of, regular instruction – regardless of the age of the student or how long ago he or she arrived in the host country.

- **Encourage teachers to participate in professional development**

All efforts to integrate migrant children depend on a well-skilled, well-supported teaching force. While many classrooms are now filled with immigrants from a range of backgrounds, often the teachers in these classrooms are unfamiliar with the pedagogical approaches for second language learning. They are often untrained in recognizing the effects of trauma that many immigrant children have endured and in helping these children to overcome them.

- **Avoid concentrating immigrant students in the same, disadvantaged schools**

The evidence suggests that schools that struggle to do well for non-immigrant students will struggle even more with a large population of children who cannot speak or understand the language of instruction. Countries that distribute migrant students across a mix of schools achieve better outcomes for all students. A more even distribution also relieves the pressure on schools and teachers when large numbers of immigrant students arrive over a short period of time.

- **Reach out to immigrant parents**

While teachers are critical to migrant students' success in school, so are their parents. Students do better when their parents understand the importance of schooling, how the school system works, and how best to support their child's progress through school.

SOCIO-ECONOMIC BACKGROUND

While Figure 5.1 and Figure 5.2 examined the size of achievement gaps in your school and other countries and economies, it is also important to consider what factors are related to gaps in performance. As mentioned in Section 2 of this report, PISA shows that socio-economic status is a predictor of performance in many countries and economies. Students from more advantaged backgrounds tend to demonstrate higher performance than students from less advantaged backgrounds.

Nevertheless, PISA 2015 also shows that the within-schools relationship between socio-economic status and performance varies across countries and economies, including high-performing ones. For example, in Finland, the most advantaged quartile of students within-schools according to ESCS, scores, on average, 59 points higher in science than the least advantaged quartile of students within-schools. In B-S-J-G (China) however, the most advantaged quartile of students within-schools scores only 11 points higher, on average, than the least advantaged quartile of students within-schools. These results suggest that excellence and equity in outcomes¹ are not mutually exclusive. High performance and equitable performance can be achieved by students from the same system.

In mathematics, Sweden has the largest within-schools achievement gap according to socio-economic status. Its most advantaged quartile of students within-schools scores 58 points higher than its least advantaged

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1. PISA defines equity in educational outcomes as the strength of the relationship between performance and another factor. Here, it is the strength of the relationship between performance and socio-economic status. A weaker link suggests a more equitable education system. A stronger link suggests a less equitable education system.



quartile of students within-schools, on average. Finland also has the largest within-schools achievement gap in reading according to socio-economic status, with an average of 59 points.

Japan has one of the smallest achievement gaps in reading and mathematics within-schools according to socio-economic status, at 13 points in each domain. It is important to note that Japan is also one of the highest-performing countries and economies in PISA, further emphasizing that high performance and equitable performance can be achieved simultaneously.

To what extent do students at your school show gaps in performance according to socio-economic status? And how do your school's socio-economic performance gaps compare with those of schools in other countries and economies? This information is shown in Figure 5.3. The figure contains three sets of charts, one for each domain. In each set of charts, your school's results are displayed next to the average, within-school results of comparison countries and economies.

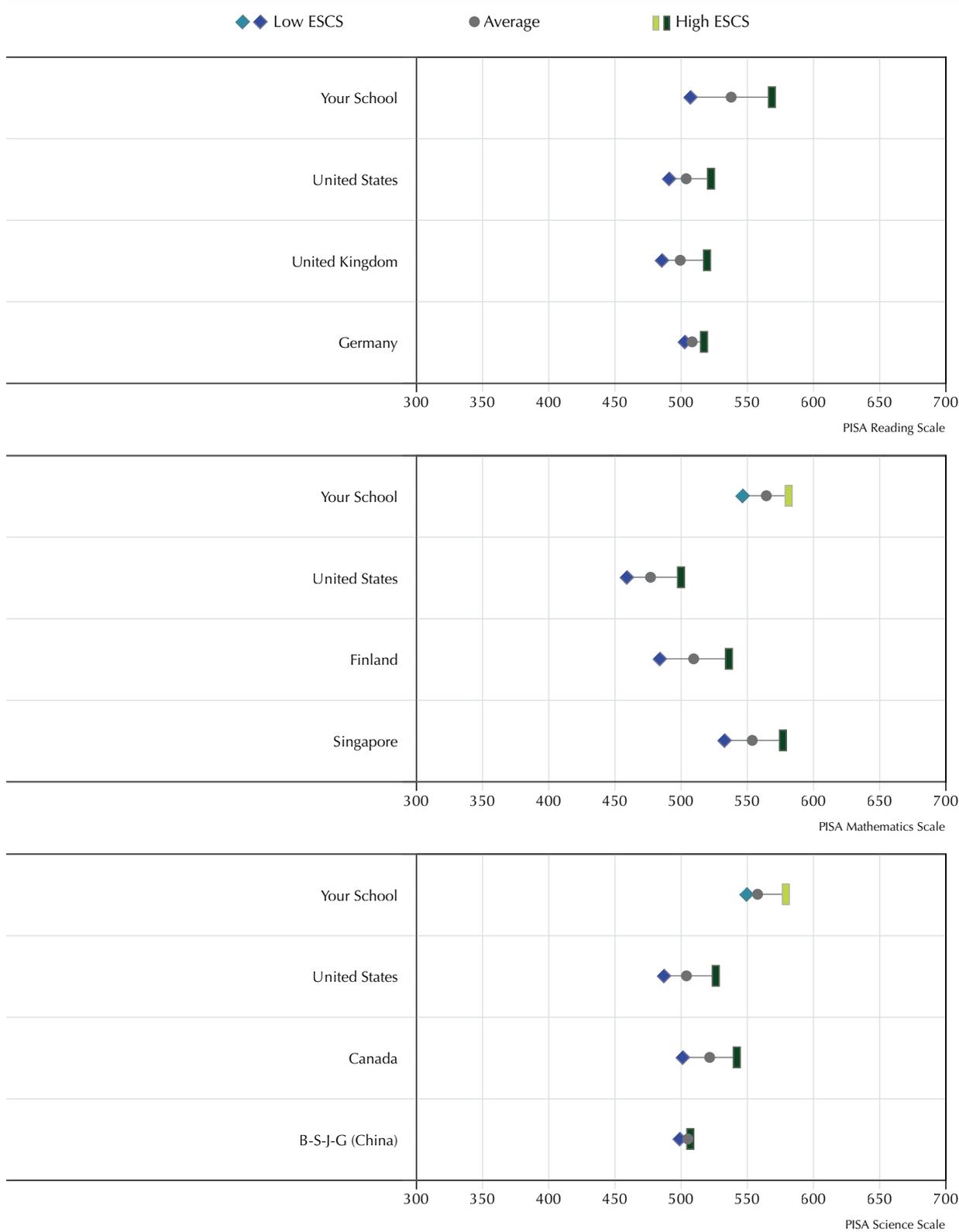
In the individual charts that depict your school's results, the green marker represents the average performance of the top quartile of students from your school according to their socio-economic status. In other words, they are the most socio-economically advantaged students at your school. The blue marker represents the average performance of the bottom quartile of students from your school according to their socio-economic status. They are the least socio-economically advantaged students at your school. A line connects these two markers and shows the performance gap between these two groups of students. A circle on the line represents the average performance of all students at your school.

In the individual charts that depict the results of other countries and economies, the green marker shows the average performance for the top quartile of students according to their socio-economic status *in each school* in that country or economy. The blue marker in each country or economy's chart shows the average performance for the bottom quartile of students according to their socio-economic status *in each school* in that country or economy. Together, they represent the average, within-schools gap for the country or economy. Darker colored markers indicate that the difference between the two markers is statistically significantly different.

The lowest quartile of students within-schools in the United States according to socio-economic status has an average score of 485 in science. The highest quartile of students within-schools in the United States according to socio-economic status has an average score of 527 in science, producing a within-schools achievement gap according to socio-economic status of 42 points. In comparison, in Canada, the most advantaged quartile of students within-schools has an average science score of 543, while the least advantaged quartile within-schools has an average science score of 499, resulting in a 43 points within-schools achievement gap. In B-S-J-G (China), the most advantaged quartile of students within-schools has an average science score of 507. The least advantaged quartile of students within-schools in B-S-J-G (China) has an average science score of 497. Thus, the within-schools achievement gap according to socio-economic status in B-S-J-G (China) is 10 points in science.



Figure 5.3 ■ Student performance within your school and within schools in selected countries and economies in reading, mathematics and science according to socio-economic status



Note: Within each school, country, or economy shown above, darker colored markers indicate that the difference between the high and low markers is statistically significantly different from one another.



Box 5.4 **Equity and performance in PISA 2015**

Equity in education is a central issue to address for schools and school systems around the world. It is a key element of the Sustainable Development Goals adopted by the United Nations in 2015. The goal is to equip students with the necessary skills to achieve their full potential, regardless of differences in socio-economic background.

For students who face challenging social and economic circumstances, mastering basic literacy and numeracy skills can be more challenging than for their advantaged peers. This link between socio-economic background and performance remains strong. PISA 2015 shows that students from disadvantaged backgrounds are almost three times more likely than their advantaged peers not to attain a baseline level of proficiency in science.

PISA 2015 explores two concepts in relation to equity: inclusion and fairness. Inclusion refers to the goal of ensuring that all students, irrespective of their social backgrounds or marginalized status, have access to a high-quality education and reach at least a baseline level of skills, which in PISA is proficiency Level 2. Inclusion can be identified by a number of factors, notably a student's access to schooling (which can be measured by enrollment rates), as well as the percentage of students who perform at or above baseline levels. On the other hand, fairness refers to issues such as equal access to educational resources, which involves removing talent-obstructing obstacles that arise due to economic or social circumstances.

While global education systems are not perfectly equitable, PISA 2015 also shows that poverty is not destiny. There are students from disadvantaged backgrounds who manage to beat the odds and outperform what would be predicted of them based on their socio-economic status. These students are considered to be resilient. In some countries, such as Estonia, Finland and Japan, as many as four in ten disadvantaged students are said to be resilient.

Box 5.5 **Teachers, school organization and equity**

The OECD uses data from PISA and case studies from around the world to identify the characteristics of education systems that do most to achieve excellence, equity and inclusion. In this context, there are three important areas that can be focused on: teaching quality, school organization and the learning environment. Rigorous reviews of this evidence have produced the following recommendations:

Teaching quality

- **Ensure disadvantaged students have good teachers:** Teachers in disadvantaged schools are more likely to be inexperienced and less qualified than those in wealthier schools.
- **Address the needs of teachers in disadvantaged schools:** Teachers are also more likely to want to work in disadvantaged schools if they feel they have support from principals, collaboration with colleagues and adequate resources as well as fair remuneration.
- **Encourage diversity in the teaching profession:** Teachers from minority backgrounds can serve as important role models for diverse student populations.

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- **Improve employment conditions:** Teacher hiring may benefit from giving individual schools a greater role in recruitment and by providing potential hires with more information, concerning topics such as trends in the labor market and potential openings.

School organization

- **Avoid socio-economic segregation:** Responses can include mechanisms that allocate students more equitably between schools or financial incentives that encourage schools to offer places to disadvantaged or low-performing students.
- **Invest in pre-school care and childhood:** Investing in pre-school care and education can bring important benefits, especially for children from disadvantaged families.

Learning environment

- **Limit grade repetition:** Grade repetition is financially costly and offers few academic benefits. Weaker students would benefit instead from additional instruction that supplements course work.
- **Reduce early tracking:** Students should not be placed on separate tracks at a very early age.
- **Support students continuously:** Struggling students can benefit from continuous monitoring that quickly identifies problems and ensures they receive adequate support such as coaching, mentoring and counselling.
- **Hold high expectations:** Research suggests that all students, regardless of background, should follow a common curriculum and should be encouraged to achieve excellence.

GENDER

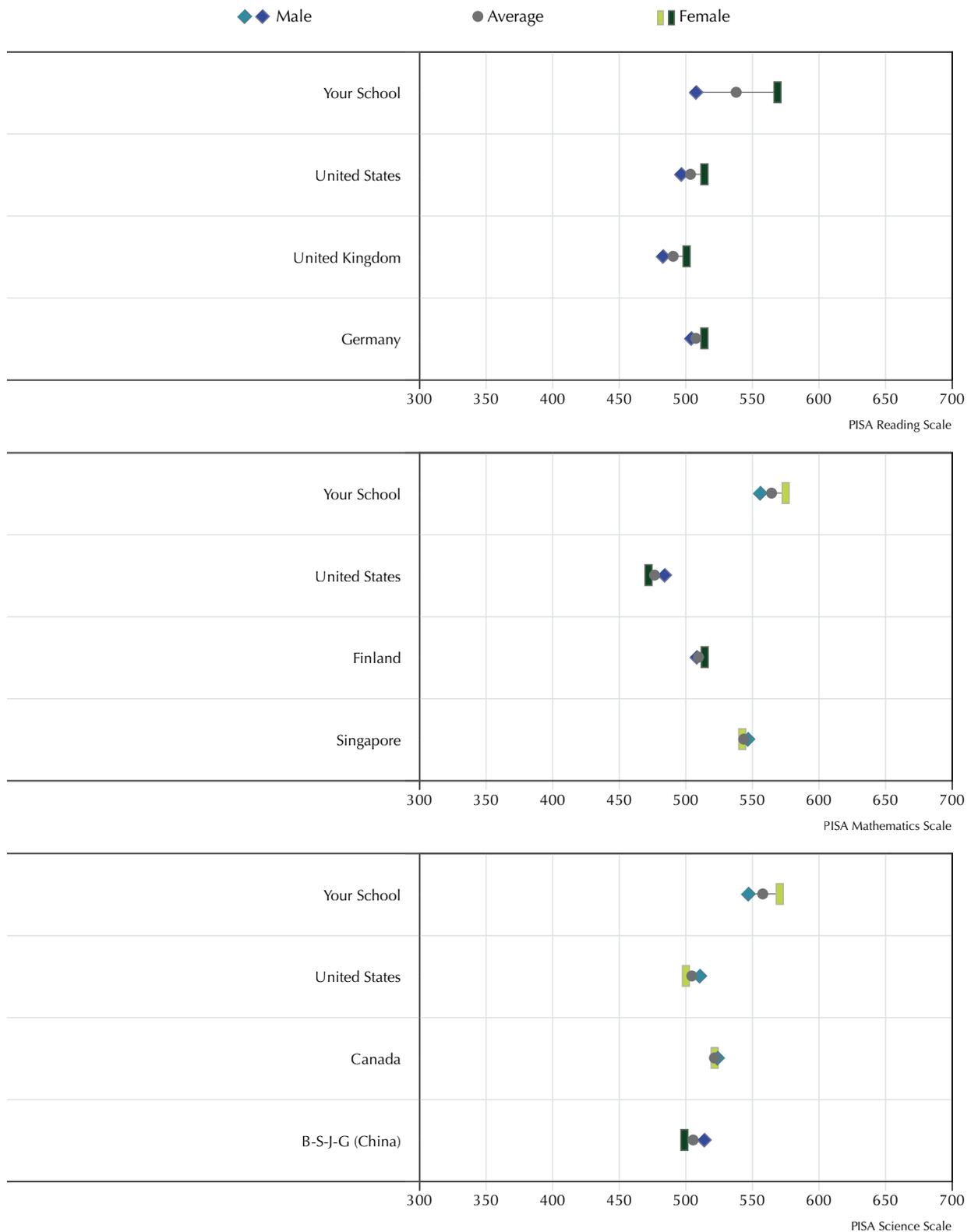
Your school's performance with respect to gender

PISA 2015 data show that, on average, within-schools, girls perform slightly better in reading while boys perform slightly better in mathematics and science. These results however, vary across countries and economies.

In science, the largest within-schools gap in favor of boys is 25 points in Austria. The largest gap in favor of girls is 22 in Finland. In mathematics, Croatia's gap of 29 points is the largest difference in favor of boys. Finland's gap of 9 points is the largest difference in favor of girls. In reading, Georgia had the largest gap in favor of girls, at 51 points. No country had a gap in favor of boys, though Peru's gap was less than one point in favor of girls.

Are there achievement gaps according to gender at your school? How might those gaps compare with gaps in your country and around the world? Figure 5.4 shows how girls and boys perform in reading, mathematics and science at your school compared with other schools in the United States in PISA 2015 and other countries and economies. There are three sets of charts, one for each domain. In each set of charts, your school's results are displayed next to the results of schools in comparison countries and economies.

Figure 5.4 ■ How girls and boys perform in reading, mathematics and science within your school and within-schools in other countries and economies



Note: Within the school, country, or economy shown above, darker colored markers indicate that the difference between boys and girls is statistically significantly different from one another.



In the individual charts that depict your school's results, the green marker represents the average performance of the girls from your school. The blue marker represents the average performance of the boys from your school. A line connects these two markers and shows the performance gap between your school's girls and boys. A circle on the line represents the average performance of all students at your school.

In the individual charts that depict the results of other countries and economies, the green marker shows the average performance for girls *in each school* in that country or economy. The blue marker in each country or economy's chart shows the average performance for the boys *in each school* in that country or economy. Together, they represent the average, within-school gap for the country or economy. Darker colored markers indicate that the difference between the two markers is statistically significantly different.

Achievement gaps according to gender in the United States follow international trends. Within-schools, girls outperform boys by 20 points in reading, while boys outperform girls by nine points in mathematics and eight points in science. In Canada, within-schools, girls and boys perform within one point of each other in all subjects. In B-S-J-G (China), within-schools, girls score higher than boys in reading by 27 points, while boys score higher than girls in mathematics by eight points and both genders score similarly in science.

Box 5.6 Gender equality in education

Gender is a factor that is commonly mentioned with respect to equity and education performance, as gender-based disparities have persisted over time. PISA 2015 results highlight a number of differences in performance, as well as attitudes and expectations between girls and boys.

In mathematics, for example, across OECD countries boys scored eight points higher than girls within-country, with the advantage becoming more apparent when looking at the best-performing students. For instance, the top 10% highest achieving boys scored 16 points higher than the top 10% highest achieving girls.

Achievement in science follows a similar trend. Boys' mean performance in science within-country across OECD countries is four points higher than girls', and more boys than girls achieve the highest levels of performance in science. This is true in 32 countries and economies, except in Finland where girls are more likely to be the highest-performing students in science.

Despite these disparities in science achievement, boys and girls are almost equally likely to expect to work in science-related fields. However, they tend to diverge in which fields of science they wish to participate. For example, in all countries more girls than boys envisage a career as health professionals, whereas in almost all countries boys are more likely to see a career in information technology or engineering. When looking at trends in tertiary education graduation rates, this gender gap persists. The OECD's Education at a Glance (EAG) 2016 suggests that differences in science attitudes and aspirations, as measured by PISA, partially explain the gender distribution in graduation rates from tertiary education. On average, across OECD and partner countries represented in EAG, there are three times more male than female graduates in engineering fields, however in fields such as health and welfare there is an overrepresentation of women. In Canada, Iceland, and Latvia, there are more than five female graduates for every one male graduate in these fields.

...



Unlike mathematics and science, reading is a domain in which PISA consistently finds girls to outperform boys. Across OECD countries in 2015, girls outperform boys by 27 points within-country on the reading assessment. However, this gap narrowed by 12 points since PISA 2012. This reduction was attributed to both a five-point increase in boys' performance, particularly among the highest-performing students, as well as a seven point decrease in performance of girls, most notably among in the lowest-performing students.

These gender gaps are not limited to student populations and are also pervasive among teachers and school leaders. The vast majority of teachers are female across OECD countries. While there is a tendency to try and connect the lower performance of boys (particularly in reading) to the fact that most teachers are female, the research does not suggest that bringing men into the teaching profession would improve boys' achievement, as measured by test results. However, aiming for a better balance of men and women among teachers can nevertheless have positive effects. Male teachers can serve as role models, particularly for those students who do not have many positive male influences in their lives.

Also worth noting is that while teaching is a predominantly female profession, school leaders are more likely to be men in many countries. For example, 68% of Korean teachers are female whereas only 13% of Korean principals are women. In Finland and Portugal, 7 out of 10 teachers are women, but only 4 out of 10 principals are.

A concerted effort by parents, teachers, policy makers and opinion leaders is needed to narrow and potentially close gender gaps. Gender equality does not mean that males and females should become the same, but rather that a person's opportunities should not depend on whether they are born male or female.

For more information on how education can play a role in shaping attitudes and transforming behaviors to improve gender equity, see:

[*The ABC of Gender Equality in Education: Aptitude, Behaviour, Confidence*](#)



References

Bandura, A. (1997). *Self-Efficacy: The Exercise of Control*. New York, NY: Freeman.

Eccles. (1994). understanding women's educational and occupational choice: applying the Eccles et al. model of achievement-related choices. *Psychology of Women Quarterly*, 18, 585–609.

Holzberger, D., Phillipp, A., & Kunter, M. (2014). Predicting teachers' instructional behaviors: The interplay between self-efficacy and intrinsic needs. *Contemporary Educational Psychology*, 39(2), 100–111.

Lauerman, F. (2014). Teacher responsibility: Ties to pedagogical knowledge and professionalism. Presented at the Paper presented at an invited expert meeting at the OECD, Brussels, Belgium.

Lew, H., Cho, W., Koh, Y., Koh, H. K., & Paek, J. (2012). New challenges in the 2011 revised middle school curriculum of South Korea: mathematical process and mathematical attitude. *ZDM*, 44(2), 109–119. <https://doi.org/10.1007/s11858-012-0392-3>

Ministry of Education of Singapore. (2012). *Mathematics syllabus - secondary one to four*. Ministry of Education, Singapore.

Schunk, D. H., Pintrich, P. R., & Meece, J. L. (2008). *Motivation in education. Theory, research and applications* (3rd ed.). New Jersey, US: Pearson.

Watt, H. M. G., & Richardson, P. W. (2014). Why people choose teaching as a career: An expectancyvalue approach to understanding teacher motivation. In *Teacher motivation. Theory and Practice* (pp. 3–19). New York, US: Routledge.

Wigfield, A., & Eccles, J. S. (2000). Expectancy-Value Theory of Achievement Motivation. *Contemporary Educational Psychology*, 25(1), 68–81. <https://doi.org/10.1006/ceps.1999.1015>

Zimmerman, B. J. (1999). Commentary: toward a cyclically interactive view of self-regulated learning. *International Journal of Educational Research*, 31, 545–551.



Annex A

Your school's results in this report were obtained from your decision to participate in the current cycle of testing in the United States of the *OECD Test for Schools*. You are therefore part of a select group of schools that willingly took part in the assessment that offers a unique tool for local, national and international benchmarking for improvement.

The OECD secretariat selected NWEA to be the accredited service provider and partner for this cycle of testing in the United States. NWEA was responsible for the test administration and quality-assurance procedures during all phases of the testing with the schools and districts. As such, the entity organized the testing sessions directly with participating schools. NWEA also conducted the coding, scoring and data management of the school data.

The following table provides a summary of your school's participation in the *OECD Test for Schools*

School name	Sample Report High School
Unique identifier	7e775a91-2feb-4eba-b1b9-94533b34ea31
District/local authority	OECD Demo District
Location	City (100,000 to about 1,000,000 people)
State	OR
Country	United States
School type	Public
Total number of students enrolled	1,255
Percentage of students eligible for free- or reduced-price lunches through the national school lunch program	10
Test date(s)	January 13, 2017
Student sample	85
Number of students tested	72



Annex B

Overview of the OECD Test for Schools

The assessment instruments used as part of the *OECD Test for Schools* consist of seven *booklets* of test questions in reading, mathematics and science, a *student questionnaire* that each student was expected to fill out on the day of testing and a *school questionnaire* that was filled out by school authorities at each participating school.

The test questions (items) that students responded to consisted of 141 items: 47 in reading, 40 in mathematics and 54 in science. A typical student is estimated to take approximately 92 minutes to answer the questions in each of the three subject domains, without breaks! As this is clearly not possible, the test questions were organized into clusters of questions that were then organized into booklets, for a total of seven different test booklets. Each student, however, was expected to respond to only one test booklet, which the test administrators gave to him or her. With this design, each booklet takes 120 minutes to complete, to match the PISA main studies and provide students a similar test experience.

The 141 items that make up the test were developed and selected based on the PISA assessment frameworks and the design blueprints for the test. An important part of the test design was to arrive at questions that mirror the questions used in the PISA main study with regard to *aspect*, *text format* and *text type* variables for reading; *process*, *content* and *context* variables for mathematics items; and *competency*, *knowledge about* and *knowledge of science* variables.

For the development of the test, item-response types were also a design factor during item development and for the final instruments. The goal was to mirror as closely as possible the distribution of response types of the main PISA study. One important aspect of the final assessment items of the *OECD Test for Schools* is that all three domains are equally represented in terms of testing time (approximately 92 minutes per subject domain as described above), which is the PISA standard for minor domains in every cycle.

	READING	MATHEMATICS	SCIENCE	Total	%
Simple Multiple Choice	19	11	18	48	34
Complex Multiple Choice	7	3	15	25	18
Constructed Response – Manual	5	25	1	31	22
Constructed Response – Expert	16	1	20	37	26
Totals	47	40	54	141	

Like the international PISA test, the *OECD Test for Schools* is developed around units. A unit consists of stimulus material, including texts, diagrams, tables and/or graphs, followed by questions on various aspects of the text, diagram, table or graph, with the questions constructed so tasks that students have to undertake are as close as possible to those they might come across in the real world. Example questions developed for the test are included in Annex C, and you can see all of the publicly available PISA questions in the publication [Take the Test: Sample Questions from OECD's PISA Assessments](#).



Annex C

This annex provides examples of test questions that are indicative of the types of questions students had to work through in the assessment. For a more complete set of PISA test questions, readers are invited to look through the reading, mathematics and science items included on the [PISA Website](#).



EXAMPLES OF TEST QUESTIONS

Reading

Indian Mystic is ranked between medium and difficult on the item map. It asks students to integrate and interpret information gathered from a text and form a broad understanding.

1. INDIAN MYSTIC CLAIMS NOT TO EAT FOR 70 YEARS

By Benamin Radford, LiveScience

An 82-year-old man in India is claiming to have not had anything to eat or drink since 1940 – and doctors from the Indian military are allegedly studying him to learn his secret.

The man, Prahlad Jani, is being observed in a Gujarat hospital. Jani claims to be a breatharian – someone who does not need to eat or drink, because he draws nourishment from the air and from meditation.

As remarkable as his story is, Jani is not the first, nor the only, person to claim such a supernatural power. The claim that people can live without food or water is called inedia, and is actually somewhat of a common claim among religious fakirs of India. Unfortunately, none of the cases have withstood scientific scrutiny. The human body needs both food and water to function; it's as simple as that.

It's easy for anyone to claim that he or she has not had anything to eat or drink for the past few weeks or months (or years). But unless the person has been carefully and continuously watched during that time, it's impossible to prove the assertion.

Several people who have claimed to survive without food or water were later caught eating and drinking. It can take only a few seconds to eat something, and other than in specific areas such as prisons, conducting a close around-the-clock surveillance on a person is not easy. Often the person will ask for privacy to sleep or go to the bathroom (which is suspicious in its own right) – and then snack surreptitiously. One well-known breatharian advocate in the 1980s, a man named Wiley Brooks, claimed he did not eat yet was caught consuming junk food.

This is not the first time that Jani has made this claim. He was examined in 2003, for about a week, during which time he apparently did not eat or exercise – but he did lose weight. If Jani's abilities are real, it seems odd that he would lose weight during the time that his food intake was being monitored. If he truly gets all the sustenance he needs from air and meditation, there's no reason he would lose weight when he doesn't eat.

Reports claim that Prahlad Jani "has now spent six days without food or water under strict observation and doctors say his body has not yet shown any adverse effects from hunger or dehydration." Assuming the claim is true – and it's not clear just how strict the observation is – Jani's inedia so far remains unproven. If he really doesn't need food or water, he should be under close observation for months or years to prove it. Given that he claims not to have consumed anything since World War II, this shouldn't be a problem.



Refer to the newspaper article “Indian Mystic” on the previous page to answer the questions that follow.

INDIAN MYSTIC – QUESTION 1

What is the author’s attitude toward the idea that people can survive without food and water? Give a reason for your answer by using information from the article.

Scoring

Question intent

Integrate and interpret: Develop an interpretation

Identify an author’s attitude in a persuasive text.

Full Credit

Refers to the idea that the author does not believe in inedia and provides evidence to support this. May quote directly from the text.

- The author doesn’t believe people can survive without food or drink because he says the human body needs both food and water to function: it’s as simple as that.
- The author doesn’t believe in inedia. He says it’s easy for anyone to claim they haven’t had any food or water for weeks or months.
- He uses examples of people making similar claims being caught eating or drinking so he doesn’t believe in this.
- He doesn’t trust Jani because he says he lost weight while he was being monitored and that wouldn’t happen if it was real.

No Credit

Gives an insufficient or vague response.

- He doesn’t agree.
- The author doesn’t believe Jani.
- He thinks it is untrue.
- It’s unproven.

Shows inaccurate comprehension of the material or gives an implausible or irrelevant response.

- He thinks it might be true but we need more studies.
- The author thinks Jani is amazing.
- He thinks the doctors didn’t do a good job.

Comment

The intent of the question is to identify an author’s attitude in a persuasive text. Students are required to detect, understand and refer to methods of conveying an attitude in a text, instances of which are varied and spread across the extent of the text. The item relates to a continuous text of the type *argumentation*, and has a *personal situation* (i.e., it relates to the intellectual interests of the reader). It requires students to integrate and interpret elements of a text that presents what is intended to be a rational argument about what is perceived to be an irrational position. Reading literacy is applied to a real-world (but unusual) investigation of a social phenomenon. The item can be considered as not difficult. While the item allows for sophisticated responses to textual features such as the connotation of vocabulary, credit for responses could also be achieved through the recognition of direct statements of opinion. This wide range of credit-worthy responses contributes to the relative easiness of the item.

Mobile Phone Plans is ranked medium on the item map. It asks students to integrate and develop an interpretation with information gathered from a text as well as recognize different descriptions in a text.

2. MOBILE PHONE PLANS

DIGI 1 Mobile Phone Contract Plans (1 year)



Digi 1 – Your number 1 mobile phone company

PLANS	Minimum monthly commitment fee	Call charges (per minute) ¹		SMS charges (per SMS) ²		Benefits
		Digi 1 to Digi 1	Digi 1 to others	Digi 1 to Digi 1	Digi 1 to others	
FREEDOM Want a lower monthly access fee? This is the best plan!	1,200 zeds	Peak (7 a.m. – 7 p.m.)		1 zed	3 zeds	<ul style="list-style-type: none"> 600 zeds talk time each month – Value Extras™ not included. Access to one of the Value Extras™ add-ons for only 200 zeds extra per month.
		6 zeds	6 zeds			
		Off Peak (7 p.m. – 7 a.m.)				
		3 zeds	6 zeds			
FLEXI FIRST This plan gives you more for less!	1,800 zeds	3.5 zeds	4 zeds	2 zeds	3 zeds	<ul style="list-style-type: none"> 1,800 zeds talk time each month – Value Extras™ not included. Choose one of the Value Extras™ add-ons for free!
VALUE PLUS Keep on talking and never miss a call again.	5,000 zeds	2 zeds	3 zeds	0.5 zeds	4 zeds	<ul style="list-style-type: none"> 5,000 zeds talk time each month. Free 5-minute calls to other Digi 1 numbers. Choose one of the Value Extras™ add-ons for free.

1. Calls are charged in 30-second blocks for all rate plans.

2. SMS charges to international mobiles are 10 zeds/SMS on all plans.

FREE VALUE ADDED SERVICES

- You get Caller Line Identification Presentation and Voicemail.

VALUE EXTRAS™ ADD-ON PACKAGES

WEEKEND	Receive 50% off on all Digi 1 to Digi 1 weekend calls for only 200 zeds extra a month.
TEN	Free SMSs and free 10-minute off peak* calls to TEN of your favorite Digi 1 numbers for only 200 zeds extra a month.
SMS	500 SMSs to Digi 1 numbers for only 200 zeds extra a month.

*7 p.m. – 7 a.m. weekdays.



“Mobile Phone Plans” contains information about the yearly contract plans a mobile phone company, Digi 1, offers in a country, Zedland.

Use “Mobile Phone Plans” to answer the questions that follow.

MOBILE PHONE PLANS – QUESTION 1

List two advantages the Value Plus plan offers over the Flexi First plan.

1.
2.

Scoring

Question intent

Integrate and interpret: Develop an interpretation

Recognize different descriptions in a text.

Full Credit

Refers to two or more of the following, in any order:

- Value of included calls/SMSs each month;
- SMS charges to other Digi 1 customers;
- Call costs;
- Free calls.
- 1. It includes 5,000 zeds of call value each month.
- 2. The calls and SMS charges to other Digi 1 numbers are lower.
- 1. It includes more talk time each month.
- 2. It includes free calls to other Digi 1 numbers.
- 1. The calls and SMS charges to other Digi 1 numbers are lower.
- 2. It includes free calls to other Digi 1 numbers.
- The call and SMS charges to other Digi 1 numbers are lower and the cost of calls and SMS is included in the monthly fee.
- It includes free calls to other Digi 1 numbers and it includes more value in the monthly fee.

Partial Credit

Refers to one of either value of calls included, SMS costs, call costs or free calls:

- It includes 5,000 zeds of value each month.
- The fees for the calls are cheaper.
- The SMSs to other Digi 1 numbers are cheaper.
- It includes free calls.

No Credit

Shows inaccurate comprehension of the material or gives an implausible or irrelevant response.

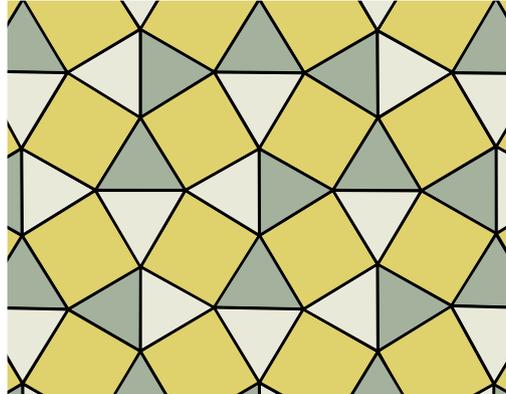
- It is better value than the Flexi First plan. [*Irrelevant.*]
- You never miss a call again. [*Irrelevant.*]
- You get a free add-on. [*Inaccurate.*]
- You have more zeds.



Mathematics

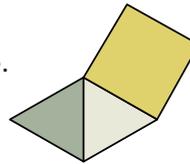
Tiling Pattern is ranked between medium and difficult on the item map. It asks a student to look at space and shape in order to find an interior angle.

5. TILING PATTERN



This is a tiling pattern on a floor.

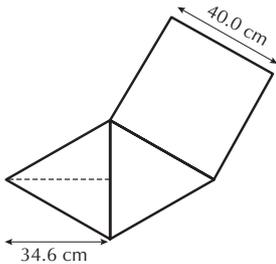
A shape that repeats within the pattern is shown here.



The repeating shape is a square and two equilateral triangles joined together.

TILING PATTERN – QUESTION 2

The height of each triangle and the length of the sides are shown.



What is the area of the repeating shape?

Show your work.

.....
.....
.....

Area = cm²



Scoring

Question intent

Description: Calculate area of compound shape within a given tessellation

Mathematical content area: Space and shape

Context: Societal

Process category: Employing

Full Credit

2,984 [work not required]

Partial Credit

Work shows correct method but **one** error made.

- $2 \times 20 \times 34.6 + 40 \times 40$ or equivalent shown but one calculation error made
- $2 \times 40 \times 34.6 + 40 \times 40$ correctly evaluated (4,368) [forgot to halve base]
- 20×34.6 [one triangle only] + 40×40 correctly evaluated giving 2,292

Work shows correct method but **incomplete**.

- $2 \times 20 \times 34.6 + 40 \times 40$ or equivalent shown but not evaluated
- $2 \times 20 \times 34.6 + 40 \times 40 = 1,384 + \dots\dots\dots$

No Credit

Other responses.

Missing.

Which Formula is ranked medium on the item map. It asks students to create a correct formula in a context based on a linear relationship between fixed and variable costs.

6. WHICH FORMULA

Steph and Jawad run their own businesses.
 Steph makes greeting cards and sells them at a market each Sunday.
 Jawad is a gardener.



FORMULA?

Jawad's total charge for a gardening job is:

- a fixed charge of 20 zeds plus
- an hourly charge of 30 zeds per hour.



Write a formula that shows how Jawađ's total charge, C , relates to h , the number of hours he spends on a job.

.....

.....

Scoring

Question intent

Description: Create a correct formula in a context based on a linear relationship between fixed and variable costs

Reporting category: Formulating

Mathematical content area: Change and relationships

Context: Occupational

Full Credit

An expression that shows an understanding of the relationship between total charge, fixed charge, hourly charge and hours

- $C = 30h + 20$
- $C = 20 + h \times 30$
- Charge = 30 zeds x number of hours + 20 zeds

Partial Credit

An expression that shows an understanding of the relationship between total charge, hourly charge and hours [omits fixed charge]

- $C = 30h$
- $C = h \times 30$
- Charge = 30 zeds x number of hours

No Credit

Other responses.

Missing.

Comment

This question presents students with an informal linear algebra situation in a familiar *occupational* context involving costs and charges. The world of work is becoming increasingly familiar and important for many 15-year-olds and the relationship between costs and charges, both fixed and variable, is an important one. To gain credit for this task, students need to create a correct formula in a context based on a linear relationship between fixed and variable costs. The intention of this item is to assess whether students can interpret the information provided in context, see the underlying relationships, then express the relationships symbolically using conventional algebraic notation and conventions, hence the content categorization *change and relationships*. Because the students are only required to formulate the equation and are not required to perform any calculations, perform any algebraic manipulations or use the equation in any way, the item process is categorized as formulate. Despite being a routine style of algebra question presented in an informal way, only about one out of two 15-year-olds would be expected to correctly write down the correct algebraic equation. This is partly because in most countries algebra is still a relatively new topic in school curricula for 15-year-olds. However, this is also because rather than assessing routine algebraic manipulations, the item requires genuine understanding of the underlying structure of an algebraic formula.



Science

Oil Spills is ranked medium on the item map. It asks a student to identify scientific issues related to the environment.

3. OIL SPILLS

Oil spills from ships can seriously pollute oceans, beaches and rivers. After an oil spill, booms and floating sponges are used to reduce pollution effects.



Boom in place around an oil spill

An investigation into the effect of bacteria on oil in water is made in 5 steps.

- Step 1 Half fill a screw top jar with seawater.
- Step 2 Add a sample of oil to the jar.
- Step 3 Add some liquid containing bacteria.
- Step 4 Seal the jar and leave it for several days.
- Step 5 Observe the contents of the jar.

OIL SPILLS – QUESTION 4

What parts of this investigation do not model a real oil spill in the ocean?

Scoring

Full Credit

Responses should focus on the fact that seawater in a sealed jar does not have the same conditions as real seawater.

- Doesn't model seawater because it is in a sealed container.

No Credit

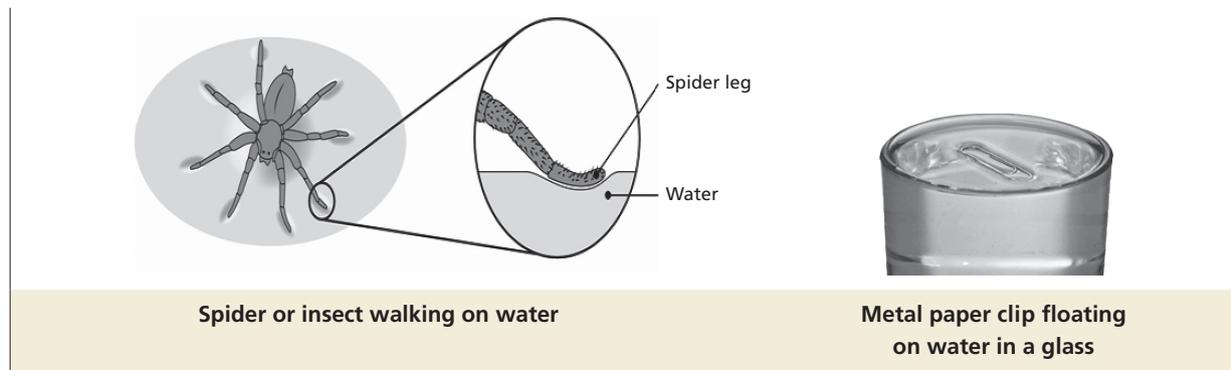
Other responses.

Missing.



Floating is ranked between medium and difficult on the item map. It asks students to explain a phenomenon scientifically.

4. FLOATING



FLOATING – QUESTION 3

Look at the pictures of the spider and the metal paper clip. What is the reason that both the spider and the paper clip can stay on top of the water?

.....

.....

Scoring

Question intent

Item type: Open-response

Competency: Explaining phenomena scientifically

Knowledge category: Physical Systems-Knowledge of science

Application area: Frontiers of science and technology

Setting: Personal

Full Credit

Mentions the surface tension of the water and/or expresses the idea of the weight of the object being spread over a large area.

- The water exerts a force that acts on the spider leg and the paper clip. The weight of the spider or the paper clip is not enough to overcome this force.
- The force of gravity on the spider and the paper clip is not enough to break the surface tension of the water.
- There is a force holding the water molecules together. If the object laying on the surface is not heavy enough then it will not break through and sink.

No Credit

Responses that do not meet the criteria for code 1.

- The spider and the paper clip are less dense than water.

Missing.



Comment

This item from the *Floating* unit is an example of a difficult question to which only about one out of five students are expected to answer correctly with full credit. Students are asked to use knowledge of science where a correct response requires an explanation of an observed scientific phenomenon: that objects with a density greater than water are able to float on water. Visual clues to assist students with their response are provided in the question stimulus. Students need to have only a broad understanding of the concept of surface tension; it is not necessary to use this term in the response to gain credit. Students needed to discriminate between aspects of the visual clues and thus a response that focused on buoyancy, for example, would not gain credit. Surface chemistry is a rapidly evolving field of science; hence the question is classified as *frontiers of science and technology*.

For a more complete set of PISA test questions, readers are invited to look through the reading, mathematics and science items included in the OECD publication:

- [PISA Take the Test: Sample Questions from OECD's PISA Assessments](#)



Annex D

Tables of results from PISA 2015 for countries and economies

The tables included in this annex present summary results for all countries and economies that participated in PISA 2015. These tables represent only a small fraction of the information provided in multiple volumes of the PISA 2015 results. To put your school's results further in context, the reader is invited to use the tables in this annex to explore basic results from PISA 2015 for a wide range of countries and economies, including the selected group of countries and economies presented throughout the report. More detailed results for all participating countries and economies can be found on the [PISA Website](#).



Table 1 Mean score and variation in mathematics performance in PISA 2015

	Mean score		Standard deviation		Percentiles														
					5th		10th		25th		Median (50th)		75th		90th		95th		
	Mean	S.E.	S.D.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	
OECD																			
Australia	494	(1.6)	93	(1.2)	339	(2.8)	371	(2.5)	430	(2.0)	495	(2.1)	559	(2.1)	613	(2.8)	645	(3.3)	
Austria	497	(2.9)	95	(1.8)	337	(5.7)	370	(4.5)	431	(3.9)	501	(3.6)	564	(3.4)	618	(3.7)	648	(4.2)	
Belgium	507	(2.4)	97	(1.5)	341	(4.4)	374	(3.9)	438	(3.5)	513	(3.0)	579	(2.5)	630	(2.5)	657	(2.7)	
Canada	516	(2.3)	88	(1.1)	368	(3.7)	400	(3.2)	456	(2.9)	518	(2.5)	577	(2.6)	627	(3.2)	657	(3.6)	
Chile	423	(2.5)	85	(1.4)	284	(4.0)	313	(3.5)	363	(2.9)	422	(3.0)	483	(3.5)	534	(3.6)	563	(3.7)	
Czech Republic	492	(2.4)	91	(1.7)	340	(4.8)	373	(4.2)	431	(3.4)	494	(2.8)	555	(2.9)	608	(3.6)	639	(4.4)	
Denmark	511	(2.2)	81	(1.2)	376	(3.3)	405	(3.2)	457	(2.9)	513	(2.7)	567	(2.5)	614	(2.9)	639	(3.5)	
Estonia	520	(2.0)	80	(1.1)	386	(3.7)	415	(3.1)	464	(2.6)	521	(2.3)	576	(2.6)	623	(2.7)	650	(3.4)	
Finland	511	(2.3)	82	(1.3)	372	(5.1)	404	(3.8)	456	(3.1)	514	(2.7)	568	(2.4)	614	(2.9)	642	(3.5)	
France	493	(2.1)	95	(1.5)	331	(4.5)	364	(3.9)	425	(3.3)	499	(2.9)	564	(2.6)	613	(2.7)	639	(3.3)	
Germany	506	(2.9)	89	(1.4)	356	(4.9)	389	(4.1)	445	(3.5)	508	(3.2)	568	(3.4)	620	(3.4)	650	(3.9)	
Greece	454	(3.8)	89	(1.8)	306	(5.7)	336	(5.3)	391	(5.0)	455	(4.0)	517	(4.0)	570	(3.7)	598	(4.2)	
Hungary	477	(2.5)	94	(1.7)	321	(4.0)	351	(4.1)	411	(3.7)	480	(3.3)	543	(3.2)	598	(3.5)	627	(4.0)	
Iceland	488	(2.0)	93	(1.3)	333	(3.9)	367	(3.6)	424	(3.0)	489	(2.7)	553	(2.7)	608	(4.0)	640	(4.3)	
Ireland	504	(2.1)	80	(1.4)	371	(4.4)	400	(3.8)	450	(2.7)	505	(2.3)	559	(2.2)	606	(2.6)	633	(2.7)	
Israel	470	(3.6)	103	(2.2)	296	(5.3)	332	(4.7)	396	(4.3)	473	(4.5)	545	(4.3)	601	(4.9)	634	(6.1)	
Italy	490	(2.8)	94	(1.7)	334	(4.7)	368	(3.8)	426	(3.3)	491	(3.2)	555	(3.6)	610	(3.8)	640	(4.4)	
Japan	532	(3.0)	88	(1.7)	381	(5.6)	416	(4.4)	474	(3.5)	536	(3.5)	594	(3.5)	643	(4.2)	672	(5.4)	
Korea	524	(3.7)	100	(1.8)	353	(5.9)	391	(5.5)	458	(4.5)	529	(4.3)	594	(4.2)	649	(4.3)	681	(4.8)	
Latvia	482	(1.9)	78	(1.2)	353	(4.4)	382	(3.0)	430	(2.7)	483	(2.3)	536	(2.1)	582	(2.9)	608	(3.1)	
Luxembourg	486	(1.3)	94	(1.2)	334	(2.8)	363	(2.2)	417	(2.1)	487	(1.9)	553	(2.0)	607	(2.5)	638	(3.7)	
Mexico	408	(2.2)	75	(1.3)	284	(4.1)	312	(2.6)	357	(2.5)	407	(2.6)	459	(2.9)	505	(3.5)	533	(3.6)	
Netherlands	512	(2.2)	92	(1.5)	356	(3.9)	390	(3.9)	449	(3.3)	516	(2.8)	579	(2.4)	627	(3.1)	655	(3.6)	
New Zealand	495	(2.3)	92	(1.3)	342	(3.8)	375	(3.8)	431	(3.2)	497	(2.9)	560	(2.8)	613	(3.1)	646	(4.4)	
Norway	502	(2.2)	85	(1.1)	359	(4.0)	391	(3.4)	444	(2.5)	504	(2.7)	561	(2.7)	610	(3.0)	638	(3.0)	
Poland	504	(2.4)	88	(1.7)	363	(4.5)	391	(4.1)	443	(3.0)	505	(2.5)	565	(3.0)	617	(3.6)	649	(4.8)	
Portugal	492	(2.5)	96	(1.3)	332	(4.4)	365	(3.8)	424	(3.1)	495	(3.1)	561	(2.8)	614	(3.6)	644	(4.1)	
Slovak Republic	475	(2.7)	95	(1.6)	312	(5.4)	349	(4.2)	412	(3.9)	479	(3.2)	543	(2.8)	596	(3.3)	625	(3.9)	
Slovenia	510	(1.3)	88	(1.3)	363	(3.5)	394	(2.5)	449	(2.1)	512	(2.0)	572	(1.9)	622	(3.0)	651	(4.1)	
Spain	486	(2.2)	85	(1.3)	342	(3.8)	374	(3.4)	428	(2.8)	489	(2.6)	546	(2.5)	593	(3.3)	621	(3.7)	
Sweden	494	(3.2)	90	(1.7)	342	(5.0)	376	(4.4)	433	(3.8)	496	(3.5)	557	(4.0)	609	(3.9)	638	(4.7)	
Switzerland	521	(2.9)	96	(1.6)	358	(5.1)	394	(4.4)	455	(3.9)	526	(3.3)	590	(3.4)	641	(3.4)	671	(3.9)	
Turkey	420	(4.1)	82	(2.3)	291	(4.8)	317	(3.9)	363	(3.8)	417	(4.7)	477	(6.0)	529	(6.3)	559	(7.5)	
United Kingdom	492	(2.5)	93	(1.4)	337	(4.3)	371	(3.7)	430	(3.2)	496	(2.9)	556	(3.1)	610	(3.1)	641	(4.0)	
United States	470	(3.2)	88	(1.5)	323	(4.7)	355	(3.9)	408	(3.9)	470	(3.5)	532	(3.5)	585	(4.2)	613	(5.0)	
European Union total	493	(0.8)	92	(0.5)	338	(1.4)	371	(1.2)	429	(1.1)	495	(0.9)	558	(0.9)	610	(1.0)	640	(1.2)	
OECD total	478	(1.1)	96	(0.5)	321	(1.5)	353	(1.3)	410	(1.4)	478	(1.4)	546	(1.3)	602	(1.4)	634	(1.3)	
OECD average	490	(0.4)	89	(0.3)	340	(0.8)	373	(0.7)	428	(0.6)	492	(0.5)	553	(0.5)	605	(0.6)	634	(0.7)	
Partners																			
Albania	413	(3.4)	86	(1.6)	272	(5.7)	303	(4.3)	354	(4.0)	413	(4.2)	472	(4.2)	525	(4.4)	556	(5.0)	
Algeria	360	(3.0)	71	(1.5)	247	(4.2)	271	(3.8)	312	(3.0)	357	(2.8)	405	(3.6)	452	(4.4)	481	(5.2)	
Brazil	377	(2.9)	89	(1.7)	240	(3.0)	267	(3.3)	315	(3.1)	371	(3.1)	434	(3.7)	496	(4.7)	533	(5.5)	
B-S-J-G (China)	531	(4.9)	106	(2.5)	351	(6.7)	388	(5.9)	458	(5.9)	538	(5.4)	609	(5.8)	664	(5.6)	695	(6.2)	
Bulgaria	441	(4.0)	97	(2.4)	284	(5.6)	315	(5.2)	371	(4.7)	441	(4.8)	509	(4.9)	568	(5.6)	601	(5.8)	
CABA (Argentina)	456	(6.9)	89	(3.4)	307	(9.9)	340	(8.9)	397	(7.3)	457	(8.0)	518	(8.1)	571	(8.7)	599	(9.2)	
Colombia	390	(2.3)	77	(1.3)	269	(3.7)	293	(3.1)	335	(2.9)	386	(2.6)	441	(2.7)	492	(3.2)	522	(3.8)	
Costa Rica	400	(2.5)	68	(1.4)	292	(2.7)	315	(2.9)	353	(2.5)	398	(2.6)	445	(3.0)	489	(4.2)	517	(5.0)	
Croatia	464	(2.8)	88	(1.6)	322	(4.6)	351	(4.2)	402	(3.7)	462	(3.4)	525	(3.3)	580	(3.6)	612	(4.5)	
Cyprus ^{1,2}	437	(1.7)	92	(1.1)	286	(3.4)	317	(3.4)	373	(2.2)	438	(1.7)	500	(2.3)	558	(3.0)	590	(3.9)	
Dominican Republic	328	(2.7)	69	(2.0)	220	(4.3)	243	(3.9)	281	(3.2)	324	(3.1)	373	(3.6)	418	(4.7)	446	(7.0)	
FYROM	371	(1.3)	96	(1.6)	217	(4.5)	251	(3.0)	306	(2.0)	369	(1.6)	434	(2.4)	496	(3.4)	533	(4.4)	
Georgia	404	(2.8)	94	(2.2)	250	(4.9)	285	(4.3)	341	(3.6)	403	(3.1)	467	(3.4)	525	(4.7)	559	(6.3)	
Hong Kong (China)	548	(3.0)	90	(1.5)	389	(5.8)	426	(5.0)	490	(4.3)	554	(3.3)	611	(2.8)	659	(3.5)	687	(4.6)	
Indonesia	386	(3.1)	80	(2.0)	264	(4.1)	289	(4.1)	331	(3.5)	381	(3.3)	436	(3.9)	492	(5.4)	528	(6.2)	
Jordan	380	(2.7)	86	(2.1)	238	(6.1)	271	(4.0)	324	(3.2)	382	(2.9)	439	(3.2)	489	(3.2)	519	(3.9)	
Kosovo	362	(1.6)	75	(1.4)	238	(3.5)	265	(2.9)	310	(2.3)	360	(2.0)	413	(2.6)	460	(4.2)	487	(4.3)	
Lebanon	396	(3.7)	101	(2.0)	236	(5.5)	268	(5.2)	324	(4.7)	392	(4.5)	464	(4.6)	531	(5.5)	568	(6.2)	
Lithuania	478	(2.3)	86	(1.4)	337	(3.8)	365	(3.8)	419	(3.0)	479	(2.7)	539	(2.9)	590	(3.5)	620	(4.0)	
Macao (China)	544	(1.1)	80	(1.1)	408	(4.4)	439	(2.4)	491	(1.7)	547	(1.5)	599	(1.9)	643	(2.5)	669	(4.0)	
Malta	479	(1.7)	110	(1.4)	289	(5.9)	331	(3.5)	405	(2.5)	485	(2.7)	558	(2.5)	616	(3.0)	648	(4.3)	
Moldova	420	(2.5)	90	(1.5)	271	(4.8)	303	(3.7)	358	(3.4)	419	(3.1)	482	(3.3)	536	(4.1)	568	(4.2)	
Montenegro	418	(1.5)	87	(1.4)	279	(3.5)	308	(2.8)	358	(2.2)	416	(2.1)	477	(2.4)	531	(2.3)	563	(3.3)	
Peru	387	(2.7)	83	(1.4)	254	(3.5)	283	(2.6)	329	(2.7)	384	(2.8)	442	(4.0)	495	(4.3)	526	(4.5)	
Qatar	402	(1.3)	99	(1.0)	248	(2.6)	278	(2.0)	331	(1.8)	397	(1.8)	470	(1.6)	536	(2.0)	573	(2.8)	
Romania	444	(3.8)	86	(2.1)	305	(5.1)	334	(4.6)	384	(4.3)	442	(4.3)	502	(4.6)	557	(5.4)	590	(5.9)	
Russia	494	(3.1)	83	(1.3)	357	(5.5)	387	(4.6)	437	(3.4)	494	(3.5)	552	(3.4)	601	(3.8)	629	(4.2)	
Singapore	564	(1.5)	95	(0.8)	399	(2.8)	436	(2.6)	500	(2.4)	571	(2.0)	632	(1.6)	682	(2.4)	711	(3.4)	
Chinese Taipei	542	(3.0)	103	(1.9)	364	(4.4)	404	(4.2)	474	(3.6)	548	(3.2)	616	(3.6)	670	(4.6)	701	(6.2)	
Thailand	415	(3.0)	82	(1.9)	286	(4.1)	313	(3.7)	360	(3.1)	412	(3.2)	468	(4.0)	521	(5.2)	555	(6.3)	
Trinidad and Tobago	417	(1.4)	96	(1.2)	265	(3.6)	294	(3.0)	348	(2.4)	415	(2.3)	484	(2.1)	545	(3.3)	578	(3.5)	
Tunisia	367	(3.0)	84	(2.3)	235	(4.7)	263	(4.6)	310	(3.3)	363	(3.1)	421	(3.6)	476	(5.0)	510	(7.2)	
United Arab Emirates	427	(2.4)	97	(1.3)	275	(3.8)	306	(3.3)	360	(2.9)	423	(3.0)	493	(3.2)	557	(3.5)	593	(3.6)	
Uruguay	418	(2.5)	87	(1.7)	281	(3.5)	309	(2.7)	357	(3.3)	415	(2.9)	477	(3.4)	532	(3.6)	565	(5.2)	
Viet Nam	495	(4.5)	84	(2.7)	361	(5.9)	388	(5.4)	436	(4.7)	492	(4.7)	551	(4.9)	604	(6.9)	636	(8.3)	
Argentina*	409	(3.1)	81	(1.5)	280	(4.3)	306	(3.4)	354	(3.									



Table 2 Percentage of students at each proficiency level in mathematics in PISA 2015

	All students													
	Below Level 1 (below 357.77 score points)		"Level 1 (from 357.77 to less than 420.07 score points)"		"Level 2 (from 420.07 to less than 482.38 score points)"		"Level 3 (from 482.38 to less than 544.68 score points)"		"Level 4 (from 544.68 to less than 606.99 score points)"		"Level 5 (from 606.99 to less than 669.30 score points)"		"Level 6 (above 669.30 score points)"	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD														
Australia	7.6	(0.4)	14.4	(0.4)	22.6	(0.7)	25.4	(0.6)	18.7	(0.5)	8.6	(0.5)	2.7	(0.3)
Austria	7.8	(0.7)	13.9	(0.7)	21.3	(0.8)	24.6	(0.9)	19.9	(0.8)	9.7	(0.7)	2.7	(0.4)
Belgium	7.2	(0.6)	12.9	(0.6)	18.8	(0.8)	23.4	(0.7)	21.8	(0.7)	12.3	(0.5)	3.6	(0.4)
Canada	3.8	(0.4)	10.5	(0.5)	20.4	(0.6)	27.1	(0.6)	23.0	(0.7)	11.4	(0.6)	3.7	(0.3)
Chile	23.0	(1.1)	26.3	(1.0)	25.5	(0.8)	17.4	(0.9)	6.4	(0.5)	1.3	(0.2)	0.1	(0.1)
Czech Republic	7.4	(0.7)	14.3	(0.8)	23.3	(0.9)	26.2	(0.8)	18.4	(0.7)	8.1	(0.6)	2.2	(0.3)
Denmark	3.1	(0.3)	10.5	(0.7)	21.9	(1.0)	29.5	(0.9)	23.4	(0.9)	9.8	(0.7)	1.9	(0.3)
Estonia	2.2	(0.3)	9.0	(0.7)	21.5	(0.9)	28.9	(0.8)	24.2	(0.7)	11.3	(0.7)	2.9	(0.4)
Finland	3.6	(0.5)	10.0	(0.7)	21.8	(0.8)	29.3	(0.8)	23.7	(1.0)	9.5	(0.7)	2.2	(0.3)
France	8.8	(0.7)	14.7	(0.7)	20.7	(0.9)	23.8	(0.8)	20.6	(0.7)	9.5	(0.6)	1.9	(0.3)
Germany	5.1	(0.6)	12.1	(0.8)	21.8	(0.9)	26.8	(0.7)	21.2	(0.9)	10.1	(0.6)	2.9	(0.4)
Greece	15.1	(1.3)	20.7	(1.0)	26.0	(0.9)	22.1	(1.0)	12.3	(0.9)	3.4	(0.4)	0.5	(0.1)
Hungary	11.3	(0.8)	16.6	(0.8)	23.1	(1.0)	24.5	(1.0)	16.3	(0.8)	6.7	(0.5)	1.5	(0.3)
Iceland	8.4	(0.6)	15.2	(0.9)	23.7	(1.1)	24.8	(1.1)	17.5	(0.9)	8.1	(0.7)	2.2	(0.3)
Ireland	3.5	(0.5)	11.5	(0.6)	24.1	(0.9)	30.0	(0.9)	21.2	(0.7)	8.3	(0.5)	1.5	(0.2)
Israel	15.0	(1.0)	17.1	(0.8)	21.1	(1.0)	21.7	(1.0)	16.1	(0.8)	7.1	(0.6)	1.9	(0.3)
Italy	8.3	(0.6)	14.9	(0.8)	23.3	(0.8)	24.7	(0.8)	18.3	(0.9)	8.1	(0.6)	2.4	(0.3)
Japan	2.9	(0.4)	7.8	(0.6)	17.2	(0.9)	25.8	(0.9)	25.9	(0.9)	15.0	(0.9)	5.3	(0.7)
Korea	5.4	(0.6)	10.0	(0.7)	17.2	(0.8)	23.7	(0.8)	22.7	(0.9)	14.3	(0.9)	6.6	(0.7)
Latvia	5.7	(0.6)	15.8	(0.8)	28.3	(0.9)	28.8	(1.0)	16.3	(0.7)	4.5	(0.4)	0.6	(0.1)
Luxembourg	8.8	(0.5)	17.0	(0.7)	22.5	(0.7)	23.6	(1.0)	18.0	(0.7)	7.8	(0.4)	2.2	(0.3)
Mexico	25.5	(1.1)	31.1	(0.9)	26.9	(0.9)	12.9	(0.8)	3.2	(0.4)	0.3	(0.1)	0.0	(0.0)
Netherlands	5.2	(0.5)	11.5	(0.7)	19.8	(0.7)	24.9	(0.9)	23.0	(0.8)	12.3	(0.7)	3.2	(0.3)
New Zealand	7.1	(0.5)	14.6	(0.8)	22.6	(1.0)	25.3	(1.0)	19.0	(0.8)	8.6	(0.7)	2.8	(0.4)
Norway	4.8	(0.5)	12.3	(0.7)	23.6	(0.9)	27.7	(0.8)	21.0	(1.0)	8.7	(0.6)	1.9	(0.3)
Poland	4.5	(0.5)	12.7	(0.8)	22.9	(1.0)	27.1	(0.8)	20.6	(0.9)	9.3	(0.6)	2.9	(0.5)
Portugal	8.7	(0.6)	15.1	(0.7)	21.6	(0.7)	23.9	(0.8)	19.2	(0.8)	8.9	(0.6)	2.5	(0.3)
Slovak Republic	11.6	(0.8)	16.1	(0.7)	23.5	(1.0)	24.3	(0.9)	16.7	(0.7)	6.6	(0.5)	1.3	(0.3)
Slovenia	4.4	(0.4)	11.7	(0.6)	21.4	(0.8)	26.8	(0.8)	22.3	(0.8)	10.4	(0.6)	3.0	(0.4)
Spain	7.2	(0.5)	15.0	(0.8)	24.9	(0.8)	27.5	(1.0)	18.1	(0.7)	6.3	(0.5)	1.0	(0.2)
Sweden	7.0	(0.7)	13.8	(0.8)	23.3	(1.0)	26.1	(1.1)	19.4	(0.9)	8.4	(0.6)	2.0	(0.4)
Switzerland	4.9	(0.5)	10.9	(0.8)	18.1	(0.8)	23.6	(0.9)	23.3	(0.8)	14.0	(0.8)	5.3	(0.5)
Turkey	22.9	(1.5)	28.4	(1.4)	25.3	(1.1)	16.3	(1.2)	5.9	(0.9)	1.0	(0.3)	0.1	(0.1)
United Kingdom	7.7	(0.6)	14.1	(0.7)	22.7	(0.8)	26.0	(0.8)	18.8	(0.8)	8.3	(0.6)	2.3	(0.3)
United States	10.6	(0.8)	18.8	(1.0)	26.2	(1.0)	23.8	(0.9)	14.7	(0.8)	5.0	(0.6)	0.9	(0.2)
European Union total	7.7	(0.2)	14.4	(0.2)	22.6	(0.2)	25.4	(0.3)	19.2	(0.3)	8.5	(0.2)	2.2	(0.1)
OECD total	10.9	(0.3)	17.5	(0.3)	23.4	(0.3)	22.9	(0.3)	16.2	(0.3)	7.1	(0.2)	2.0	(0.1)
OECD average	8.5	(0.1)	14.9	(0.1)	22.5	(0.1)	24.8	(0.1)	18.6	(0.1)	8.4	(0.1)	2.3	(0.1)
Partners														
Albania	26.3	(1.5)	27.0	(1.5)	25.4	(1.2)	14.8	(1.0)	5.4	(0.6)	1.0	(0.3)	0.1	(0.1)
Algeria	50.6	(1.7)	30.4	(0.9)	14.2	(1.0)	4.0	(0.5)	0.8	(0.2)	0.1	(0.1)	0.0	(0.0)
Brazil	43.7	(1.3)	26.5	(0.8)	17.2	(0.7)	8.6	(0.5)	3.1	(0.4)	0.8	(0.2)	0.1	(0.1)
B-S-J-G (China)	5.8	(0.7)	10.0	(0.8)	16.3	(0.9)	20.5	(0.9)	21.8	(0.9)	16.6	(1.1)	9.0	(1.1)
Bulgaria	20.8	(1.5)	21.2	(1.1)	23.7	(1.0)	19.3	(1.0)	10.6	(0.8)	3.6	(0.5)	0.8	(0.3)
CABA (Argentina)	13.8	(2.1)	20.2	(2.4)	27.0	(2.0)	22.3	(1.9)	12.5	(1.8)	3.5	(1.0)	0.5	(0.3)
Colombia	35.4	(1.3)	30.9	(0.8)	21.5	(0.8)	9.5	(0.6)	2.4	(0.2)	0.3	(0.1)	0.0	(0.0)
Costa Rica	27.4	(1.2)	35.1	(1.0)	25.8	(1.0)	9.4	(0.8)	2.0	(0.4)	0.3	(0.1)	0.0	(0.0)
Croatia	11.5	(0.9)	20.5	(0.8)	26.3	(0.9)	23.0	(0.8)	13.1	(0.8)	4.6	(0.5)	1.0	(0.2)
Cyprus ^{1,2}	20.2	(0.7)	22.4	(0.7)	25.8	(0.8)	18.9	(0.8)	9.5	(0.5)	2.8	(0.4)	0.4	(0.1)
Dominican Republic	68.3	(1.6)	22.2	(1.1)	7.7	(0.8)	1.5	(0.4)	0.2	(0.1)	0.0	(0.0)	0.0	(0.0)
FYROM	45.1	(0.7)	25.1	(0.8)	17.3	(0.9)	8.6	(0.6)	3.1	(0.4)	0.7	(0.2)	0.2	(0.1)
Georgia	31.2	(1.4)	25.9	(1.0)	22.8	(0.8)	13.4	(0.7)	5.2	(0.5)	1.4	(0.3)	0.2	(0.1)
Hong Kong (China)	2.5	(0.4)	6.4	(0.6)	13.6	(0.9)	23.4	(0.9)	27.4	(1.1)	18.8	(0.9)	7.7	(0.7)
Indonesia	37.9	(1.7)	30.7	(1.1)	19.6	(1.0)	8.4	(0.7)	2.7	(0.4)	0.6	(0.2)	0.1	(0.1)
Jordan	38.9	(1.3)	28.7	(0.9)	20.9	(0.9)	9.2	(0.6)	2.1	(0.3)	0.2	(0.1)	0.0	(0.0)
Kosovo	48.7	(1.0)	29.0	(1.3)	16.5	(0.9)	5.1	(0.6)	0.7	(0.2)	0.0	(0.0)	0.0	(0.0)
Lebanon	36.6	(1.7)	23.6	(1.2)	19.5	(0.9)	12.3	(0.9)	5.9	(0.6)	1.7	(0.3)	0.3	(0.1)
Lithuania	8.5	(0.8)	16.9	(0.8)	26.4	(1.1)	25.4	(1.0)	15.9	(0.9)	5.8	(0.6)	1.1	(0.2)
Macao (China)	1.3	(0.2)	5.3	(0.5)	15.1	(0.6)	27.3	(0.8)	29.1	(0.7)	16.9	(0.7)	5.0	(0.5)
Malta	14.7	(0.6)	14.4	(0.8)	20.0	(0.9)	21.6	(0.7)	17.5	(0.8)	8.9	(0.6)	3.0	(0.3)
Moldova	24.8	(1.0)	25.5	(1.0)	25.0	(1.1)	16.3	(0.8)	6.7	(0.6)	1.5	(0.2)	0.2	(0.1)
Montenegro	25.0	(0.7)	26.9	(0.8)	24.9	(1.0)	15.7	(0.7)	6.1	(0.4)	1.4	(0.2)	0.2	(0.1)
Peru	37.7	(1.2)	28.4	(0.9)	21.0	(0.9)	9.8	(0.7)	2.7	(0.4)	0.4	(0.1)	0.0	(0.0)
Qatar	34.7	(0.5)	24.0	(0.6)	19.9	(0.6)	12.8	(0.4)	6.4	(0.3)	1.9	(0.2)	0.3	(0.1)
Romania	16.2	(1.3)	23.7	(1.2)	27.4	(1.1)	20.1	(1.1)	9.3	(0.9)	2.8	(0.4)	0.4	(0.2)
Russia	5.1	(0.7)	13.9	(0.9)	25.5	(0.9)	27.5	(0.9)	19.3	(1.0)	7.3	(0.6)	1.5	(0.2)
Singapore	2.0	(0.2)	5.5	(0.4)	12.4	(0.6)	20.0	(0.7)	25.1	(0.9)	21.7	(0.8)	13.1	(0.7)
Chinese Taipei	4.4	(0.4)	8.3	(0.5)	14.6	(0.7)	21.2	(0.9)	23.3	(0.9)	18.0	(0.6)	10.1	(0.9)
Thailand	24.2	(1.2)	29.6	(1.1)	26.1	(0.9)	13.8	(0.9)	4.8	(0.6)	1.2	(0.3)	0.2	(0.1)
Trinidad and Tobago	28.3	(0.8)	23.9	(0.9)	22.1	(0.8)	15.6	(0.8)	7.5	(0.5)	2.2	(0.3)	0.4	(0.1)
Tunisia	47.4	(1.5)	27.4	(1.1)	16.4	(0.9)	6.4	(0.6)	1.8	(0.4)	0.4	(0.2)	0.1	(0.1)
United Arab Emirates	24.4	(1.0)	24.4	(0.7)	23.2	(0.8)	15.9	(0.7)	8.5	(0.5)	3.1	(0.3)	0.6	(0.1)
Uruguay	25.4	(1.2)	27.0	(1.0)	24.4	(0.9)	15.3	(0.8)	6.2	(0.5)	1.5	(0.3)	0.2	(0.1)
Viet Nam	4.5	(0.8)	14.6	(1.2)	26.4	(1.2)	27.0	(1.3)	18.2	(1.1)	7.2	(0.9)	2.1	(0.7)
Argentina*	26.6	(1.3)	29.4	(1.0)	26.0	(0.9)	13.0	(0.8)	4.2	(0.5)	0.7	(0.2)	0.1	(0.0)
Kazakhstan*	10.2	(1.1)	21.9	(1.4)	29.8	(1.3)	22.8	(1.3)	11.0	(1.0)	3.5	(0.6)	0.8	(0.3)
Malaysia*	13.8	(1.0)	23.7	(1.0)	29.5	(0.9)	21.9	(1.0)	9.1	(0.8)	1.8	(0.4)	0.2	(0.1)

1. Footnote by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognizes the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".

2. Footnote by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognized by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

*Argentina, Kazakhstan and Malaysia: Coverage is too small to ensure comparability
Source : PISA 2015 Results (Volume I): Excellence and Equity in Education - Table I.5.1a
StatLink <http://dx.doi.org/10.1787/...>



[Part 1/3]

Table 3 Mean score and variation in mathematics performance, by gender in PISA 2015

	Boys																	
	Mean score		Standard deviation		Percentiles													
	Mean	S.E.	S.D.	S.E.	5th		10th		25th		75th		90th		95th			
				Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	
OECD																		
Australia	497	(2.1)	96	(1.4)	336	(3.4)	369	(2.9)	430	(3.2)	565	(2.9)	621	(3.4)	652	(3.9)		
Austria	510	(3.8)	97	(2.1)	345	(6.8)	380	(5.2)	443	(5.2)	581	(4.4)	633	(5.0)	661	(5.8)		
Belgium	514	(3.1)	100	(1.8)	346	(5.5)	378	(5.0)	443	(4.9)	588	(3.1)	639	(3.1)	667	(4.0)		
Canada	520	(2.9)	90	(1.4)	369	(4.5)	401	(4.0)	458	(3.8)	583	(3.2)	635	(4.3)	665	(4.7)		
Chile	432	(3.1)	87	(1.7)	291	(5.8)	320	(4.4)	371	(3.6)	494	(4.3)	544	(4.3)	573	(5.4)		
Czech Republic	496	(3.4)	95	(2.0)	336	(6.6)	370	(5.4)	430	(4.7)	563	(3.9)	617	(4.7)	648	(4.6)		
Denmark	516	(2.5)	82	(1.6)	377	(4.4)	407	(3.9)	461	(3.3)	574	(3.4)	621	(3.7)	647	(5.5)		
Estonia	522	(2.7)	84	(1.5)	381	(5.1)	412	(4.4)	464	(3.9)	581	(3.3)	630	(4.1)	657	(5.1)		
Finland	507	(2.6)	86	(1.6)	363	(5.7)	396	(4.6)	450	(3.7)	567	(2.9)	617	(3.5)	646	(4.0)		
France	496	(2.9)	99	(1.9)	327	(6.1)	362	(4.9)	424	(5.0)	570	(3.1)	620	(3.4)	646	(3.3)		
Germany	514	(3.5)	90	(1.8)	364	(6.4)	398	(5.6)	453	(4.1)	577	(3.8)	629	(4.3)	659	(4.9)		
Greece	454	(4.7)	93	(2.1)	303	(6.7)	330	(6.3)	386	(6.6)	522	(4.6)	574	(4.6)	604	(5.8)		
Hungary	481	(3.6)	95	(1.9)	325	(5.9)	355	(5.1)	413	(4.7)	549	(4.9)	605	(4.2)	635	(5.0)		
Iceland	487	(2.9)	94	(2.0)	331	(6.3)	365	(5.5)	422	(4.4)	553	(4.5)	608	(5.4)	641	(5.9)		
Ireland	512	(3.0)	83	(2.0)	372	(6.4)	402	(6.0)	455	(4.0)	571	(3.3)	618	(3.3)	644	(4.0)		
Israel	474	(5.4)	109	(3.0)	290	(7.6)	328	(7.0)	394	(6.6)	555	(5.7)	614	(7.5)	648	(8.1)		
Italy	500	(3.5)	96	(2.0)	339	(6.7)	375	(5.2)	434	(4.2)	567	(4.6)	621	(4.4)	652	(5.3)		
Japan	539	(3.8)	90	(2.1)	386	(6.4)	421	(5.6)	478	(4.9)	603	(4.4)	652	(5.6)	680	(6.7)		
Korea	521	(5.2)	106	(2.4)	341	(7.7)	381	(7.4)	449	(6.6)	596	(6.4)	655	(6.4)	688	(7.3)		
Latvia	481	(2.6)	81	(1.5)	347	(5.6)	377	(4.6)	426	(3.7)	538	(3.2)	587	(3.7)	615	(4.9)		
Luxembourg	491	(2.0)	96	(1.6)	336	(3.9)	365	(3.0)	420	(3.4)	561	(3.3)	618	(4.1)	649	(5.1)		
Mexico	412	(2.7)	78	(1.5)	283	(5.3)	311	(3.5)	357	(3.3)	466	(3.5)	513	(4.0)	541	(4.3)		
Netherlands	513	(2.6)	94	(1.8)	356	(5.3)	389	(5.3)	447	(3.9)	582	(3.0)	632	(3.5)	660	(3.7)		
New Zealand	499	(3.4)	96	(1.8)	340	(6.0)	372	(5.2)	431	(5.1)	567	(4.3)	623	(4.1)	655	(6.1)		
Norway	501	(2.9)	89	(1.6)	352	(6.3)	383	(5.4)	440	(3.2)	564	(3.5)	614	(4.1)	642	(4.0)		
Poland	510	(2.8)	89	(1.9)	366	(5.2)	396	(4.3)	448	(3.4)	571	(4.1)	627	(4.6)	659	(6.1)		
Portugal	497	(3.0)	100	(1.7)	330	(5.7)	364	(5.1)	426	(3.8)	570	(3.7)	625	(3.7)	655	(5.7)		
Slovak Republic	478	(3.0)	96	(1.8)	316	(5.8)	351	(5.0)	412	(4.2)	547	(3.4)	602	(4.2)	632	(5.1)		
Slovenia	512	(1.9)	89	(1.9)	364	(4.4)	395	(4.2)	449	(3.8)	575	(2.6)	628	(4.6)	656	(4.7)		
Spain	494	(2.4)	87	(1.7)	347	(5.7)	378	(4.0)	434	(3.5)	555	(3.2)	605	(4.2)	633	(3.7)		
Sweden	493	(3.8)	93	(2.0)	336	(6.8)	371	(5.7)	429	(4.5)	559	(4.6)	613	(5.0)	643	(5.6)		
Switzerland	527	(3.2)	100	(1.9)	358	(7.0)	394	(6.0)	457	(4.8)	600	(3.5)	650	(5.1)	681	(5.0)		
Turkey	423	(4.6)	82	(2.6)	293	(5.9)	320	(5.1)	366	(4.6)	480	(6.2)	533	(7.2)	562	(7.9)		
United Kingdom	498	(2.9)	94	(1.7)	342	(5.3)	375	(4.7)	434	(3.8)	564	(4.5)	618	(4.4)	650	(5.5)		
United States	474	(3.6)	91	(1.6)	323	(5.3)	355	(4.3)	410	(4.3)	539	(4.5)	591	(5.4)	619	(6.2)		
OECD average	494	(0.6)	92	(0.3)	340	(1.0)	373	(0.9)	430	(0.7)	560	(0.7)	612	(0.8)	642	(0.9)		
Partners																		
Albania	409	(4.2)	89	(2.1)	263	(6.6)	295	(5.7)	347	(5.1)	469	(5.4)	523	(5.8)	556	(6.9)		
Algeria	356	(3.1)	70	(1.8)	244	(5.6)	269	(4.3)	310	(3.2)	401	(3.7)	447	(5.3)	476	(5.9)		
Brazil	385	(3.2)	92	(1.9)	245	(3.2)	272	(3.7)	321	(3.5)	445	(4.6)	508	(5.0)	545	(6.9)		
B-S-J-G (China)	534	(4.8)	108	(2.6)	350	(7.8)	388	(6.8)	459	(6.1)	614	(5.6)	670	(5.4)	700	(5.8)		
Bulgaria	440	(4.8)	99	(2.7)	283	(5.4)	313	(5.5)	367	(6.0)	511	(6.4)	572	(6.8)	607	(7.9)		
CABA (Argentina)	467	(8.0)	91	(4.3)	312	(11.9)	347	(11.6)	405	(8.8)	533	(10.2)	586	(10.3)	616	(12.0)		
Colombia	395	(3.3)	79	(1.6)	272	(5.4)	296	(4.4)	340	(4.2)	449	(3.9)	500	(4.0)	529	(5.3)		
Costa Rica	408	(2.8)	71	(1.8)	295	(3.9)	319	(4.0)	360	(3.0)	456	(3.6)	501	(5.3)	528	(6.9)		
Croatia	471	(3.7)	91	(1.8)	324	(5.6)	355	(4.9)	406	(4.6)	533	(5.0)	591	(4.8)	623	(5.6)		
Cyprus ^{1,2}	435	(2.1)	98	(1.4)	276	(4.5)	307	(4.2)	365	(3.2)	504	(3.1)	564	(3.9)	596	(5.6)		
Dominican Republic	326	(3.2)	70	(2.2)	217	(5.4)	239	(4.7)	277	(4.0)	372	(4.6)	419	(5.9)	448	(7.4)		
FYROM	368	(2.2)	98	(1.9)	212	(5.5)	245	(3.9)	301	(2.7)	432	(3.6)	497	(5.1)	535	(5.6)		
Georgia	398	(3.9)	98	(2.8)	242	(6.7)	275	(5.6)	331	(4.5)	463	(5.0)	526	(6.6)	563	(8.5)		
Hong Kong (China)	549	(3.6)	93	(1.9)	384	(8.0)	421	(6.2)	487	(5.6)	615	(3.7)	665	(4.2)	693	(5.7)		
Indonesia	385	(3.5)	79	(2.1)	265	(4.2)	289	(4.5)	330	(4.2)	433	(4.6)	489	(6.6)	526	(8.0)		
Jordan	373	(4.0)	92	(3.0)	221	(8.3)	255	(6.3)	312	(5.0)	436	(5.0)	491	(4.9)	522	(6.2)		
Kosovo	366	(2.2)	77	(1.8)	240	(4.9)	268	(4.0)	312	(3.2)	420	(3.2)	468	(4.4)	495	(6.9)		
Lebanon	408	(4.4)	104	(2.4)	242	(7.1)	274	(7.1)	334	(6.9)	480	(6.4)	546	(6.0)	584	(7.3)		
Lithuania	478	(2.8)	89	(1.5)	332	(4.6)	362	(4.5)	415	(3.5)	541	(4.2)	594	(4.7)	624	(4.6)		
Macao (China)	540	(1.7)	83	(1.7)	399	(6.4)	432	(4.2)	485	(2.5)	597	(2.5)	644	(3.8)	670	(5.5)		
Malta	477	(2.4)	114	(1.8)	283	(8.4)	325	(4.5)	398	(4.4)	560	(3.8)	619	(4.6)	653	(5.8)		
Moldova	419	(2.9)	92	(1.8)	268	(6.4)	300	(4.7)	355	(4.3)	482	(4.1)	539	(4.5)	569	(5.5)		
Montenegro	418	(2.1)	89	(1.9)	275	(4.7)	303	(4.2)	355	(3.1)	479	(3.1)	535	(3.4)	568	(4.7)		
Peru	391	(3.0)	83	(1.7)	257	(4.2)	286	(3.3)	333	(2.9)	448	(4.7)	501	(4.7)	532	(5.0)		
Qatar	397	(1.8)	105	(1.3)	237	(3.5)	266	(2.7)	320	(2.2)	470	(2.3)	541	(2.8)	580	(3.9)		
Romania	444	(4.2)	87	(2.3)	303	(6.7)	332	(6.1)	384	(4.7)	503	(5.3)	558	(6.3)	593	(7.3)		
Russia	497	(4.0)	85	(1.7)	357	(7.1)	387	(6.0)	439	(4.8)	556	(4.5)	606	(4.4)	633	(4.7)		
Singapore	564	(2.1)	100	(1.3)	390	(4.7)	429	(3.7)	496	(3.5)	635	(2.7)	689	(3.4)	720	(4.8)		
Chinese Taipei	545	(4.7)	106	(2.6)	362	(6.6)	401	(5.7)	475	(5.1)	622	(5.8)	675	(6.6)	705	(7.4)		
Thailand	414	(3.7)	84	(2.5)	282	(5.7)	309	(5.1)	355	(4.1)	468	(5.1)	523	(6.7)	558	(8.1)		
Trinidad and Tobago	408	(2.1)	97	(1.8)	257	(4.9)	286	(4.4)	338	(3.1)	476	(4.0)	538	(4.5)	572	(4.9)		
Tunisia	370	(3.4)	87	(2.8)	234	(6.8)	262	(6.1)	311	(4.7)	426	(4.2)	481	(5.6)	518	(8.1)		
United Arab Emirates	424	(3.9)	104	(2.0)	262	(5.7)	294	(4.6)	348	(4.8)	496	(4.8)	567	(5.5)	606	(5.7)		
Uruguay	425	(3.6)	90	(2.0)	286	(4.1)	313	(3.7)	360	(4.4)	488	(4.4)	545	(6.2)	578	(7.3)		
Viet Nam	493	(4.7)	86	(2.6)	357	(6.6)	384	(5.6)	432	(5.6)	552	(5.5)	606	(6.4)	638	(7.5)		
Argentina*	418	(3.5)	82	(1.8)	286	(5.2)	313	(4.3)	362	(4.1)	474	(4.2)	526	(5.3)	558	(6.6)		
Kazakhstan*	459	(4.7)	83	(2.5)	328	(6.2)	355	(5.2)	402	(5.5)	514	(5.6)	568	(6.6)	600	(8.5)		
Malaysia*	443	(3.9)	84	(2.1)	308	(5.0)	335	(4.7)	384	(4.2)	500	(4.9)	553	(6.0)	582	(7.5)		

1. Footnote by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognizes the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".

2. Footnote by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognized by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

Note: Values that are statistically significant are indicated in bold.

*Argentina, Kazakhstan and Malaysia: Coverage is too small to ensure comparability

Source : PISA 2015 Results (Volume I): Excellence and Equity in Education- Table I.5.7

Annex B1.5 Annex B1.5 Results (tables): Mathematics performance among 15-year-olds

StatLink <http://dx.doi.org/10.1787/...>



[Part 2/3]
Table 3 Mean score and variation in mathematics performance, by gender in PISA 2015

	Girls															
	Mean score		Standard deviation		Percentiles											
	Mean	S.E.	S.D.	S.E.	5th		10th		25th		75th		90th		95th	
				Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	
OECD																
Australia	491	(2.5)	90	(1.5)	341	(4.9)	374	(3.7)	430	(3.2)	553	(3.0)	605	(3.9)	636	(4.9)
Austria	483	(3.6)	91	(2.3)	329	(8.8)	363	(5.9)	421	(5.2)	548	(3.7)	598	(4.1)	627	(5.1)
Belgium	500	(2.8)	95	(1.6)	337	(4.8)	370	(4.6)	434	(4.6)	569	(2.7)	619	(2.9)	646	(3.5)
Canada	511	(2.6)	85	(1.1)	368	(4.1)	400	(3.4)	453	(2.8)	570	(3.1)	619	(3.5)	648	(4.0)
Chile	413	(3.0)	83	(1.7)	279	(5.6)	307	(4.3)	356	(4.2)	471	(4.0)	522	(4.0)	551	(4.5)
Czech Republic	489	(2.8)	86	(2.2)	344	(6.3)	377	(4.8)	431	(3.8)	548	(3.8)	599	(5.1)	629	(5.6)
Denmark	506	(2.8)	79	(1.3)	375	(4.2)	403	(4.1)	452	(4.0)	562	(3.0)	606	(3.6)	631	(3.9)
Estonia	517	(2.3)	77	(1.3)	391	(3.9)	419	(3.5)	463	(3.0)	570	(3.3)	617	(4.0)	643	(4.6)
Finland	515	(2.6)	78	(1.6)	383	(6.3)	414	(4.5)	464	(3.6)	569	(2.9)	611	(3.5)	636	(4.4)
France	490	(2.6)	91	(1.7)	334	(4.6)	367	(4.9)	426	(4.1)	557	(3.5)	605	(3.6)	631	(4.0)
Germany	498	(3.0)	88	(1.6)	349	(5.5)	381	(4.6)	438	(4.1)	559	(3.7)	608	(3.8)	637	(4.4)
Greece	454	(3.6)	86	(2.1)	311	(7.6)	343	(6.2)	396	(4.8)	513	(4.5)	564	(4.7)	592	(5.3)
Hungary	473	(3.0)	93	(2.0)	316	(6.3)	347	(5.6)	408	(4.6)	538	(3.5)	589	(4.4)	618	(4.4)
Iceland	489	(2.4)	92	(1.8)	336	(5.8)	368	(4.2)	426	(3.9)	553	(3.3)	608	(4.7)	638	(5.9)
Ireland	495	(2.4)	75	(1.5)	370	(4.6)	398	(3.7)	445	(3.3)	547	(3.0)	590	(3.8)	617	(5.0)
Israel	466	(4.0)	97	(2.3)	301	(7.0)	336	(6.0)	397	(5.6)	536	(4.2)	589	(4.8)	618	(5.9)
Italy	480	(3.4)	90	(2.2)	330	(5.6)	361	(4.9)	418	(4.6)	543	(4.0)	596	(5.3)	625	(5.1)
Japan	525	(3.1)	86	(2.0)	377	(6.0)	412	(5.3)	469	(3.8)	585	(4.0)	632	(4.9)	660	(5.1)
Korea	528	(3.9)	92	(2.2)	369	(7.0)	405	(6.7)	467	(5.1)	593	(4.2)	644	(4.2)	673	(4.4)
Latvia	483	(2.5)	74	(1.6)	360	(4.8)	387	(4.0)	434	(3.5)	534	(2.8)	576	(3.8)	602	(4.6)
Luxembourg	480	(2.0)	90	(1.5)	332	(5.4)	361	(3.9)	415	(2.8)	545	(2.8)	596	(3.2)	625	(3.3)
Mexico	404	(2.4)	72	(1.6)	286	(5.1)	313	(3.1)	356	(2.9)	452	(3.3)	496	(3.7)	523	(4.1)
Netherlands	511	(2.5)	89	(1.6)	356	(5.0)	391	(4.5)	451	(3.6)	576	(2.9)	622	(3.7)	648	(4.6)
New Zealand	491	(2.7)	88	(1.8)	345	(5.6)	377	(4.3)	430	(4.3)	552	(3.9)	603	(4.2)	633	(5.5)
Norway	503	(2.3)	81	(1.3)	367	(5.2)	398	(3.7)	448	(3.4)	559	(3.4)	606	(3.2)	634	(3.5)
Poland	499	(2.8)	85	(2.2)	359	(5.9)	387	(5.3)	439	(3.9)	559	(3.6)	608	(4.4)	636	(6.1)
Portugal	487	(2.7)	91	(1.5)	334	(5.3)	366	(4.2)	423	(3.8)	552	(3.3)	602	(3.6)	631	(5.1)
Slovak Republic	472	(3.6)	94	(2.2)	307	(7.0)	346	(6.1)	411	(5.4)	540	(4.0)	590	(4.6)	616	(5.2)
Slovenia	508	(2.2)	86	(1.5)	363	(5.7)	393	(3.9)	450	(3.0)	568	(2.8)	616	(4.3)	645	(6.1)
Spain	478	(2.8)	82	(1.6)	338	(5.3)	369	(4.4)	423	(3.9)	536	(3.4)	581	(3.4)	607	(4.9)
Sweden	495	(3.3)	87	(2.1)	348	(6.3)	381	(5.4)	436	(4.0)	555	(4.4)	604	(4.8)	632	(5.9)
Switzerland	515	(3.5)	91	(2.0)	360	(6.7)	395	(5.3)	453	(4.8)	579	(4.5)	631	(5.2)	659	(5.9)
Turkey	418	(4.9)	81	(2.7)	288	(7.6)	314	(5.6)	360	(4.9)	475	(6.9)	526	(6.8)	553	(8.6)
United Kingdom	487	(3.1)	91	(1.7)	333	(6.3)	367	(4.7)	426	(4.2)	550	(3.4)	601	(4.3)	630	(5.5)
United States	465	(3.4)	86	(2.3)	324	(7.4)	355	(5.5)	406	(4.8)	525	(3.8)	577	(5.5)	607	(6.1)
OECD average	486	(0.5)	86	(0.3)	341	(1.0)	373	(0.8)	427	(0.7)	547	(0.6)	596	(0.7)	624	(0.9)
Partners																
Albania	418	(3.5)	83	(1.9)	281	(5.9)	311	(5.2)	361	(4.5)	474	(4.5)	526	(4.7)	555	(5.5)
Algeria	363	(3.6)	72	(2.1)	250	(5.1)	273	(4.6)	314	(3.9)	410	(4.5)	457	(6.0)	488	(8.8)
Brazil	370	(3.0)	86	(1.9)	236	(4.1)	263	(3.6)	310	(3.6)	424	(3.9)	484	(4.9)	521	(6.3)
B-S-J-G (China)	528	(5.7)	104	(2.8)	352	(7.4)	388	(6.7)	456	(7.2)	604	(6.6)	658	(7.2)	688	(9.4)
Bulgaria	442	(4.3)	95	(2.8)	286	(6.9)	318	(6.4)	376	(5.7)	508	(5.6)	563	(6.4)	596	(6.7)
CABA (Argentina)	446	(7.8)	84	(3.6)	302	(13.6)	336	(9.9)	390	(9.4)	506	(10.1)	554	(9.5)	581	(9.5)
Colombia	384	(2.4)	75	(1.7)	266	(4.7)	290	(3.4)	332	(3.3)	434	(3.0)	484	(4.1)	515	(5.6)
Costa Rica	392	(3.0)	65	(1.2)	290	(3.4)	311	(3.6)	347	(3.0)	435	(3.6)	476	(4.5)	502	(6.0)
Croatia	458	(3.4)	86	(2.1)	320	(6.5)	348	(5.1)	398	(4.9)	518	(3.6)	570	(4.4)	600	(4.9)
Cyprus ^{1,2}	440	(2.2)	86	(1.5)	299	(4.4)	329	(4.3)	381	(2.7)	498	(2.9)	551	(4.1)	583	(4.9)
Dominican Republic	330	(2.8)	67	(2.1)	224	(5.6)	247	(4.3)	285	(2.9)	373	(3.8)	417	(5.0)	443	(7.7)
FYROM	375	(1.8)	93	(2.1)	224	(5.1)	258	(4.0)	312	(3.2)	436	(3.1)	495	(4.3)	531	(6.6)
Georgia	411	(2.5)	89	(2.0)	262	(6.9)	298	(4.8)	352	(3.6)	471	(3.5)	524	(4.6)	554	(5.9)
Hong Kong (China)	547	(4.3)	87	(2.2)	394	(7.9)	432	(6.9)	493	(5.9)	606	(4.4)	651	(4.7)	679	(6.7)
Indonesia	387	(3.7)	81	(2.4)	263	(5.9)	289	(5.2)	332	(4.8)	438	(4.7)	494	(6.5)	529	(7.0)
Jordan	387	(3.6)	79	(1.9)	258	(6.1)	287	(5.4)	335	(4.6)	441	(4.4)	488	(4.4)	515	(5.0)
Kosovo	357	(2.1)	73	(1.7)	237	(4.6)	263	(3.9)	308	(2.8)	405	(4.1)	452	(5.1)	479	(5.6)
Lebanon	386	(3.9)	97	(2.2)	233	(6.5)	264	(6.0)	317	(5.5)	451	(5.2)	516	(6.2)	552	(6.5)
Lithuania	479	(2.5)	84	(1.9)	341	(4.8)	369	(5.3)	422	(3.5)	537	(3.1)	586	(4.2)	615	(4.8)
Macao (China)	548	(1.5)	77	(1.3)	418	(4.7)	447	(3.2)	498	(2.5)	601	(2.6)	643	(2.9)	668	(4.7)
Malta	481	(2.4)	106	(1.9)	296	(8.2)	338	(5.7)	410	(4.2)	556	(4.3)	612	(4.6)	641	(5.7)
Moldova	421	(3.1)	88	(2.1)	273	(6.5)	307	(5.7)	361	(3.9)	481	(4.3)	534	(5.0)	566	(6.1)
Montenegro	418	(2.0)	84	(1.4)	283	(4.5)	313	(3.6)	361	(2.6)	475	(3.1)	528	(3.6)	558	(4.8)
Peru	382	(3.2)	82	(1.7)	252	(4.8)	280	(3.4)	325	(3.5)	437	(4.3)	488	(5.3)	520	(5.3)
Qatar	408	(1.8)	91	(1.3)	264	(3.6)	293	(3.2)	344	(2.7)	469	(2.1)	531	(3.0)	566	(3.4)
Romania	444	(4.1)	85	(2.4)	307	(6.1)	335	(5.1)	384	(4.7)	502	(5.2)	556	(6.1)	588	(7.0)
Russia	491	(3.2)	82	(1.6)	357	(6.6)	387	(5.0)	435	(3.7)	549	(4.0)	597	(4.2)	623	(4.4)
Singapore	564	(1.7)	90	(1.4)	408	(4.5)	443	(4.5)	504	(3.3)	629	(2.4)	675	(3.5)	701	(3.6)
Chinese Taipei	539	(4.1)	100	(2.5)	367	(6.1)	407	(5.2)	473	(5.0)	610	(5.0)	664	(6.0)	695	(9.0)
Thailand	417	(3.4)	80	(2.2)	290	(4.2)	317	(4.1)	363	(3.4)	468	(4.5)	520	(5.9)	553	(7.1)
Trinidad and Tobago	426	(2.0)	94	(1.5)	273	(5.3)	305	(4.2)	359	(3.1)	491	(3.5)	550	(4.1)	584	(4.8)
Tunisia	364	(3.2)	82	(2.4)	235	(4.8)	263	(4.4)	309	(3.6)	417	(4.2)	470	(6.0)	505	(7.4)
United Arab Emirates	431	(2.9)	88	(1.7)	290	(4.6)	320	(4.3)	369	(3.4)	490	(4.2)	548	(4.5)	581	(4.3)
Uruguay	412	(2.5)	83	(1.8)	277	(4.9)	306	(3.6)	354	(3.3)	468	(3.7)	521	(4.5)	551	(4.4)
Viet Nam	496	(4.8)	81	(3.3)	365	(7.9)	394	(6.6)	440	(4.4)	550	(5.3)	601	(8.3)	634	(10.5)
Argentina*	400	(3.3)	78	(1.6)	274	(4.8)	301	(4.3)	346	(3.9)	454	(4.0)	500	(4.5)	530	(5.8)
Kazakhstan*	461	(4.6)	82	(2.7)	331	(7.2)	359	(6.1)	405	(5.3)	513	(5.5)	567	(7.5)	600	(7.8)
Malaysia*	449	(3.2)	76	(1.7)	322	(4.9)	351	(4.3)	397	(3.8)	502	(3.9)	547	(4.2)	571	(4.8)

1. Footnote by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognizes the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".

2. Footnote by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognized by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

Note: Values that are statistically significant are indicated in bold.

*Argentina, Kazakhstan and Malaysia: Coverage is too small to ensure comparability

Source : PISA 2015 Results (Volume I): Excellence and Equity in Education- Table I.5.7

Annex B1.5 Annex B1.5 Results (tables): Mathematics performance among 15-year-olds

StatLink <http://dx.doi.org/10.1787/...>



Table 4 Mean score and variation in reading performance in PISA 2015

	Mean score		Standard deviation		Percentiles													
	Mean	S.E.	S.D.	S.E.	5th		10th		25th		Median (50th)		75th		90th		95th	
					Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.
OECD																		
Australia	503	(1.7)	103	(1.1)	324	(3.0)	365	(2.7)	435	(2.4)	509	(2.0)	576	(2.0)	631	(2.2)	662	(2.6)
Austria	485	(2.8)	101	(1.5)	308	(5.1)	347	(5.1)	417	(4.0)	491	(3.3)	559	(3.1)	611	(3.0)	641	(3.5)
Belgium	499	(2.4)	100	(1.5)	323	(3.8)	360	(3.9)	429	(3.8)	507	(3.0)	573	(2.2)	623	(2.5)	650	(2.9)
Canada	527	(2.3)	93	(1.3)	366	(4.3)	404	(3.6)	466	(2.8)	531	(2.4)	591	(2.4)	642	(2.7)	671	(2.8)
Chile	459	(2.6)	88	(1.7)	310	(4.9)	342	(3.7)	398	(3.3)	461	(3.1)	521	(3.2)	572	(3.5)	599	(3.7)
Czech Republic	487	(2.6)	100	(1.7)	315	(5.7)	352	(4.8)	418	(4.0)	492	(3.1)	559	(2.8)	614	(3.5)	645	(3.6)
Denmark	500	(2.5)	87	(1.2)	347	(4.1)	383	(4.3)	443	(3.2)	505	(2.8)	561	(2.6)	608	(3.4)	635	(3.6)
Estonia	519	(2.2)	87	(1.2)	369	(4.2)	404	(4.0)	460	(2.8)	523	(2.7)	581	(2.6)	630	(2.9)	659	(3.2)
Finland	526	(2.5)	94	(1.5)	359	(5.4)	401	(4.7)	469	(3.7)	534	(2.7)	592	(2.7)	640	(2.6)	668	(3.8)
France	499	(2.5)	112	(2.0)	299	(6.6)	344	(5.7)	423	(3.7)	510	(2.9)	583	(3.1)	637	(3.0)	666	(3.6)
Germany	509	(3.0)	100	(1.6)	334	(5.2)	375	(5.3)	442	(3.8)	516	(3.7)	581	(3.1)	634	(3.4)	664	(3.2)
Greece	467	(4.3)	98	(2.4)	296	(7.6)	334	(8.2)	400	(6.1)	473	(4.6)	539	(3.6)	590	(3.7)	618	(3.8)
Hungary	470	(2.7)	97	(1.7)	306	(5.3)	338	(4.2)	399	(3.9)	475	(3.6)	541	(3.1)	593	(3.2)	620	(3.4)
Iceland	482	(2.0)	99	(1.7)	310	(4.9)	350	(4.3)	417	(3.2)	485	(2.5)	552	(2.6)	607	(4.0)	638	(5.0)
Ireland	521	(2.5)	86	(1.5)	373	(4.6)	406	(4.1)	463	(3.1)	524	(2.7)	582	(2.7)	629	(2.8)	657	(4.1)
Israel	479	(3.8)	113	(2.0)	284	(7.1)	326	(5.8)	401	(5.1)	485	(4.6)	562	(4.3)	621	(4.3)	655	(5.1)
Italy	485	(2.7)	94	(1.6)	323	(4.8)	359	(4.2)	421	(3.7)	489	(3.3)	552	(3.1)	602	(2.9)	631	(3.5)
Japan	516	(3.2)	92	(1.8)	352	(7.0)	391	(5.8)	457	(4.2)	523	(3.5)	581	(3.4)	629	(3.7)	656	(3.8)
Korea	517	(3.5)	97	(1.7)	345	(7.3)	386	(5.6)	455	(4.4)	524	(3.9)	586	(3.9)	637	(4.3)	666	(4.1)
Latvia	488	(1.8)	85	(1.5)	341	(3.8)	374	(3.4)	431	(3.0)	491	(2.3)	548	(2.0)	595	(2.5)	621	(3.6)
Luxembourg	481	(1.4)	107	(1.0)	299	(3.3)	336	(2.9)	405	(2.1)	487	(2.4)	561	(2.1)	616	(2.5)	647	(3.8)
Mexico	423	(2.6)	78	(1.5)	292	(3.8)	321	(3.6)	370	(3.0)	425	(2.8)	478	(3.2)	523	(3.9)	549	(4.2)
Netherlands	503	(2.4)	101	(1.6)	330	(5.3)	368	(4.6)	434	(4.0)	509	(3.0)	577	(2.8)	630	(3.1)	658	(3.5)
New Zealand	509	(2.4)	105	(1.7)	327	(4.8)	368	(4.5)	439	(3.6)	514	(3.3)	584	(3.3)	643	(4.3)	674	(4.4)
Norway	513	(2.5)	99	(1.7)	342	(5.2)	381	(4.0)	449	(3.3)	518	(2.8)	583	(2.9)	636	(3.0)	666	(3.7)
Poland	506	(2.5)	90	(1.3)	349	(5.1)	386	(3.7)	446	(3.5)	511	(3.0)	570	(2.8)	617	(3.5)	644	(4.6)
Portugal	498	(2.7)	92	(1.1)	339	(4.7)	374	(3.7)	436	(4.2)	504	(3.5)	564	(2.8)	614	(3.1)	641	(3.3)
Slovak Republic	453	(2.8)	104	(1.8)	269	(6.5)	312	(4.6)	382	(4.1)	459	(3.3)	528	(3.1)	583	(3.2)	613	(4.1)
Slovenia	505	(1.5)	92	(1.3)	346	(4.1)	382	(2.7)	444	(2.3)	510	(2.0)	570	(2.1)	621	(3.4)	648	(3.9)
Spain	496	(2.4)	87	(1.4)	343	(4.5)	379	(3.9)	438	(3.3)	502	(2.6)	558	(2.7)	603	(2.9)	629	(3.5)
Sweden	500	(3.5)	102	(1.5)	321	(6.0)	364	(4.6)	433	(4.4)	507	(4.1)	573	(3.8)	625	(3.6)	655	(4.4)
Switzerland	492	(3.0)	98	(1.7)	322	(5.6)	360	(5.0)	426	(4.0)	499	(3.6)	563	(3.6)	614	(3.6)	643	(3.7)
Turkey	428	(4.0)	82	(2.0)	291	(4.8)	322	(4.9)	372	(4.4)	429	(4.5)	487	(5.2)	535	(5.9)	561	(6.1)
United Kingdom	498	(2.8)	97	(1.1)	336	(4.4)	372	(4.0)	432	(3.2)	500	(3.1)	565	(3.0)	621	(3.6)	653	(4.1)
United States	497	(3.4)	100	(1.6)	326	(6.0)	364	(5.4)	430	(4.7)	501	(3.7)	568	(3.9)	624	(3.8)	655	(3.7)
European Union total	494	(0.9)	100	(0.5)	321	(1.7)	360	(1.5)	427	(1.1)	500	(0.9)	566	(1.0)	619	(1.1)	649	(1.3)
OECD total	487	(1.2)	100	(0.5)	318	(1.9)	355	(1.6)	418	(1.5)	490	(1.4)	559	(1.4)	615	(1.5)	647	(1.5)
OECD average	493	(0.5)	96	(0.3)	326	(0.9)	364	(0.8)	428	(0.6)	498	(0.5)	561	(0.5)	613	(0.6)	642	(0.7)
Partners																		
Albania	405	(4.1)	97	(1.8)	244	(5.1)	279	(5.2)	340	(4.7)	407	(4.7)	472	(4.7)	528	(5.2)	561	(5.6)
Algeria	350	(3.0)	73	(1.6)	232	(4.1)	258	(4.1)	301	(2.6)	349	(3.0)	397	(3.8)	443	(4.8)	472	(5.4)
Brazil	407	(2.8)	100	(1.5)	247	(3.4)	279	(2.8)	336	(3.0)	405	(3.1)	477	(3.2)	539	(3.9)	576	(4.6)
B-S-J-G (China)	494	(5.1)	109	(2.9)	304	(8.7)	346	(7.2)	420	(6.1)	501	(6.0)	573	(5.7)	630	(6.3)	661	(7.3)
Bulgaria	432	(5.0)	115	(2.6)	241	(6.2)	277	(6.6)	347	(7.0)	437	(6.5)	517	(5.5)	578	(5.0)	611	(5.4)
CABA (Argentina)	475	(7.2)	90	(3.4)	313	(12.6)	354	(8.6)	418	(7.8)	480	(8.2)	539	(8.2)	588	(9.1)	615	(9.8)
Colombia	425	(2.9)	90	(1.5)	278	(4.9)	308	(4.4)	361	(4.0)	425	(3.5)	489	(3.3)	542	(3.1)	572	(3.0)
Costa Rica	427	(2.6)	79	(1.6)	298	(4.0)	326	(3.5)	374	(3.0)	427	(3.0)	480	(3.2)	530	(3.8)	560	(4.8)
Croatia	487	(2.7)	91	(1.6)	334	(4.6)	367	(4.2)	424	(3.8)	489	(3.4)	553	(3.1)	603	(3.3)	632	(3.6)
Cyprus ^{1,2}	443	(1.7)	102	(1.3)	268	(3.7)	305	(2.7)	372	(2.8)	447	(2.2)	516	(2.7)	573	(3.4)	606	(4.2)
Dominican Republic	358	(3.1)	85	(1.9)	226	(4.5)	250	(3.8)	297	(3.5)	354	(3.4)	416	(4.1)	471	(5.1)	503	(5.8)
FYROM	352	(1.4)	99	(1.2)	187	(3.7)	222	(3.3)	284	(2.4)	353	(2.5)	421	(2.2)	480	(3.3)	513	(4.3)
Georgia	401	(3.0)	104	(1.8)	226	(5.7)	266	(4.2)	332	(3.9)	403	(3.2)	474	(3.3)	533	(4.5)	568	(4.9)
Hong Kong (China)	527	(2.7)	86	(1.5)	372	(5.6)	412	(4.5)	473	(3.7)	533	(2.9)	587	(2.5)	632	(3.1)	656	(3.5)
Indonesia	397	(2.9)	76	(1.8)	272	(5.9)	300	(5.1)	346	(3.7)	397	(3.1)	448	(3.0)	495	(3.3)	522	(4.0)
Jordan	408	(2.9)	94	(1.8)	241	(6.3)	281	(5.4)	348	(3.7)	416	(3.3)	475	(3.1)	522	(2.9)	549	(3.1)
Kosovo	347	(1.6)	78	(1.1)	215	(4.3)	243	(2.8)	294	(2.5)	350	(2.0)	403	(2.3)	447	(2.6)	471	(3.0)
Lebanon	347	(4.4)	115	(2.6)	167	(5.5)	203	(5.8)	265	(4.9)	339	(5.4)	426	(6.2)	503	(7.0)	546	(7.6)
Lithuania	472	(2.7)	94	(1.5)	312	(4.6)	347	(3.5)	407	(3.0)	475	(3.1)	541	(3.6)	593	(4.4)	622	(3.7)
Macao (China)	509	(1.3)	82	(1.1)	365	(3.7)	399	(2.6)	456	(2.0)	514	(1.8)	566	(2.0)	610	(2.8)	635	(3.4)
Malta	447	(1.8)	121	(1.5)	236	(5.6)	284	(4.9)	366	(3.7)	456	(2.5)	533	(2.7)	595	(3.1)	631	(3.8)
Moldova	416	(2.5)	98	(1.5)	253	(4.2)	289	(3.7)	349	(3.1)	418	(3.1)	485	(3.3)	541	(4.1)	574	(5.0)
Montenegro	427	(1.6)	94	(1.2)	271	(3.5)	304	(2.5)	361	(2.5)	427	(2.3)	493	(2.4)	549	(2.8)	581	(3.0)
Peru	398	(2.9)	89	(1.6)	253	(3.3)	281	(3.2)	333	(3.2)	398	(3.6)	462	(3.9)	514	(4.5)	543	(5.1)
Qatar	402	(1.0)	111	(1.0)	221	(2.2)	256	(1.8)	321	(1.8)	403	(1.5)	483	(2.2)	547	(2.2)	581	(2.7)
Romania	434	(4.1)	95	(2.1)	276	(6.3)	310	(5.4)	370	(5.0)	435	(4.6)	499	(4.7)	555	(5.4)	588	(6.1)
Russia	495	(3.1)	87	(1.4)	350	(4.4)	381	(3.9)	434	(3.9)	495	(3.6)	556	(3.5)	608	(3.5)	637	(3.7)
Singapore	535	(1.6)	99	(1.1)	362	(4.4)	400	(3.7)	470	(2.6)	542	(1.8)	607	(2.0)	657	(2.6)	686	(3.3)
Chinese Taipei	49																	



Table 5 Percentage of students at each proficiency level in reading in PISA 2015

	All students															
	"Below Level 1b (below 262.04 score points)"		"Level 1b (from 262.04 to less than 334.75 score points)"		"Level 1a (from 334.75 to less than 407.47 score points)"		"Level 2 (from 407.47 to less than 480.18 score points)"		"Level 3 (from 480.18 to less than 552.89 score points)"		"Level 4 (from 552.89 to less than 625.61 score points)"		"Level 5 (from 625.61 to less than 698.32 score points)"		"Level 6 (above 698.32 score points)"	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD																
Australia	1.2	(0.2)	4.8	(0.2)	12.0	(0.5)	21.4	(0.6)	27.5	(0.6)	22.0	(0.6)	9.0	(0.5)	2.0	(0.2)
Austria	1.7	(0.3)	6.5	(0.7)	14.3	(0.8)	23.5	(0.9)	27.0	(1.1)	19.7	(0.7)	6.4	(0.5)	0.8	(0.2)
Belgium	1.0	(0.2)	5.3	(0.4)	13.2	(0.6)	21.1	(0.7)	26.8	(0.8)	23.2	(0.7)	8.4	(0.5)	1.0	(0.2)
Canada	0.4	(0.1)	2.1	(0.3)	8.2	(0.5)	19.0	(0.6)	29.7	(0.7)	26.6	(0.7)	11.6	(0.6)	2.4	(0.3)
Chile	1.3	(0.3)	7.4	(0.6)	19.8	(0.9)	29.9	(1.2)	27.0	(0.9)	12.4	(0.8)	2.2	(0.3)	0.1	(0.0)
Czech Republic	1.3	(0.3)	6.0	(0.6)	14.7	(0.7)	23.3	(0.8)	27.5	(1.0)	19.3	(0.9)	6.9	(0.5)	1.0	(0.2)
Denmark	0.5	(0.1)	3.3	(0.3)	11.2	(0.6)	24.1	(0.8)	32.4	(0.8)	22.0	(0.8)	5.9	(0.6)	0.6	(0.2)
Estonia	0.2	(0.1)	2.1	(0.3)	8.4	(0.7)	21.6	(0.7)	31.4	(0.9)	25.4	(0.9)	9.7	(0.6)	1.4	(0.2)
Finland	0.6	(0.1)	2.6	(0.3)	7.8	(0.5)	17.6	(0.8)	29.7	(0.9)	27.9	(1.0)	11.7	(0.6)	2.0	(0.3)
France	2.3	(0.4)	6.5	(0.6)	12.7	(0.5)	19.0	(0.8)	24.5	(0.9)	22.5	(0.8)	10.5	(0.7)	2.0	(0.2)
Germany	0.9	(0.2)	4.1	(0.5)	11.2	(0.7)	21.0	(1.0)	27.6	(0.9)	23.5	(0.9)	9.7	(0.7)	1.9	(0.3)
Greece	2.3	(0.5)	7.8	(1.0)	17.2	(1.0)	25.3	(1.0)	27.2	(1.1)	16.1	(0.9)	3.8	(0.4)	0.3	(0.1)
Hungary	1.4	(0.3)	8.1	(0.8)	18.0	(0.9)	24.5	(0.8)	27.0	(1.0)	16.8	(0.8)	3.9	(0.4)	0.4	(0.1)
Iceland	1.8	(0.3)	6.0	(0.5)	14.3	(0.9)	26.0	(1.1)	27.3	(0.9)	18.0	(0.7)	5.8	(0.5)	0.8	(0.2)
Ireland	0.2	(0.1)	1.7	(0.3)	8.3	(0.7)	21.0	(0.9)	31.8	(1.1)	26.4	(0.8)	9.4	(0.6)	1.3	(0.2)
Israel	3.3	(0.5)	8.1	(0.7)	15.2	(0.8)	21.7	(1.0)	24.0	(0.9)	18.5	(0.9)	7.7	(0.6)	1.4	(0.3)
Italy	1.0	(0.2)	5.4	(0.4)	14.5	(0.8)	25.4	(1.0)	28.8	(0.8)	19.2	(0.9)	5.1	(0.4)	0.6	(0.1)
Japan	0.6	(0.2)	3.0	(0.4)	9.2	(0.7)	19.8	(0.9)	30.5	(0.9)	26.0	(1.0)	9.5	(0.8)	1.3	(0.3)
Korea	0.7	(0.2)	3.4	(0.5)	9.5	(0.7)	19.3	(1.0)	28.9	(1.0)	25.5	(1.2)	10.8	(0.8)	1.9	(0.3)
Latvia	0.4	(0.2)	3.8	(0.4)	13.4	(0.8)	27.2	(0.8)	32.1	(0.9)	18.7	(0.8)	4.0	(0.4)	0.3	(0.1)
Luxembourg	1.9	(0.3)	7.8	(0.5)	15.9	(0.7)	22.0	(0.8)	24.7	(0.7)	19.4	(0.7)	7.0	(0.4)	1.2	(0.2)
Mexico	2.0	(0.3)	11.4	(0.8)	28.4	(0.9)	34.2	(1.0)	19.5	(0.9)	4.2	(0.5)	0.3	(0.1)	0.0	(0.0)
Netherlands	1.1	(0.2)	4.4	(0.4)	12.6	(0.8)	21.8	(0.9)	26.6	(1.1)	22.7	(0.8)	9.5	(0.6)	1.4	(0.3)
New Zealand	1.0	(0.2)	4.8	(0.5)	11.5	(0.7)	20.6	(0.7)	26.5	(0.9)	22.0	(0.9)	11.0	(0.7)	2.6	(0.4)
Norway	0.8	(0.2)	3.6	(0.4)	10.6	(0.6)	20.4	(0.7)	28.5	(0.8)	23.9	(0.8)	10.1	(0.6)	2.1	(0.4)
Poland	0.5	(0.2)	3.2	(0.4)	10.8	(0.6)	22.5	(0.8)	31.4	(0.8)	23.5	(0.9)	7.5	(0.6)	0.7	(0.2)
Portugal	0.6	(0.1)	3.9	(0.4)	12.7	(0.7)	23.2	(0.8)	30.2	(0.9)	21.9	(1.0)	6.9	(0.6)	0.6	(0.2)
Slovak Republic	4.4	(0.5)	9.4	(0.6)	18.3	(0.8)	25.7	(0.8)	24.8	(0.9)	14.0	(0.7)	3.2	(0.4)	0.2	(0.1)
Slovenia	0.5	(0.1)	3.4	(0.3)	11.2	(0.5)	22.5	(0.9)	30.3	(0.9)	23.1	(0.8)	8.0	(0.7)	1.0	(0.4)
Spain	0.7	(0.2)	3.5	(0.4)	12.0	(0.7)	24.4	(0.8)	32.3	(1.0)	21.6	(0.8)	5.1	(0.5)	0.4	(0.1)
Sweden	1.5	(0.3)	4.8	(0.5)	12.2	(0.8)	21.7	(0.8)	27.5	(0.8)	22.5	(1.0)	8.5	(0.7)	1.5	(0.3)
Switzerland	1.2	(0.3)	5.2	(0.6)	13.5	(0.7)	23.2	(0.9)	28.1	(1.0)	20.9	(0.9)	6.9	(0.6)	0.9	(0.2)
Turkey	2.3	(0.3)	10.9	(1.0)	26.8	(1.4)	32.6	(1.5)	21.1	(1.4)	5.7	(0.9)	0.6	(0.2)	0.0	(0.0)
United Kingdom	0.8	(0.2)	4.0	(0.4)	13.1	(0.7)	24.3	(0.9)	28.4	(0.7)	20.3	(0.8)	7.7	(0.5)	1.5	(0.2)
United States	1.1	(0.2)	4.8	(0.5)	13.0	(0.8)	22.9	(0.9)	28.0	(0.9)	20.5	(0.9)	8.2	(0.6)	1.4	(0.2)
European Union total	1.4	(0.1)	5.1	(0.1)	13.2	(0.2)	22.8	(0.3)	27.8	(0.3)	21.0	(0.2)	7.5	(0.2)	1.2	(0.1)
OECD total	1.3	(0.1)	5.7	(0.2)	15.0	(0.3)	24.2	(0.3)	26.9	(0.3)	18.9	(0.3)	7.0	(0.2)	1.1	(0.1)
OECD average	1.3	(0.0)	5.2	(0.1)	13.6	(0.1)	23.2	(0.2)	27.9	(0.2)	20.5	(0.1)	7.2	(0.1)	1.1	(0.0)
Partners																
Albania	7.4	(0.7)	15.9	(1.1)	27.0	(1.2)	27.3	(1.1)	16.3	(1.0)	5.1	(0.7)	0.9	(0.2)	0.1	(0.1)
Algeria	11.0	(1.0)	31.2	(1.2)	36.8	(1.2)	17.0	(1.2)	3.7	(0.6)	0.3	(0.1)	0.0	(0.0)	0.0	c
Brazil	7.1	(0.5)	17.4	(0.7)	26.5	(0.6)	25.0	(0.7)	16.2	(0.6)	6.4	(0.5)	1.3	(0.2)	0.1	(0.1)
B-S-J-G (China)	2.1	(0.4)	6.2	(0.6)	13.5	(0.8)	20.9	(1.1)	25.4	(1.1)	20.9	(1.2)	9.1	(1.0)	1.8	(0.4)
Bulgaria	7.7	(0.9)	14.3	(1.2)	19.5	(1.0)	22.0	(1.0)	21.2	(1.3)	11.7	(1.0)	3.2	(0.4)	0.4	(0.1)
CABA (Argentina)	1.5	(0.5)	5.8	(1.1)	14.5	(1.7)	28.2	(2.1)	30.1	(2.0)	16.2	(2.0)	3.5	(1.0)	0.3	(0.2)
Colombia	3.2	(0.5)	13.6	(1.0)	26.1	(1.0)	29.2	(0.9)	19.9	(0.9)	7.0	(0.5)	0.9	(0.2)	0.0	(0.0)
Costa Rica	1.7	(0.3)	10.3	(0.7)	28.3	(1.0)	34.6	(1.0)	19.2	(1.1)	5.2	(0.6)	0.6	(0.2)	0.0	(0.0)
Croatia	0.6	(0.1)	4.5	(0.4)	14.8	(0.9)	26.6	(0.9)	28.6	(1.0)	19.0	(0.9)	5.4	(0.5)	0.5	(0.1)
Cyprus ^{1,2}	4.4	(0.4)	11.4	(0.6)	19.8	(1.0)	27.0	(0.7)	23.0	(0.8)	11.3	(0.6)	2.8	(0.3)	0.2	(0.1)
Dominican Republic	13.1	(1.1)	28.2	(1.2)	30.8	(1.2)	19.5	(1.1)	7.0	(0.7)	1.3	(0.3)	0.1	(0.1)	0.0	c
FYROM	18.8	(0.7)	24.1	(0.8)	27.7	(0.9)	19.3	(0.8)	8.1	(0.6)	1.7	(0.2)	0.2	(0.1)	0.0	(0.0)
Georgia	9.5	(0.7)	16.4	(0.8)	25.8	(0.8)	25.4	(0.9)	16.1	(0.8)	5.7	(0.5)	1.1	(0.2)	0.1	(0.1)
Hong Kong (China)	0.3	(0.1)	2.0	(0.3)	7.0	(0.6)	18.1	(0.9)	32.1	(1.1)	29.0	(1.0)	10.4	(0.8)	1.1	(0.2)
Indonesia	3.8	(0.7)	16.8	(1.1)	34.8	(1.0)	30.9	(1.1)	11.7	(0.8)	1.9	(0.3)	0.1	(0.1)	0.0	(0.0)
Jordan	7.4	(0.7)	13.7	(0.8)	25.2	(0.9)	30.7	(0.8)	18.7	(0.9)	4.1	(0.4)	0.3	(0.1)	0.0	(0.0)
Kosovo	14.6	(0.7)	28.0	(1.0)	34.2	(1.1)	19.4	(0.9)	3.6	(0.4)	0.2	(0.1)	0.0	c	0.0	c
Lebanon	24.1	(1.5)	24.5	(1.3)	21.7	(1.1)	15.8	(1.0)	9.4	(0.8)	3.6	(0.5)	0.7	(0.2)	0.1	(0.1)
Lithuania	1.3	(0.2)	6.7	(0.5)	17.1	(0.7)	27.1	(0.8)	26.7	(0.9)	16.7	(0.9)	4.1	(0.5)	0.4	(0.1)
Macao (China)	0.3	(0.1)	2.1	(0.3)	9.3	(0.5)	23.1	(0.8)	34.2	(0.9)	24.4	(0.9)	6.2	(0.5)	0.5	(0.1)
Malta	7.5	(0.5)	11.1	(0.8)	17.0	(0.9)	22.5	(0.8)	22.5	(0.8)	13.9	(0.7)	4.7	(0.4)	0.9	(0.2)
Moldova	5.9	(0.5)	14.7	(0.7)	25.1	(0.9)	27.7	(0.9)	18.7	(0.8)	6.6	(0.6)	1.1	(0.2)	0.1	(0.1)
Montenegro	4.1	(0.3)	13.0	(0.7)	24.9	(0.8)	28.6	(0.7)	20.2	(0.6)	7.9	(0.5)	1.3	(0.3)	0.1	(0.1)
Peru	6.4	(0.6)	19.2	(1.0)	28.3	(1.1)	27.3	(0.9)	15.0	(0.8)	3.5	(0.5)	0.3	(0.1)	0.0	(0.0)
Qatar	11.1	(0.3)	17.7	(0.4)	22.8	(0.6)	22.7	(0.5)	16.8	(0.5)	7.4	(0.3)	1.4	(0.2)	0.1	(0.0)
Romania	3.7	(0.5)	11.6	(0.9)	23.4	(1.2)	29.5	(1.2)	21.3	(1.2)	8.4	(0.8)	1.8	(0.4)	0.2	(0.1)
Russia	0.3	(0.1)	3.2	(0.4)	12.8	(1.0)	27.1	(1.0)	30.7	(1.1)	19.3	(1.0)	5.9	(0.6)	0.8	(0.2)
Singapore	0.3	(0.1)	2.5	(0.2)	8.3	(0.4)	16.9	(0.5)	26.2	(0.7)	27.4	(0.7)	14.7	(0.7)	3.6	(0.4)
Chinese Taipei	1.0	(0.2)	4.4	(0.4)	11.8	(0.6)	22.4	(0.8)	31.3	(1.0)	22.1	(0.9)	6.3	(0.7)	0.6	(0.2)
Thailand	2.8	(0.4)	15.1	(1.1)	32.1	(1.0)	31.1	(1.0)	15.0	(1.0)	3.7	(0.5)	0.3	(0.1)	0.0	(0.0)
Trinidad and Tobago	5.7	(0.5)	14.3	(0.7)	22.5	(0.9)	25.6	(1.0)	20.3	(0.9)	9.2	(0.6)	2.2	(0.3)	0.2	(0.1)
Tunisia	11.1	(1.1)	26.6	(1.1)	33.9	(1.2)	21.0	(1.1)	6.5	(0.6)	0.8	(0.2)	0.1	(0.1)	0.0	c
United Arab Emirates	5.4	(0.4)	13.2	(0.6)	21.8	(0.7)	25.4	(0.6)	20.5	(0.8)	10.7	(0.6)	2.7	(0.3)	0.3	(0.1)
Uruguay	3.0	(0.3)	12.5	(0.7)	23.5	(0.8)	27.8	(0.8)	21.3	(0.8)	9.3	(0.6)	2.3	(0.4)	0.2	(0.1)
Viet Nam	0.1	(0.1)	1.7	(0.4)	12.1	(1.3)	32.5	(1.5)	35.2	(1.3)	15.8	(1.2)	2.5	(0.7)	0.1	(0.1)
Argentina*	3.3	(0.4)	12.7	(0.9)	25.7	(1.0)	30.7	(1.0)	20.2	(1.0)	6.4	(0.6)	0.9	(0.2)	0.1	(0.0)
Kazakhstan*	1.7	(0.4)	10.6	(0.8)	29.0	(1.6)	33.4	(1.2)	18.8	(1.3)	5.6	(0.8)	0.8	(0.3)	0.0	(0.0)
Malaysia*	2.5	(0.4)	10.3	(0.8)	24.5	(1.1)	34.2	(1.0)	23.2	(1.2)	5.0	(0.6)	0.4	(0.1)	0.0	(0.0)

1. Footnote by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognizes the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".
 2. Footnote by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognized by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

*Argentina, Kazakhstan and Malaysia: Coverage is too small to ensure comparability
 Source : PISA 2015 Results (Volume I): Excellence and Equity in Education - Table I.4.1a
 StatLink <http://dx.doi.org/10.1787/...>



[Part 1/3]
Table 6 Mean score and variation in reading performance, by gender in PISA 2015

	Boys															
	Mean score		Standard deviation		Percentiles											
	Mean	S.E.	S.D.	S.E.	5th		10th		25th		75th		90th		95th	
				Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	
OECD																
Australia	487	(2.3)	105	(1.4)	306	(3.4)	344	(3.3)	416	(2.8)	562	(3.2)	620	(3.9)	651	(3.8)
Austria	475	(4.3)	103	(1.7)	295	(5.3)	332	(6.8)	405	(6.4)	551	(4.6)	604	(4.4)	634	(5.6)
Belgium	491	(3.1)	102	(1.7)	315	(5.7)	351	(4.9)	419	(5.0)	567	(3.2)	618	(3.4)	645	(3.3)
Canada	514	(2.6)	94	(1.7)	350	(5.2)	387	(4.5)	451	(3.5)	580	(3.0)	632	(3.2)	662	(3.7)
Chile	453	(3.4)	90	(2.2)	303	(6.3)	335	(5.0)	391	(4.3)	517	(4.1)	567	(4.6)	595	(5.0)
Czech Republic	475	(3.6)	104	(2.2)	298	(6.7)	335	(6.4)	401	(5.1)	550	(4.2)	607	(4.2)	639	(4.4)
Denmark	489	(2.8)	88	(1.6)	336	(5.5)	372	(4.6)	431	(3.8)	550	(3.7)	599	(4.5)	627	(5.1)
Estonia	505	(2.9)	89	(1.5)	352	(6.6)	387	(5.7)	446	(4.2)	569	(3.2)	619	(4.1)	648	(5.5)
Finland	504	(3.0)	96	(1.8)	336	(6.4)	375	(5.5)	441	(4.5)	572	(3.4)	622	(3.7)	650	(3.9)
France	485	(3.3)	115	(2.5)	283	(8.1)	324	(7.8)	403	(6.1)	572	(3.4)	628	(3.6)	658	(4.7)
Germany	499	(3.7)	101	(1.9)	323	(7.5)	364	(6.8)	431	(5.0)	572	(4.0)	625	(4.0)	656	(4.7)
Greece	449	(5.1)	100	(2.4)	282	(8.9)	316	(9.3)	378	(7.2)	523	(4.9)	576	(4.7)	606	(4.7)
Hungary	457	(3.7)	97	(2.1)	299	(5.8)	328	(5.1)	386	(4.8)	529	(4.1)	582	(4.3)	612	(4.9)
Iceland	460	(2.8)	100	(2.1)	288	(7.7)	326	(5.4)	394	(4.5)	531	(3.8)	587	(4.8)	619	(6.4)
Ireland	515	(3.2)	90	(1.9)	363	(6.6)	397	(5.2)	453	(4.1)	579	(3.5)	629	(3.9)	657	(5.7)
Israel	467	(5.4)	120	(2.8)	264	(8.9)	307	(7.4)	382	(6.6)	557	(6.5)	619	(6.5)	655	(7.1)
Italy	477	(3.5)	95	(2.0)	314	(6.4)	348	(5.5)	410	(4.7)	545	(4.5)	597	(3.8)	626	(5.3)
Japan	509	(4.2)	95	(2.4)	339	(8.5)	381	(6.7)	449	(5.5)	576	(4.5)	626	(5.2)	654	(5.2)
Korea	498	(4.8)	100	(2.3)	322	(7.2)	362	(7.2)	430	(6.6)	570	(5.3)	624	(5.1)	653	(5.9)
Latvia	467	(2.3)	84	(1.8)	325	(4.8)	356	(4.9)	409	(3.6)	526	(3.0)	573	(3.8)	601	(5.0)
Luxembourg	471	(1.9)	109	(1.3)	287	(4.7)	323	(4.1)	392	(3.1)	551	(2.7)	609	(3.6)	642	(4.8)
Mexico	416	(2.9)	80	(1.8)	285	(4.7)	313	(4.2)	360	(3.5)	472	(3.6)	519	(4.4)	547	(5.3)
Netherlands	491	(3.0)	103	(1.9)	315	(6.2)	355	(6.4)	420	(4.9)	567	(3.5)	622	(3.4)	651	(4.4)
New Zealand	493	(3.3)	108	(2.0)	308	(5.4)	347	(6.1)	419	(5.2)	570	(4.3)	631	(5.3)	665	(5.6)
Norway	494	(3.1)	102	(2.0)	319	(6.0)	358	(5.2)	425	(4.7)	566	(3.5)	620	(5.3)	654	(5.1)
Poland	491	(2.9)	92	(1.6)	334	(6.8)	367	(5.3)	427	(4.3)	557	(3.8)	608	(4.5)	636	(5.0)
Portugal	490	(3.1)	95	(1.5)	330	(6.8)	364	(4.8)	424	(4.2)	559	(3.6)	611	(4.0)	640	(4.6)
Slovak Republic	435	(3.3)	104	(2.2)	256	(7.6)	297	(5.3)	364	(4.4)	510	(3.8)	569	(4.2)	601	(5.3)
Slovenia	484	(2.3)	92	(1.8)	328	(3.7)	361	(4.0)	421	(3.7)	551	(3.7)	601	(4.9)	631	(5.7)
Spain	485	(3.0)	90	(1.6)	328	(6.6)	365	(5.7)	425	(3.9)	550	(3.3)	597	(3.7)	623	(4.1)
Sweden	481	(4.1)	105	(1.8)	300	(7.2)	342	(5.8)	409	(5.4)	557	(4.5)	612	(4.6)	641	(4.7)
Switzerland	480	(3.4)	101	(1.9)	305	(6.4)	342	(5.9)	409	(5.4)	554	(4.0)	606	(4.7)	635	(5.1)
Turkey	414	(4.5)	82	(2.4)	278	(6.0)	308	(6.0)	357	(5.3)	472	(5.3)	519	(6.5)	547	(7.9)
United Kingdom	487	(2.9)	97	(1.6)	326	(5.3)	361	(4.7)	421	(3.7)	555	(3.5)	611	(4.3)	644	(5.4)
United States	487	(3.7)	103	(1.9)	312	(7.3)	350	(6.7)	416	(5.1)	560	(4.0)	617	(5.0)	650	(5.2)
OECD average	479	(0.6)	98	(0.3)	312	(1.1)	348	(1.0)	412	(0.8)	550	(0.7)	603	(0.8)	633	(0.9)
Partners																
Albania	376	(4.8)	96	(2.4)	219	(6.6)	252	(5.9)	311	(5.8)	442	(6.3)	501	(7.5)	534	(8.3)
Algeria	335	(2.9)	70	(1.6)	221	(5.9)	246	(4.2)	288	(3.4)	381	(3.4)	426	(4.2)	453	(5.9)
Brazil	395	(3.1)	102	(1.6)	234	(4.9)	265	(3.9)	322	(3.5)	467	(3.8)	532	(4.2)	569	(5.0)
B-S-J-G (China)	486	(5.0)	108	(3.1)	297	(9.5)	338	(7.6)	411	(6.5)	566	(5.9)	621	(6.3)	651	(6.1)
Bulgaria	409	(5.8)	114	(2.6)	229	(5.8)	261	(6.5)	323	(7.1)	494	(7.3)	559	(7.1)	595	(7.4)
CABA (Argentina)	468	(8.1)	93	(4.2)	303	(13.1)	343	(11.5)	406	(8.8)	534	(11.0)	583	(11.3)	611	(12.9)
Colombia	417	(3.6)	91	(2.0)	270	(6.0)	299	(5.6)	351	(4.5)	482	(4.4)	535	(3.8)	564	(4.7)
Costa Rica	420	(3.1)	81	(1.7)	287	(4.7)	315	(4.2)	364	(3.8)	476	(4.0)	525	(4.3)	553	(5.2)
Croatia	473	(3.3)	92	(1.8)	321	(5.6)	352	(5.0)	408	(5.1)	539	(3.8)	594	(4.6)	624	(4.4)
Cyprus ^{1,2}	417	(2.0)	105	(1.7)	247	(5.0)	279	(3.7)	339	(3.1)	493	(3.8)	556	(4.0)	591	(5.0)
Dominican Republic	342	(3.5)	86	(2.4)	214	(5.5)	237	(5.5)	280	(4.2)	400	(5.4)	458	(6.0)	491	(7.0)
FYROM	330	(2.3)	99	(1.5)	170	(5.3)	202	(4.5)	261	(3.4)	397	(3.4)	461	(4.4)	495	(5.3)
Georgia	374	(4.1)	104	(2.4)	205	(6.1)	240	(5.9)	303	(4.7)	445	(5.2)	508	(6.2)	546	(7.1)
Hong Kong (China)	513	(3.4)	88	(1.9)	355	(6.8)	393	(6.3)	457	(5.3)	575	(3.3)	622	(4.2)	648	(4.5)
Indonesia	386	(3.4)	75	(1.9)	263	(6.6)	290	(5.5)	335	(4.4)	435	(3.6)	482	(4.7)	511	(5.2)
Jordan	372	(4.3)	96	(2.4)	208	(8.3)	247	(6.4)	309	(5.6)	440	(4.5)	492	(5.2)	521	(5.6)
Kosovo	329	(2.2)	79	(1.7)	198	(5.2)	227	(3.7)	275	(3.2)	384	(3.4)	433	(4.1)	460	(5.3)
Lebanon	339	(5.4)	119	(3.4)	155	(8.0)	190	(6.9)	254	(6.5)	419	(8.3)	502	(9.4)	546	(10.0)
Lithuania	453	(3.1)	95	(1.9)	295	(5.3)	328	(4.7)	387	(3.2)	522	(4.5)	579	(5.2)	608	(6.2)
Macao (China)	493	(1.9)	85	(1.7)	348	(5.2)	379	(4.3)	436	(3.5)	553	(3.3)	600	(4.4)	627	(5.4)
Malta	426	(2.7)	121	(2.0)	222	(7.5)	265	(7.1)	341	(4.7)	514	(3.9)	579	(4.2)	615	(5.8)
Moldova	390	(2.7)	96	(1.6)	232	(5.4)	266	(4.6)	324	(3.5)	457	(4.0)	515	(4.0)	547	(5.3)
Montenegro	410	(2.0)	96	(1.5)	254	(4.3)	285	(3.3)	342	(3.0)	478	(3.1)	535	(3.6)	570	(4.5)
Peru	394	(3.4)	88	(1.8)	251	(4.1)	278	(3.8)	330	(3.5)	457	(4.6)	510	(5.1)	540	(5.8)
Qatar	376	(1.3)	115	(1.2)	198	(2.8)	230	(2.4)	288	(2.2)	461	(2.5)	533	(3.8)	569	(3.9)
Romania	425	(4.4)	96	(2.5)	264	(8.2)	299	(7.0)	360	(6.0)	490	(5.4)	546	(6.0)	578	(6.0)
Russia	481	(3.4)	88	(1.9)	336	(6.2)	367	(4.9)	420	(4.7)	542	(3.9)	596	(4.6)	626	(5.5)
Singapore	525	(1.9)	100	(1.5)	348	(5.2)	386	(4.4)	458	(3.4)	599	(3.0)	649	(3.6)	677	(4.9)
Chinese Taipei	485	(3.7)	96	(2.1)	315	(5.6)	354	(5.6)	422	(4.7)	553	(4.3)	601	(5.2)	628	(6.2)
Thailand	392	(4.3)	82	(2.2)	263	(5.3)	290	(4.0)	334	(4.0)	446	(5.8)	501	(7.1)	532	(7.5)
Trinidad and Tobago	401	(2.1)	103	(1.7)	235	(4.8)	269	(4.5)	327	(3.8)	475	(3.6)	535	(3.7)	570	(6.0)
Tunisia	348	(3.9)	82	(2.3)	213	(6.7)	243	(6.9)	291	(5.2)	404	(3.8)	455	(4.5)	484	(6.0)
United Arab Emirates	408	(3.9)	111	(1.7)	235	(4.7)	267	(4.3)	326	(4.1)	489	(5.4)	560	(4.9)	597	(5.2)
Uruguay	424	(3.4)	99	(2.0)	269	(4.8)	297	(4.3)	352	(4.3)	494	(4.5)	555	(5.7)	591	(6.7)
Viet Nam	474	(4.0)	74	(2.1)	353	(6.5)	379	(5.2)	423	(5.3)	525	(4.9)	570	(5.1)	595	(6.0)
Argentina*	417	(3.7)	90	(1.8)	269	(5.5)	300	(4.2)	354	(4.8)	480	(4.9)	534	(5.0)	565	(5.8)
Kazakhstan*	419	(3.9)	81	(2.8)	291	(6.0)	317	(4.6)	363	(3.8)	473	(5.6)	526	(6.3)	558	(7.3)
Malaysia*	414	(3.8)	83	(2.2)	274	(5.6)	304	(5.4)	357	(4.6)	473					



Table 7 Mean score and variation in science performance in PISA 2015

	Mean score		Standard deviation		Percentiles														
					5th		10th		25th		Median (50th)		75th		90th		95th		
	Mean	S.E.	S.D.	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	
OECD																			
Australia	510	(1.5)	102	(0.9)	336	(2.6)	372	(2.5)	438	(2.2)	515	(1.8)	583	(1.9)	639	(2.2)	672	(2.8)	
Austria	495	(2.4)	97	(1.3)	335	(3.8)	365	(3.4)	424	(3.6)	498	(2.9)	565	(2.8)	621	(3.0)	652	(3.6)	
Belgium	502	(2.3)	100	(1.2)	332	(3.4)	364	(3.8)	429	(3.5)	508	(2.9)	577	(2.2)	629	(2.1)	657	(2.2)	
Canada	528	(2.1)	92	(0.9)	369	(3.3)	404	(2.9)	465	(2.5)	531	(2.5)	593	(2.2)	644	(2.6)	674	(2.7)	
Chile	447	(2.4)	86	(1.3)	308	(3.1)	336	(2.7)	385	(3.0)	445	(3.2)	509	(3.2)	560	(3.3)	589	(3.4)	
Czech Republic	493	(2.3)	95	(1.4)	338	(4.1)	367	(3.7)	424	(3.4)	493	(3.0)	561	(2.5)	618	(3.1)	650	(3.8)	
Denmark	502	(2.4)	90	(1.1)	351	(3.8)	383	(3.6)	440	(3.1)	504	(2.8)	565	(2.8)	617	(3.2)	648	(4.0)	
Estonia	534	(2.1)	89	(1.1)	384	(4.3)	416	(3.3)	473	(2.7)	537	(2.4)	597	(2.7)	648	(2.9)	677	(3.7)	
Finland	531	(2.4)	96	(1.3)	364	(4.6)	402	(4.2)	466	(3.5)	535	(2.9)	599	(2.5)	651	(2.7)	681	(3.5)	
France	495	(2.1)	102	(1.4)	322	(4.1)	355	(3.7)	421	(3.4)	501	(2.5)	571	(2.4)	623	(2.8)	652	(3.3)	
Germany	509	(2.7)	99	(1.5)	342	(4.4)	376	(4.3)	439	(3.6)	512	(3.3)	580	(2.8)	636	(2.9)	669	(3.8)	
Greece	455	(3.9)	92	(1.8)	305	(5.7)	333	(5.6)	388	(5.2)	456	(4.5)	522	(3.8)	575	(4.1)	604	(4.5)	
Hungary	477	(2.4)	96	(1.6)	319	(4.0)	347	(4.1)	406	(3.5)	480	(3.3)	547	(3.0)	601	(3.5)	630	(3.7)	
Iceland	473	(1.7)	91	(1.2)	324	(3.5)	354	(3.1)	408	(2.9)	474	(2.5)	538	(2.3)	593	(3.3)	622	(3.9)	
Ireland	503	(2.4)	89	(1.3)	356	(5.0)	387	(3.9)	441	(3.2)	503	(2.9)	565	(2.5)	618	(2.5)	648	(3.2)	
Israel	467	(3.4)	106	(1.6)	295	(4.9)	327	(4.6)	389	(4.4)	466	(4.6)	544	(4.1)	606	(3.7)	640	(3.3)	
Italy	481	(2.5)	91	(1.4)	328	(4.1)	359	(3.8)	415	(3.2)	483	(3.5)	547	(2.8)	599	(2.8)	626	(3.3)	
Japan	538	(3.0)	93	(1.6)	375	(5.3)	412	(4.4)	475	(3.9)	545	(3.4)	605	(3.2)	655	(4.0)	683	(4.7)	
Korea	516	(3.1)	95	(1.5)	352	(4.7)	388	(4.5)	451	(3.8)	520	(3.7)	584	(3.3)	636	(3.7)	665	(3.9)	
Latvia	490	(1.6)	82	(1.1)	355	(3.3)	382	(3.0)	432	(2.4)	491	(2.2)	548	(2.0)	596	(2.2)	623	(3.3)	
Luxembourg	483	(1.1)	100	(1.1)	323	(2.9)	351	(2.6)	407	(2.2)	482	(1.7)	556	(1.7)	615	(2.3)	649	(3.1)	
Mexico	416	(2.1)	71	(1.1)	301	(3.2)	325	(2.5)	366	(2.2)	414	(2.4)	464	(2.8)	510	(3.1)	535	(3.4)	
Netherlands	509	(2.3)	101	(1.5)	341	(4.0)	372	(4.3)	434	(3.9)	512	(2.9)	583	(2.5)	638	(2.9)	668	(3.6)	
New Zealand	513	(2.4)	104	(1.4)	341	(3.5)	374	(3.8)	439	(3.8)	516	(3.0)	588	(2.8)	647	(3.5)	682	(3.8)	
Norway	498	(2.3)	96	(1.3)	338	(3.8)	370	(3.3)	432	(3.0)	501	(2.7)	566	(2.9)	622	(3.3)	655	(3.9)	
Poland	501	(2.5)	91	(1.3)	354	(4.3)	384	(3.4)	437	(2.9)	502	(3.0)	565	(3.1)	619	(3.5)	650	(4.0)	
Portugal	501	(2.4)	92	(1.1)	349	(3.8)	379	(3.2)	435	(3.4)	503	(3.3)	568	(2.7)	620	(3.1)	649	(3.1)	
Slovak Republic	461	(2.6)	99	(1.5)	296	(5.3)	329	(4.6)	391	(3.6)	463	(2.9)	532	(2.8)	588	(3.2)	621	(3.7)	
Slovenia	513	(1.3)	95	(1.1)	354	(3.1)	386	(2.6)	445	(2.1)	515	(1.8)	581	(2.1)	636	(3.0)	667	(3.6)	
Spain	493	(2.1)	88	(1.1)	344	(4.0)	374	(3.5)	432	(2.9)	496	(2.4)	556	(2.4)	605	(2.4)	633	(2.9)	
Sweden	493	(3.6)	102	(1.4)	322	(4.7)	357	(4.6)	421	(4.2)	496	(4.1)	567	(4.2)	625	(4.0)	658	(4.4)	
Switzerland	506	(2.9)	100	(1.5)	339	(4.7)	373	(4.1)	433	(4.3)	509	(3.5)	580	(3.3)	632	(2.9)	662	(3.3)	
Turkey	425	(3.9)	79	(1.9)	301	(3.8)	325	(3.5)	368	(3.7)	421	(4.9)	482	(5.5)	532	(6.1)	560	(5.7)	
United Kingdom	509	(2.6)	100	(1.0)	345	(2.9)	377	(3.2)	438	(2.9)	512	(3.3)	581	(3.1)	638	(3.2)	670	(3.5)	
United States	496	(3.2)	99	(1.4)	336	(4.1)	368	(3.9)	425	(3.7)	495	(3.8)	567	(3.9)	626	(3.9)	658	(4.9)	
European Union total	495	(0.7)	98	(0.4)	333	(1.3)	364	(1.1)	425	(1.0)	497	(0.9)	565	(0.8)	620	(1.0)	652	(1.1)	
OECD total	488	(1.1)	100	(0.5)	328	(1.3)	358	(1.2)	414	(1.3)	487	(1.4)	560	(1.4)	620	(1.4)	653	(1.5)	
OECD average	493	(0.4)	94	(0.2)	336	(0.7)	368	(0.6)	426	(0.6)	495	(0.5)	561	(0.5)	615	(0.5)	645	(0.6)	
Partners																			
Albania	427	(3.3)	78	(1.5)	301	(3.8)	328	(3.2)	373	(3.2)	426	(3.6)	481	(4.8)	530	(5.0)	558	(4.7)	
Algeria	376	(2.6)	69	(1.5)	268	(3.4)	291	(3.3)	329	(2.5)	373	(2.5)	419	(3.2)	465	(4.5)	496	(6.1)	
Brazil	401	(2.3)	89	(1.3)	265	(2.4)	291	(2.1)	337	(1.9)	394	(2.5)	460	(3.3)	522	(4.1)	558	(4.6)	
B-S-J-G (China)	518	(4.6)	103	(2.5)	341	(6.5)	377	(6.0)	445	(5.6)	524	(5.6)	595	(5.3)	649	(5.6)	677	(6.5)	
Bulgaria	446	(4.4)	102	(2.1)	283	(4.8)	313	(4.8)	370	(5.3)	446	(5.8)	521	(5.1)	578	(5.2)	611	(5.6)	
CABA (Argentina)	475	(6.3)	86	(2.7)	331	(8.4)	364	(7.7)	416	(7.0)	476	(7.4)	537	(7.4)	586	(7.9)	612	(8.6)	
Colombia	416	(2.4)	80	(1.3)	291	(3.9)	315	(3.1)	357	(2.8)	412	(2.8)	471	(2.9)	524	(3.4)	554	(3.5)	
Costa Rica	420	(2.1)	70	(1.2)	310	(2.6)	332	(2.3)	370	(2.3)	416	(2.3)	466	(2.8)	514	(3.3)	541	(3.7)	
Croatia	475	(2.5)	89	(1.2)	332	(3.5)	360	(3.3)	411	(3.4)	474	(3.3)	538	(2.8)	593	(3.3)	624	(3.9)	
Cyprus ^{1,2}	433	(1.4)	93	(1.2)	286	(2.9)	314	(2.5)	365	(2.1)	429	(2.0)	497	(2.2)	557	(2.8)	590	(4.1)	
Dominican Republic	332	(2.6)	72	(1.8)	224	(3.0)	244	(2.7)	281	(2.5)	326	(2.8)	376	(3.3)	429	(4.9)	461	(6.3)	
FYROM	384	(1.2)	85	(1.3)	248	(3.2)	277	(3.0)	325	(1.9)	381	(1.7)	440	(2.1)	496	(2.7)	528	(4.1)	
Georgia	411	(2.4)	91	(1.3)	267	(3.8)	297	(3.7)	348	(3.0)	408	(3.1)	471	(3.1)	531	(3.9)	566	(4.5)	
Hong Kong (China)	523	(2.5)	81	(1.4)	379	(5.5)	413	(4.5)	473	(3.5)	529	(2.7)	579	(2.6)	622	(2.7)	646	(3.2)	
Indonesia	403	(2.6)	68	(1.6)	296	(4.1)	319	(3.2)	356	(2.9)	399	(3.1)	447	(3.3)	493	(3.9)	522	(4.9)	
Jordan	409	(2.7)	84	(1.6)	268	(5.2)	299	(3.8)	351	(3.4)	410	(3.1)	468	(3.0)	517	(3.4)	544	(3.5)	
Kosovo	378	(1.7)	71	(1.1)	266	(3.3)	289	(2.2)	328	(2.2)	375	(1.9)	426	(2.2)	474	(3.7)	501	(4.3)	
Lebanon	386	(3.4)	90	(1.8)	249	(4.6)	276	(3.9)	322	(3.6)	379	(4.2)	446	(5.1)	511	(4.9)	545	(5.2)	
Lithuania	475	(2.7)	91	(1.4)	329	(3.2)	357	(3.8)	410	(2.9)	473	(2.8)	540	(3.3)	597	(3.7)	626	(4.3)	
Macao (China)	529	(1.1)	81	(1.0)	389	(3.6)	420	(2.3)	474	(1.7)	532	(1.7)	586	(1.8)	630	(2.0)	656	(3.2)	
Malta	465	(1.6)	118	(1.5)	273	(4.2)	310	(4.3)	382	(3.4)	466	(2.9)	548	(2.8)	618	(3.4)	656	(4.4)	
Moldova	428	(2.0)	86	(1.4)	290	(4.0)	318	(3.0)	367	(2.6)	427	(2.4)	488	(2.9)	541	(3.1)	570	(3.8)	
Montenegro	411	(1.0)	85	(0.9)	277	(2.8)	304	(2.1)	352	(1.5)	407	(1.5)	468	(1.9)	526	(2.9)	558	(3.1)	
Peru	397	(2.4)	77	(1.4)	278	(3.2)	301	(2.6)	342	(2.4)	392	(2.7)	448	(3.3)	500	(3.9)	529	(4.7)	
Qatar	418	(1.0)	99	(0.7)	268	(1.9)	295	(1.8)	344	(1.3)	410	(1.4)	486	(2.1)	554	(1.9)	589	(2.4)	
Romania	435	(3.2)	79	(1.7)	309	(4.2)	334	(3.8)	379	(3.6)	433	(3.6)	488	(4.1)	539	(5.1)	570	(5.4)	
Russia	487	(2.9)	82	(1.1)	352	(4.1)	379	(3.8)	428	(3.4)	486	(3.6)	544	(3.3)	595	(3.5)	623	(3.7)	
Singapore	556	(1.2)	104	(0.9)	373	(3.7)	412	(2.8)	485	(2.2)	564	(1.6)	631	(1.8)	683	(2.2)	712	(3.1)	
Chinese Taipei	532	(2.7)	100	(1.9)	358	(4.6)	395	(4.6)	465	(3.5)	540	(2.7)	603	(3.5)	655	(4.2)	685	(4.9)	
Thailand	421	(2.8)	78	(1.6)	301	(2.7)	324	(2.9)	365	(2.6)	416	(3.1)	473	(3.6)	528	(4.9)	559	(6.0)	
Trinidad and Tobago	425	(1.4)	94	(1.1)	279	(4.0)	306	(3.5)	356	(1.9)	420	(2.0)	491	(2.1)	551	(3.3)	585	(3.7)	
Tunisia	386	(2.1)	65	(1.6)	287	(3.1)	306	(2.6)	341	(2.2)	382	(2.5)	428	(2.5)	472	(3.8)	500	(5.3)	
United Arab Emirates	437	(2.4)	99	(1.1)	284	(3.3)	312	(2.8)	364	(2.8)	431	(3.1)	505	(3.2)	571	(3.2)	608	(3.0)	
Uruguay	435	(2.2)	87	(1.3)	301	(2.8)	326	(2.6)	372	(2.4)	431	(2.7)	496	(3.0)	552	(3.6)	583	(4.2)	
Viet Nam	525	(3.9)	77	(2.3)	404	(4.7)	428	(4.1)	470	(4.3)	522	(4.0)	576	(4.5)	624	(6.6)	655	(8.3)	
Argentina*	432	(2.9)	81	(1.2)	303	(4.1)	329	(3.5)	3										



Table 8 Percentage of students at each proficiency level in science in PISA 2015

	All students															
	Below Level 1b (below 260.54 score points)		Level 1b (from 260.54 to less than 334.94 score points)		Level 1a (from 334.94 to less than 409.54 score points)		Level 2 (from 409.54 to less than 484.14 score points)		Level 3 (from 484.14 to less than 558.73 score points)		Level 4 (from 558.73 to less than 633.33 score points)		Level 5 (from 633.33 to less than 707.93 score points)		Level 6 (above 707.93 score points)	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.
OECD																
Australia	0.6	(0.1)	4.3	(0.3)	12.8	(0.5)	21.6	(0.5)	27.3	(0.5)	22.3	(0.5)	9.2	(0.4)	2.0	(0.2)
Austria	0.5	(0.2)	4.5	(0.5)	15.8	(0.8)	23.9	(0.8)	28.1	(0.8)	19.5	(0.8)	6.8	(0.5)	0.9	(0.2)
Belgium	0.5	(0.1)	4.9	(0.4)	14.4	(0.6)	21.9	(0.6)	26.8	(0.7)	22.5	(0.7)	8.0	(0.4)	1.0	(0.1)
Canada	0.1	(0.1)	1.8	(0.2)	9.1	(0.4)	20.2	(0.6)	30.3	(0.5)	26.1	(0.7)	10.4	(0.5)	2.0	(0.2)
Chile	1.0	(0.2)	8.9	(0.6)	25.0	(0.9)	31.0	(1.0)	23.8	(0.9)	9.1	(0.7)	1.2	(0.2)	0.0	(0.0)
Czech Republic	0.3	(0.1)	4.3	(0.5)	16.1	(0.8)	25.9	(0.8)	27.7	(0.9)	18.4	(0.7)	6.3	(0.4)	0.9	(0.2)
Denmark	0.3	(0.1)	3.0	(0.3)	12.5	(0.7)	25.9	(0.9)	31.1	(1.1)	20.2	(0.8)	6.1	(0.5)	0.9	(0.2)
Estonia	0.0	(0.0)	1.2	(0.2)	7.5	(0.6)	20.1	(0.7)	30.7	(0.9)	26.9	(0.9)	11.6	(0.7)	1.9	(0.3)
Finland	0.3	(0.1)	2.3	(0.3)	8.9	(0.6)	19.1	(0.7)	29.2	(0.8)	26.0	(0.8)	11.9	(0.6)	2.4	(0.3)
France	0.9	(0.2)	5.8	(0.5)	15.3	(0.6)	22.0	(0.9)	26.5	(0.8)	21.4	(0.8)	7.2	(0.5)	0.8	(0.1)
Germany	0.4	(0.1)	3.8	(0.4)	12.8	(0.7)	22.7	(0.8)	27.7	(0.8)	22.0	(0.8)	8.8	(0.6)	1.8	(0.2)
Greece	1.2	(0.3)	9.1	(1.0)	22.4	(1.1)	28.4	(1.1)	25.2	(1.1)	11.6	(0.9)	2.0	(0.3)	0.1	(0.1)
Hungary	0.8	(0.2)	6.8	(0.6)	18.4	(0.9)	25.5	(0.8)	27.3	(0.9)	16.6	(0.8)	4.3	(0.4)	0.3	(0.1)
Iceland	0.8	(0.2)	5.8	(0.5)	18.7	(0.9)	29.0	(1.0)	27.3	(0.9)	14.6	(0.8)	3.5	(0.4)	0.3	(0.1)
Ireland	0.3	(0.1)	2.7	(0.4)	12.4	(0.8)	26.4	(0.9)	31.1	(0.9)	20.1	(0.8)	6.3	(0.4)	0.8	(0.2)
Israel	2.1	(0.4)	9.5	(0.8)	19.9	(0.9)	24.4	(0.8)	23.3	(1.0)	15.0	(0.8)	5.1	(0.5)	0.7	(0.1)
Italy	0.6	(0.2)	5.4	(0.5)	17.2	(0.8)	27.1	(0.9)	28.6	(1.0)	17.0	(0.7)	3.8	(0.4)	0.2	(0.1)
Japan	0.2	(0.1)	1.7	(0.3)	7.7	(0.6)	18.1	(0.8)	28.2	(0.9)	28.8	(0.9)	12.9	(0.8)	2.4	(0.4)
Korea	0.4	(0.1)	2.9	(0.4)	11.1	(0.7)	21.7	(0.9)	29.2	(0.9)	24.0	(1.0)	9.2	(0.7)	1.4	(0.2)
Latvia	0.1	(0.1)	2.6	(0.3)	14.5	(0.7)	29.8	(0.8)	31.7	(0.8)	17.4	(0.8)	3.5	(0.4)	0.3	(0.1)
Luxembourg	0.5	(0.1)	6.4	(0.5)	18.9	(0.6)	24.8	(0.7)	25.1	(0.7)	17.3	(0.6)	6.0	(0.4)	0.9	(0.2)
Mexico	1.1	(0.3)	11.7	(0.7)	35.0	(1.0)	34.7	(0.9)	15.1	(0.9)	2.3	(0.3)	0.1	(0.1)	0.0	c
Netherlands	0.3	(0.1)	4.0	(0.5)	14.3	(0.7)	21.8	(0.9)	26.1	(0.9)	22.4	(0.8)	9.5	(0.5)	1.6	(0.2)
New Zealand	0.4	(0.1)	4.0	(0.4)	13.0	(0.8)	21.6	(0.8)	26.3	(0.8)	21.8	(0.8)	10.1	(0.6)	2.7	(0.4)
Norway	0.6	(0.1)	4.1	(0.4)	14.0	(0.7)	24.6	(0.8)	29.1	(0.8)	19.6	(0.8)	6.9	(0.5)	1.1	(0.2)
Poland	0.3	(0.1)	2.6	(0.4)	13.3	(0.7)	26.6	(0.9)	29.9	(0.9)	19.9	(0.8)	6.3	(0.5)	1.0	(0.2)
Portugal	0.2	(0.1)	3.2	(0.4)	14.0	(0.9)	25.4	(0.8)	28.8	(0.8)	21.0	(0.8)	6.7	(0.5)	0.7	(0.1)
Slovak Republic	2.1	(0.3)	8.9	(0.7)	19.7	(0.8)	27.6	(0.8)	24.8	(0.7)	13.3	(0.6)	3.3	(0.3)	0.3	(0.1)
Slovenia	0.2	(0.1)	2.8	(0.3)	11.9	(0.5)	23.3	(0.7)	29.1	(0.9)	22.1	(0.8)	9.1	(0.6)	1.5	(0.3)
Spain	0.3	(0.1)	3.7	(0.4)	14.3	(0.7)	26.5	(0.7)	31.3	(0.7)	18.9	(0.7)	4.7	(0.4)	0.3	(0.1)
Sweden	0.9	(0.2)	5.7	(0.5)	15.0	(0.9)	24.0	(0.9)	26.8	(0.9)	19.0	(0.9)	7.2	(0.6)	1.3	(0.2)
Switzerland	0.5	(0.2)	4.0	(0.5)	13.9	(0.8)	22.8	(0.8)	26.3	(1.1)	22.7	(1.0)	8.6	(0.6)	1.1	(0.2)
Turkey	1.1	(0.2)	11.8	(1.0)	31.6	(1.5)	31.3	(1.3)	19.1	(1.4)	4.8	(0.9)	0.3	(0.1)	0.0	(0.0)
United Kingdom	0.4	(0.1)	3.4	(0.3)	13.6	(0.7)	22.6	(0.7)	27.5	(0.7)	21.6	(0.7)	9.1	(0.6)	1.8	(0.2)
United States	0.5	(0.1)	4.3	(0.5)	15.5	(0.8)	25.5	(0.8)	26.6	(0.9)	19.1	(0.9)	7.3	(0.6)	1.2	(0.2)
European Union total	0.6	(0.0)	4.7	(0.1)	15.3	(0.2)	24.6	(0.2)	27.6	(0.2)	19.6	(0.2)	6.6	(0.2)	1.0	(0.1)
OECD total	0.6	(0.1)	5.4	(0.2)	17.5	(0.3)	25.4	(0.3)	25.6	(0.3)	17.8	(0.3)	6.5	(0.2)	1.1	(0.1)
OECD average	0.6	(0.0)	4.9	(0.1)	15.7	(0.1)	24.8	(0.1)	27.2	(0.1)	19.0	(0.1)	6.7	(0.1)	1.1	(0.0)
Partners																
Albania	1.6	(0.3)	10.3	(0.8)	29.8	(1.2)	34.5	(1.0)	18.9	(1.3)	4.5	(0.6)	0.3	(0.1)	0.0	(0.0)
Algeria	3.9	(0.5)	24.1	(1.0)	42.8	(1.0)	22.7	(1.1)	5.6	(0.6)	0.9	(0.2)	0.0	(0.0)	0.0	c
Brazil	4.4	(0.3)	19.9	(0.6)	32.4	(0.6)	25.4	(0.6)	13.1	(0.6)	4.2	(0.4)	0.6	(0.1)	0.0	(0.0)
B-S-J-G (China)	0.6	(0.2)	3.8	(0.5)	11.8	(0.9)	20.7	(1.1)	25.8	(1.1)	23.8	(1.1)	11.5	(1.1)	2.1	(0.5)
Bulgaria	2.7	(0.4)	12.4	(1.0)	22.8	(1.1)	25.2	(1.1)	22.6	(1.2)	11.4	(0.9)	2.7	(0.4)	0.2	(0.1)
CABA (Argentina)	0.7	(0.3)	4.8	(0.9)	17.2	(1.8)	30.8	(1.9)	29.0	(1.9)	14.9	(1.8)	2.6	(0.7)	0.1	(0.1)
Colombia	1.7	(0.3)	14.5	(0.9)	32.8	(0.9)	30.6	(0.9)	15.9	(0.7)	4.1	(0.4)	0.3	(0.1)	0.0	(0.0)
Costa Rica	0.7	(0.2)	10.1	(0.6)	35.6	(1.0)	35.5	(0.8)	15.2	(0.9)	2.7	(0.4)	0.1	(0.1)	0.0	(0.0)
Croatia	0.4	(0.2)	5.1	(0.5)	19.2	(1.0)	29.5	(0.9)	27.5	(1.0)	14.4	(0.7)	3.6	(0.4)	0.4	(0.1)
Cyprus ^{1,2}	2.3	(0.3)	12.9	(0.6)	26.9	(0.8)	28.6	(0.8)	19.6	(0.7)	8.1	(0.4)	1.5	(0.2)	0.1	(0.1)
Dominican Republic	15.8	(1.0)	39.6	(1.3)	30.4	(1.3)	11.3	(0.8)	2.6	(0.5)	0.3	(0.1)	0.0	(0.0)	0.0	c
FYROM	6.8	(0.5)	22.3	(0.8)	33.8	(0.9)	24.6	(0.7)	10.3	(0.5)	2.0	(0.3)	0.2	(0.1)	0.0	(0.0)
Georgia	4.2	(0.4)	16.0	(0.9)	30.5	(1.1)	28.2	(1.0)	15.2	(0.7)	4.9	(0.5)	0.8	(0.2)	0.1	(0.1)
Hong Kong (China)	0.1	(0.1)	1.6	(0.3)	7.8	(0.6)	19.7	(0.9)	36.1	(0.9)	27.4	(1.1)	6.9	(0.6)	0.4	(0.1)
Indonesia	1.2	(0.4)	14.4	(1.1)	40.4	(1.5)	31.7	(1.3)	10.6	(0.8)	1.6	(0.3)	0.1	(0.1)	0.0	c
Jordan	4.2	(0.5)	15.2	(0.9)	30.4	(0.9)	30.9	(1.0)	16.1	(0.9)	3.1	(0.4)	0.2	(0.1)	0.0	c
Kosovo	4.0	(0.5)	24.4	(1.0)	39.3	(1.1)	24.4	(1.0)	7.2	(0.7)	0.7	(0.2)	0.0	(0.0)	0.0	c
Lebanon	6.8	(0.7)	23.6	(1.3)	32.3	(1.2)	22.0	(1.2)	11.6	(0.9)	3.3	(0.4)	0.4	(0.1)	0.0	(0.0)
Lithuania	0.5	(0.1)	5.4	(0.5)	18.9	(0.8)	29.7	(0.9)	26.3	(0.7)	15.1	(0.7)	3.9	(0.5)	0.3	(0.1)
Macao (China)	0.1	(0.1)	1.1	(0.2)	6.9	(0.4)	20.6	(0.7)	34.2	(0.9)	28.0	(0.7)	8.3	(0.5)	0.9	(0.2)
Malta	3.9	(0.4)	10.6	(0.7)	18.0	(0.9)	23.4	(0.8)	21.7	(0.9)	14.8	(0.9)	6.1	(0.4)	1.6	(0.3)
Moldova	2.3	(0.3)	11.8	(0.6)	28.2	(0.8)	31.5	(1.2)	19.7	(0.9)	5.9	(0.6)	0.7	(0.1)	0.0	(0.0)
Montenegro	3.1	(0.3)	15.8	(0.5)	32.1	(0.7)	29.0	(0.6)	15.1	(0.5)	4.4	(0.3)	0.5	(0.1)	0.0	(0.0)
Peru	2.8	(0.3)	19.0	(0.8)	36.7	(1.0)	27.9	(1.0)	11.5	(0.7)	2.0	(0.3)	0.1	(0.1)	0.0	c
Qatar	3.9	(0.2)	17.9	(0.5)	28.0	(0.6)	24.6	(0.5)	16.4	(0.5)	7.5	(0.3)	1.6	(0.1)	0.1	(0.0)
Romania	0.9	(0.2)	9.3	(0.9)	28.4	(1.4)	35.0	(1.4)	19.9	(1.0)	5.9	(0.7)	0.7	(0.2)	0.0	(0.0)
Russia	0.1	(0.1)	2.9	(0.4)	15.2	(1.0)	31.2	(0.9)	30.9	(0.9)	16.0	(0.9)	3.5	(0.4)	0.2	(0.1)
Singapore	0.2	(0.1)	2.0	(0.2)	7.5	(0.5)	15.1	(0.5)	23.4	(0.6)	27.7	(0.7)	18.6	(0.7)	5.6	(0.4)
Chinese Taipei	0.3	(0.1)	2.7	(0.3)	9.4	(0.6)	18.1	(0.6)	27.0	(0.9)	27.1	(0.8)	12.7	(0.8)	2.7	(0.5)
Thailand	1.1	(0.2)	11.9	(0.8)	33.7	(1.1)	32.2	(0.9)	16.0	(0.8)	4.6	(0.6)	0.4	(0.2)	0.0	(0.0)
Trinidad and Tobago	2.9	(0.5)	15.0	(0.7)	27.9	(0.9)	27.1	(0.8)	18.3	(0.7)	7.3	(0.5)	1.3	(0.2)	0.1	(0.1)
Tunisia	1.6	(0.3)	20.0	(1.1)	44.2	(1.1)	26.6	(1.1)	6.8	(0.6)	0.7	(0.3)	0.0	(0.0)	0.0	c
United Arab Emirates	2.6	(0.3)	13.0	(0.6)	26.1	(0.7)	26.9	(0.6)	19.0	(0.7)	9.5	(0.5)	2.5	(0.2)	0.2	(0.1)
Uruguay	1.2	(0.2)	11.2	(0.8)	28.4	(0.9)	30.3	(0.8)	20.3	(0.8)	7.4	(0.5)	1.2	(0.2)	0.1	(0.0)
Viet Nam	0.0	(0.0)	0.2	(0.1)	5.7	(0.7)	25.3	(1.4)	36.6	(1.2)	23.9	(1.2)	7.1	(0.8)	1.2	(0.5)
Argentina*	1.4	(0.3)	10.1	(0.8)	28.2	(1.0)	34.2	(1.0)	20.1	(1.1)	5.3	(0.5)	0.7	(0.2)	0.0	(0.0)
Kazakhstan*	0.2	(0.1)	4.1	(0.6)	23.8	(1.3)	38.2	(1.2)	23.9	(1.3)	8.1	(0.9)	1.7	(0.5)	0.1	(0.1)
Malaysia*	0.5	(0.1)	7.3	(0.7)	25.9	(1.2)	36.4	(1.0)	23.6	(1.1)	5.8	(0.6)	0.6	(0.2)	0.0	(0.0)

1. Footnote by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognizes the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".
2. Footnote by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognized by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.
*Argentina, Kazakhstan and Malaysia: Coverage is too small to ensure comparability
Source : PISA 2015 Results (Volume I): Excellence and Equity in Education - Table I.4.1a
StatLink <http://dx.doi.org/10.1787/...>



[Part 1/3]
Table 9 Mean score and variation in science performance, by gender in PISA 2015

	Boys																	
	Mean score		Standard deviation		Percentiles													
	Mean	S.E.	S.D.	S.E.	5th		10th		25th		75th		90th		95th			
				Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	
OECD																		
Australia	511	(2.1)	107	(1.2)	329	(3.3)	365	(3.3)	436	(3.2)	588	(2.9)	647	(3.0)	680	(3.2)		
Austria	504	(3.6)	100	(1.6)	339	(5.1)	368	(5.1)	431	(5.3)	578	(4.6)	634	(4.8)	664	(4.9)		
Belgium	508	(3.1)	102	(1.5)	335	(4.7)	366	(4.5)	433	(4.9)	585	(3.3)	637	(2.9)	665	(3.6)		
Canada	528	(2.5)	96	(1.2)	364	(3.9)	398	(3.7)	463	(3.6)	596	(2.9)	648	(3.5)	679	(4.3)		
Chile	454	(3.1)	88	(1.8)	311	(5.6)	341	(4.1)	390	(3.8)	518	(4.1)	571	(4.6)	599	(4.9)		
Czech Republic	497	(3.3)	100	(1.8)	335	(5.0)	365	(4.9)	423	(5.1)	568	(4.0)	628	(4.1)	660	(5.0)		
Denmark	505	(2.6)	93	(1.6)	351	(5.2)	384	(4.1)	441	(3.9)	570	(3.5)	625	(4.6)	657	(5.6)		
Estonia	536	(2.7)	93	(1.5)	376	(5.6)	410	(5.2)	473	(4.2)	601	(3.1)	654	(3.5)	683	(4.9)		
Finland	521	(2.7)	100	(1.6)	353	(5.5)	387	(5.2)	451	(4.3)	593	(3.3)	648	(3.9)	681	(4.4)		
France	496	(2.7)	107	(1.9)	315	(6.0)	349	(5.0)	417	(5.0)	577	(3.2)	630	(3.7)	659	(3.4)		
Germany	514	(3.2)	102	(1.9)	344	(6.4)	380	(6.1)	444	(4.0)	587	(3.7)	645	(4.3)	678	(4.8)		
Greece	451	(4.6)	95	(2.1)	299	(5.4)	326	(5.9)	379	(6.5)	520	(4.5)	577	(4.8)	608	(5.7)		
Hungary	478	(3.4)	98	(1.8)	320	(5.6)	348	(5.1)	405	(4.4)	551	(4.5)	606	(4.4)	635	(4.7)		
Iceland	472	(2.6)	94	(1.9)	316	(5.8)	348	(4.8)	405	(3.9)	539	(3.7)	594	(5.5)	625	(7.0)		
Ireland	508	(3.2)	94	(1.8)	353	(6.9)	384	(5.4)	441	(4.3)	575	(3.4)	629	(3.6)	659	(4.3)		
Israel	469	(4.7)	113	(2.1)	290	(6.4)	321	(5.5)	382	(6.1)	553	(6.0)	618	(5.1)	653	(5.4)		
Italy	489	(3.1)	93	(1.5)	333	(4.4)	363	(4.5)	421	(4.4)	559	(4.2)	609	(3.3)	636	(3.5)		
Japan	545	(4.1)	96	(2.2)	378	(7.2)	416	(5.8)	479	(5.7)	613	(4.5)	665	(5.7)	694	(6.7)		
Korea	511	(4.6)	101	(2.1)	340	(5.6)	375	(6.2)	440	(6.0)	585	(5.2)	640	(4.9)	670	(5.6)		
Latvia	485	(2.0)	85	(1.4)	347	(4.0)	373	(3.8)	424	(3.1)	545	(3.1)	595	(3.0)	623	(4.8)		
Luxembourg	487	(1.7)	104	(1.3)	321	(3.9)	350	(3.9)	408	(3.2)	564	(2.9)	625	(3.4)	658	(3.8)		
Mexico	420	(2.6)	74	(1.4)	302	(4.0)	326	(3.1)	366	(2.9)	472	(3.7)	519	(4.0)	545	(4.3)		
Netherlands	511	(2.9)	104	(1.8)	341	(5.1)	371	(4.6)	432	(4.9)	589	(3.3)	646	(3.7)	677	(4.7)		
New Zealand	516	(3.2)	109	(1.9)	336	(5.4)	369	(5.1)	437	(5.1)	594	(3.9)	657	(4.9)	692	(6.4)		
Norway	500	(2.7)	101	(1.8)	331	(4.5)	365	(4.7)	429	(3.9)	572	(3.5)	629	(4.3)	663	(4.4)		
Poland	504	(2.9)	94	(1.8)	352	(6.0)	383	(4.7)	437	(3.8)	571	(4.1)	628	(4.7)	659	(5.2)		
Portugal	506	(2.9)	96	(1.3)	347	(4.5)	376	(4.5)	436	(3.9)	578	(3.7)	631	(3.8)	659	(4.3)		
Slovak Republic	460	(3.0)	101	(1.7)	295	(6.1)	327	(4.9)	387	(4.3)	533	(3.7)	592	(4.2)	626	(4.8)		
Slovenia	510	(1.9)	97	(1.5)	351	(5.0)	382	(3.4)	439	(2.7)	580	(3.0)	638	(4.2)	668	(5.5)		
Spain	496	(2.5)	91	(1.5)	343	(5.0)	372	(4.4)	432	(3.6)	562	(2.8)	613	(3.5)	643	(4.3)		
Sweden	491	(4.1)	106	(1.7)	316	(5.8)	349	(5.5)	415	(5.4)	568	(5.3)	630	(4.9)	664	(5.1)		
Switzerland	508	(3.1)	103	(1.7)	337	(5.7)	370	(4.9)	433	(5.4)	586	(3.8)	638	(3.4)	667	(3.9)		
Turkey	422	(4.5)	80	(2.1)	298	(5.8)	322	(4.5)	365	(4.5)	479	(5.9)	529	(6.6)	557	(6.5)		
United Kingdom	510	(2.9)	101	(1.4)	343	(4.0)	375	(4.5)	437	(3.5)	583	(3.9)	641	(4.3)	674	(4.2)		
United States	500	(3.7)	102	(1.8)	334	(5.7)	366	(5.1)	425	(5.0)	574	(4.3)	632	(4.6)	666	(5.5)		
OECD average	495	(0.5)	98	(0.3)	333	(0.9)	365	(0.8)	424	(0.8)	566	(0.7)	621	(0.7)	652	(0.8)		
Partners																		
Albania	415	(4.0)	81	(2.0)	286	(5.3)	315	(4.5)	360	(3.9)	469	(5.8)	523	(6.5)	553	(7.2)		
Algeria	369	(3.0)	68	(1.6)	263	(4.8)	286	(4.4)	324	(2.8)	411	(3.8)	456	(4.5)	486	(6.5)		
Brazil	403	(2.5)	93	(1.4)	263	(2.9)	289	(2.5)	336	(2.3)	465	(3.6)	529	(4.3)	566	(5.3)		
B-S-J-G (China)	522	(4.5)	105	(2.6)	342	(6.7)	378	(6.7)	447	(6.2)	601	(4.8)	653	(4.6)	681	(6.0)		
Bulgaria	438	(5.3)	104	(2.4)	278	(5.0)	306	(4.8)	359	(5.9)	516	(7.2)	577	(6.6)	610	(7.4)		
CABA (Argentina)	483	(7.2)	89	(3.4)	332	(11.7)	365	(9.8)	419	(8.6)	548	(8.5)	598	(9.6)	625	(11.3)		
Colombia	421	(3.1)	82	(1.7)	294	(4.8)	318	(3.9)	360	(4.0)	478	(3.9)	531	(4.2)	561	(4.6)		
Costa Rica	429	(2.5)	72	(1.4)	314	(3.8)	337	(3.4)	378	(2.7)	479	(3.5)	525	(3.8)	550	(4.6)		
Croatia	478	(3.2)	93	(1.6)	329	(4.3)	358	(4.4)	411	(4.6)	544	(3.8)	603	(4.2)	634	(4.8)		
Cyprus ^{1,2}	424	(1.7)	98	(1.6)	274	(4.0)	302	(3.1)	351	(2.9)	493	(3.2)	560	(4.6)	596	(5.2)		
Dominican Republic	332	(3.2)	74	(2.2)	224	(3.7)	245	(3.6)	280	(3.2)	377	(4.7)	434	(6.2)	466	(7.0)		
FYROM	374	(1.6)	86	(1.6)	239	(4.6)	266	(3.2)	314	(2.7)	430	(3.1)	489	(4.7)	523	(4.6)		
Georgia	403	(3.3)	94	(1.8)	257	(5.0)	287	(4.8)	338	(3.9)	466	(5.3)	529	(5.7)	566	(7.3)		
Hong Kong (China)	523	(3.1)	83	(1.7)	375	(6.7)	406	(5.0)	469	(5.0)	582	(3.2)	627	(3.7)	651	(3.9)		
Indonesia	401	(3.0)	68	(1.9)	296	(4.7)	318	(3.8)	354	(3.5)	445	(4.2)	491	(4.5)	518	(6.3)		
Jordan	389	(3.9)	87	(2.3)	248	(7.1)	278	(5.3)	328	(4.8)	450	(4.8)	504	(4.8)	533	(5.1)		
Kosovo	374	(2.0)	73	(1.5)	261	(3.4)	283	(2.8)	322	(2.6)	422	(3.1)	472	(4.8)	500	(6.1)		
Lebanon	388	(4.0)	94	(2.4)	245	(6.0)	272	(5.3)	320	(4.7)	449	(6.6)	516	(6.8)	552	(7.5)		
Lithuania	472	(3.3)	94	(1.8)	323	(6.0)	350	(4.4)	404	(3.9)	539	(4.6)	599	(5.2)	628	(5.8)		
Macao (China)	525	(1.5)	86	(1.3)	377	(4.6)	409	(3.3)	466	(2.5)	586	(2.4)	634	(3.8)	661	(4.4)		
Malta	460	(2.5)	120	(1.7)	267	(6.7)	303	(5.0)	372	(4.5)	547	(3.9)	618	(4.8)	656	(5.5)		
Moldova	425	(2.4)	87	(1.6)	287	(5.1)	313	(4.1)	363	(3.2)	485	(3.3)	541	(3.9)	570	(5.0)		
Montenegro	409	(1.7)	89	(1.3)	271	(4.2)	298	(2.8)	346	(2.7)	467	(2.8)	529	(4.3)	564	(5.7)		
Peru	402	(2.8)	78	(1.5)	282	(4.0)	305	(3.7)	346	(2.8)	454	(4.1)	507	(4.7)	537	(5.6)		
Qatar	406	(1.4)	104	(0.9)	256	(2.5)	282	(2.3)	328	(2.0)	479	(2.5)	553	(2.7)	592	(3.2)		
Romania	432	(3.7)	80	(2.1)	305	(4.6)	330	(4.8)	376	(4.1)	484	(4.7)	537	(6.1)	570	(6.7)		
Russia	489	(3.6)	85	(1.5)	351	(5.1)	378	(5.1)	428	(4.3)	548	(4.2)	600	(4.8)	629	(4.7)		
Singapore	559	(1.8)	108	(1.5)	367	(4.9)	408	(4.0)	486	(3.1)	638	(2.8)	692	(3.6)	723	(5.1)		
Chinese Taipei	535	(4.1)	102	(2.5)	352	(6.1)	393	(5.6)	466	(5.0)	608	(5.3)	659	(6.1)	689	(7.2)		
Thailand	416	(3.6)	80	(1.9)	296	(3.7)	318	(3.6)	358	(3.5)	469	(5.5)	524	(6.7)	559	(7.3)		
Trinidad and Tobago	414	(2.1)	95	(1.7)	268	(7.5)	295	(6.0)	344	(3.1)	481	(3.5)	543	(4.3)	577	(4.8)		
Tunisia	388	(2.4)	66	(1.7)	288	(3.7)	307	(3.1)	342	(2.8)	431	(3.0)	476	(4.4)	504	(6.7)		
United Arab Emirates	424	(3.4)	105	(1.6)	267	(4.6)	295	(3.5)	346	(3.3)	497	(5.3)	571	(5.5)	611	(4.9)		
Uruguay	440	(3.1)	90	(1.8)	301	(4.2)	327	(3.4)	372	(3.8)	505	(4.4)	562	(4.9)	593	(5.8)		
Viet Nam	523	(4.0)	78	(2.2)	400	(5.1)	424	(4.4)	466	(5.1)	577	(4.9)	626	(6.4)	656	(7.2)		
Argentina*	440	(3.2)	82	(1.4)	309	(4.9)	335	(4.3)	383	(4.1)	495	(4.0)	546	(4.5)	577	(6.1)		
Kazakhstan*	455	(4.1)	78	(3.1)	338	(5.1)	361	(4.2)	401	(3.7)	505	(5.2)	558	(8.2)	592	(10.9)		
Malaysia*	441	(3.3)	79	(1.7)	316	(4.5)	339	(3.9)	383	(3.9)	496	(4.2)	545	(5.0)	572	(6.0)		

1. Footnote by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognizes the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".

2. Footnote by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognized by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

Note: Values that are statistically significant are indicated in bold.

*Argentina, Kazakhstan and Malaysia: Coverage is too small to ensure comparability

Source : PISA 2015 Results (Volume I): Excellence and Equity in Education - Table I.2.7

StatLink <http://dx.doi.org/10.1787/...>



[Part 2/3]
Table 9 Mean score and variation in science performance, by gender in PISA 2015

	Girls															
	Mean score		Standard deviation		Percentiles											
	Mean	S.E.	S.D.	S.E.	5th		10th		25th		75th		90th		95th	
				Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	Score	S.E.	
OECD																
Australia	509	(1.7)	98	(1.2)	344	(3.8)	378	(3.0)	440	(2.7)	579	(2.4)	631	(2.7)	664	(3.4)
Austria	486	(3.1)	93	(1.7)	332	(5.4)	361	(4.9)	418	(4.6)	552	(3.5)	605	(4.3)	636	(5.0)
Belgium	496	(2.7)	97	(1.5)	330	(4.2)	361	(5.1)	426	(4.5)	569	(2.6)	619	(2.8)	646	(3.2)
Canada	527	(2.3)	89	(1.0)	376	(4.0)	409	(3.3)	467	(2.7)	589	(2.5)	640	(3.4)	669	(3.6)
Chile	440	(2.7)	83	(1.5)	305	(4.4)	331	(3.7)	379	(3.1)	499	(4.1)	550	(4.0)	577	(4.2)
Czech Republic	488	(2.5)	90	(1.9)	342	(5.4)	369	(4.9)	424	(4.5)	553	(3.3)	606	(4.0)	637	(4.6)
Denmark	499	(3.2)	87	(1.4)	353	(5.2)	383	(5.1)	439	(4.0)	560	(3.5)	608	(4.6)	638	(5.0)
Estonia	533	(2.3)	85	(1.4)	393	(5.1)	421	(4.1)	473	(2.9)	593	(3.3)	642	(3.9)	670	(3.9)
Finland	541	(2.6)	91	(1.7)	383	(6.1)	422	(5.1)	483	(3.5)	605	(3.2)	653	(3.6)	681	(4.6)
France	494	(2.7)	97	(1.6)	329	(5.4)	361	(3.9)	425	(4.5)	566	(3.1)	616	(3.5)	644	(4.4)
Germany	504	(2.8)	97	(1.6)	341	(5.2)	372	(4.4)	435	(4.1)	573	(2.8)	626	(3.6)	658	(4.5)
Greece	459	(3.9)	88	(2.1)	312	(7.4)	343	(6.6)	397	(5.2)	523	(4.3)	573	(4.5)	601	(5.1)
Hungary	475	(2.9)	94	(1.9)	317	(5.6)	346	(4.9)	408	(4.6)	544	(3.4)	595	(4.2)	624	(4.4)
Iceland	475	(2.1)	88	(1.5)	330	(5.2)	360	(4.1)	412	(4.0)	537	(2.8)	591	(4.2)	620	(5.3)
Ireland	497	(2.6)	83	(1.4)	360	(4.9)	389	(4.5)	442	(3.5)	553	(3.4)	604	(3.3)	633	(4.1)
Israel	464	(4.1)	100	(1.9)	300	(6.7)	334	(5.8)	394	(5.5)	536	(3.4)	593	(4.4)	627	(4.5)
Italy	472	(3.6)	89	(1.8)	323	(6.2)	354	(5.9)	410	(4.9)	536	(4.1)	585	(3.6)	613	(4.0)
Japan	532	(2.9)	91	(1.8)	372	(6.3)	407	(5.3)	471	(4.0)	597	(3.3)	644	(4.1)	670	(4.5)
Korea	521	(3.3)	88	(1.7)	369	(6.2)	403	(4.9)	462	(4.0)	583	(3.4)	631	(3.8)	659	(4.7)
Latvia	496	(2.2)	79	(1.5)	364	(4.6)	392	(4.2)	441	(3.0)	551	(3.1)	597	(3.7)	624	(4.5)
Luxembourg	479	(1.5)	97	(1.4)	325	(3.5)	351	(3.5)	406	(2.7)	550	(2.7)	605	(2.7)	636	(4.6)
Mexico	412	(2.3)	68	(1.3)	300	(4.2)	324	(3.5)	365	(3.0)	457	(3.2)	499	(3.6)	524	(3.8)
Netherlands	507	(2.5)	97	(1.7)	341	(5.0)	374	(5.5)	436	(4.3)	578	(3.2)	630	(3.7)	659	(4.7)
New Zealand	511	(2.7)	99	(1.7)	346	(5.8)	380	(4.3)	441	(4.2)	582	(3.7)	638	(4.2)	670	(6.2)
Norway	497	(2.7)	91	(1.5)	344	(4.8)	377	(4.4)	434	(3.7)	560	(3.2)	613	(4.0)	645	(4.3)
Poland	498	(2.8)	87	(1.7)	357	(5.1)	385	(4.4)	437	(3.5)	559	(3.6)	609	(5.1)	639	(7.2)
Portugal	496	(2.6)	87	(1.4)	352	(5.0)	381	(3.7)	434	(4.0)	560	(3.3)	607	(3.7)	635	(4.4)
Slovak Republic	461	(3.3)	96	(2.0)	297	(7.3)	333	(6.3)	395	(4.8)	530	(4.0)	584	(4.0)	614	(4.7)
Slovenia	516	(1.9)	93	(1.6)	358	(4.6)	391	(4.3)	452	(3.2)	581	(3.5)	635	(4.6)	665	(5.9)
Spain	489	(2.5)	84	(1.4)	346	(5.2)	375	(4.4)	432	(3.6)	549	(3.3)	597	(3.0)	623	(4.4)
Sweden	496	(3.7)	98	(1.7)	329	(6.4)	366	(5.8)	427	(4.1)	566	(4.5)	620	(5.0)	651	(6.7)
Switzerland	502	(3.5)	96	(2.0)	342	(6.6)	376	(5.0)	434	(4.8)	573	(4.3)	626	(4.6)	654	(5.3)
Turkey	429	(4.4)	79	(2.2)	305	(5.1)	329	(4.6)	371	(4.6)	485	(6.1)	535	(7.0)	561	(6.2)
United Kingdom	509	(3.3)	98	(1.5)	347	(4.3)	378	(3.9)	438	(4.1)	579	(4.4)	635	(4.8)	667	(5.2)
United States	493	(3.4)	95	(1.8)	338	(4.6)	370	(5.0)	425	(4.0)	560	(4.2)	619	(4.6)	650	(5.3)
OECD average	491	(0.5)	91	(0.3)	340	(0.9)	371	(0.8)	428	(0.7)	556	(0.6)	608	(0.7)	637	(0.8)
Partners																
Albania	439	(3.0)	74	(1.5)	317	(4.7)	344	(4.0)	388	(3.3)	491	(4.5)	536	(4.8)	561	(4.9)
Algeria	383	(3.1)	70	(2.1)	274	(4.1)	297	(3.5)	335	(3.3)	426	(3.9)	474	(6.1)	506	(8.8)
Brazil	399	(2.4)	86	(1.4)	267	(2.7)	293	(2.4)	338	(2.1)	455	(3.5)	515	(4.4)	549	(5.0)
B-S-J-G (China)	513	(5.3)	101	(2.8)	340	(8.3)	377	(6.4)	443	(6.4)	587	(6.4)	642	(7.5)	671	(8.5)
Bulgaria	454	(4.4)	98	(2.5)	290	(5.9)	323	(6.8)	382	(6.2)	525	(4.8)	580	(5.6)	612	(6.0)
CABA (Argentina)	468	(7.1)	82	(3.3)	331	(11.7)	363	(10.2)	413	(8.5)	527	(8.7)	575	(9.0)	599	(8.4)
Colombia	411	(2.4)	78	(1.5)	289	(4.2)	313	(3.6)	355	(2.9)	464	(3.4)	516	(3.9)	547	(5.0)
Costa Rica	411	(2.2)	67	(1.3)	307	(3.1)	328	(2.7)	365	(2.5)	454	(2.9)	499	(4.0)	527	(4.2)
Croatia	473	(2.8)	85	(1.6)	334	(4.5)	363	(3.8)	411	(3.8)	533	(3.2)	584	(3.5)	613	(4.6)
Cyprus ^{1,2}	441	(1.9)	87	(1.6)	302	(4.6)	330	(4.2)	379	(2.8)	500	(3.4)	554	(3.9)	585	(5.0)
Dominican Republic	331	(2.6)	71	(1.9)	223	(4.4)	244	(3.8)	282	(3.1)	375	(3.6)	425	(4.9)	455	(7.4)
FYROM	394	(1.8)	82	(1.6)	262	(4.7)	290	(3.3)	338	(2.4)	449	(3.0)	502	(4.1)	532	(5.3)
Georgia	420	(2.3)	86	(1.4)	281	(5.4)	311	(4.1)	361	(3.1)	476	(3.4)	533	(3.9)	566	(4.7)
Hong Kong (China)	524	(3.4)	77	(1.8)	384	(6.7)	422	(5.6)	476	(4.4)	578	(3.7)	617	(3.7)	640	(4.2)
Indonesia	405	(2.8)	69	(1.8)	297	(4.7)	320	(3.5)	358	(3.1)	449	(3.7)	496	(5.0)	526	(5.0)
Jordan	428	(3.6)	77	(1.6)	302	(4.7)	329	(5.2)	376	(4.8)	481	(3.9)	526	(4.2)	552	(4.5)
Kosovo	383	(2.1)	69	(1.5)	273	(4.2)	295	(3.9)	334	(2.8)	430	(3.0)	476	(4.4)	502	(5.6)
Lebanon	386	(3.7)	87	(1.8)	252	(5.3)	279	(4.7)	324	(4.0)	443	(6.1)	506	(5.1)	540	(6.0)
Lithuania	479	(2.8)	88	(1.5)	337	(4.0)	364	(4.1)	416	(3.8)	541	(3.4)	595	(4.1)	624	(4.7)
Macao (China)	532	(1.5)	76	(1.3)	403	(3.7)	433	(3.4)	481	(2.4)	586	(2.7)	627	(2.7)	651	(4.2)
Malta	470	(2.2)	115	(2.4)	279	(7.4)	319	(6.0)	392	(3.8)	550	(4.4)	618	(4.9)	656	(6.6)
Moldova	431	(2.4)	85	(1.8)	293	(5.9)	323	(4.2)	372	(3.6)	491	(3.8)	541	(4.3)	569	(4.5)
Montenegro	414	(1.3)	81	(1.2)	285	(3.7)	312	(2.6)	357	(2.4)	469	(2.3)	522	(3.1)	552	(4.0)
Peru	392	(2.9)	75	(1.7)	274	(4.1)	298	(3.3)	338	(3.1)	443	(4.1)	492	(4.5)	521	(5.0)
Qatar	429	(1.3)	92	(0.9)	288	(3.1)	315	(2.5)	362	(1.6)	493	(2.2)	554	(2.5)	587	(3.2)
Romania	438	(3.4)	78	(1.8)	314	(4.6)	338	(4.0)	383	(3.9)	491	(4.8)	541	(5.5)	570	(6.0)
Russia	485	(3.1)	80	(1.0)	354	(5.4)	381	(4.1)	429	(3.9)	540	(3.8)	589	(3.7)	617	(4.4)
Singapore	552	(1.7)	98	(1.2)	378	(4.4)	416	(3.9)	485	(3.0)	624	(2.5)	673	(3.1)	701	(4.3)
Chinese Taipei	530	(3.8)	96	(2.4)	363	(4.1)	398	(5.8)	465	(4.5)	599	(4.8)	650	(6.9)	680	(7.4)
Thailand	425	(2.9)	77	(1.9)	306	(3.5)	330	(3.2)	371	(2.8)	476	(4.0)	530	(5.6)	560	(7.3)
Trinidad and Tobago	435	(1.9)	91	(1.5)	292	(4.1)	319	(3.6)	368	(2.8)	499	(3.0)	559	(3.7)	591	(4.8)
Tunisia	385	(2.2)	64	(1.8)	285	(4.0)	306	(3.2)	341	(2.4)	425	(3.1)	468	(4.5)	495	(5.8)
United Arab Emirates	449	(3.0)	91	(1.5)	306	(4.3)	334	(3.9)	385	(3.5)	512	(4.5)	571	(4.1)	605	(3.9)
Uruguay	431	(2.2)	83	(1.3)	301	(3.6)	325	(3.4)	371	(2.7)	489	(3.0)	542	(3.7)	571	(4.4)
Viet Nam	526	(4.2)	75	(2.9)	408	(5.2)	432	(4.5)	473	(4.2)	575	(5.2)	622	(7.8)	653	(11.0)
Argentina*	425	(3.2)	79	(1.6)	298	(4.8)	324	(3.9)	370	(3.6)	479	(4.1)	527	(4.1)	556	(5.4)
Kazakhstan*	458	(3.8)	75	(2.4)	342	(5.0)	365	(4.1)	406	(3.5)	506	(5.2)	558	(6.9)	589	(8.3)
Malaysia*	445	(3.1)	73	(1.5)	324	(4.8)	350	(4.2)	395	(3.4)	495	(3.5)	537	(3.9)	563	(5.1)

1. Footnote by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognizes the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".

2. Footnote by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognized by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

Note: Values that are statistically significant are indicated in bold.

*Argentina, Kazakhstan and Malaysia: Coverage is too small to ensure comparability

Source : PISA 2015 Results (Volume I): Excellence and Equity in Education - Table I.2.7

StatLink <http://dx.doi.org/10.1787/...>



Table 10 Low achievers in science, reading and mathematics in PISA 2015

	15-year-old students who are:														Percentage of low achievers in science who are also low achievers in reading and mathematics			
	Not low achievers in any of the three domains		Low achievers only in science		Low achievers only in reading		Low achievers only in mathematics		Low achievers in science and reading but not in mathematics		Low achievers in science and mathematics but not in reading		Low achievers in reading and mathematics but not in science				Low achievers in all three domains	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.		
OECD																		
Australia	71.7	(0.7)	1.4	(0.2)	3.1	(0.3)	5.7	(0.4)	1.9	(0.2)	3.2	(0.3)	2.0	(0.2)	11.1	(0.4)	63.0	(1.6)
Austria	69.4	(1.1)	1.7	(0.3)	4.3	(0.4)	3.7	(0.5)	2.9	(0.4)	2.7	(0.3)	1.9	(0.3)	13.5	(0.9)	64.8	(2.5)
Belgium	72.6	(1.0)	1.9	(0.2)	2.8	(0.3)	3.3	(0.4)	2.6	(0.3)	2.6	(0.3)	1.5	(0.2)	12.7	(0.8)	64.0	(2.3)
Canada	80.8	(0.8)	1.2	(0.2)	2.3	(0.3)	4.7	(0.4)	1.4	(0.2)	2.6	(0.3)	1.1	(0.2)	5.9	(0.4)	53.6	(2.2)
Chile	47.0	(1.3)	1.2	(0.2)	1.4	(0.3)	14.1	(0.8)	1.0	(0.2)	9.3	(0.6)	2.6	(0.3)	23.3	(1.0)	66.8	(1.8)
Czech Republic	70.0	(1.2)	1.8	(0.3)	3.8	(0.4)	3.7	(0.4)	2.7	(0.4)	2.5	(0.4)	1.9	(0.4)	13.7	(0.9)	66.1	(2.0)
Denmark	77.2	(1.0)	2.5	(0.3)	3.4	(0.4)	2.7	(0.3)	3.3	(0.4)	2.6	(0.4)	0.8	(0.2)	7.5	(0.6)	47.1	(2.8)
Estonia	83.1	(0.8)	1.0	(0.2)	3.2	(0.4)	3.7	(0.4)	1.5	(0.3)	1.6	(0.3)	1.2	(0.3)	4.7	(0.4)	54.0	(3.8)
Finland	81.4	(0.9)	1.4	(0.2)	2.0	(0.3)	4.0	(0.4)	1.6	(0.2)	2.2	(0.3)	1.2	(0.2)	6.3	(0.6)	54.8	(3.8)
France	69.7	(0.9)	1.8	(0.2)	2.8	(0.3)	3.9	(0.4)	2.3	(0.3)	3.2	(0.3)	1.7	(0.2)	14.8	(0.9)	67.0	(2.1)
Germany	75.5	(1.1)	2.0	(0.3)	3.0	(0.4)	3.4	(0.4)	2.3	(0.3)	2.9	(0.3)	1.1	(0.2)	9.8	(0.8)	57.8	(2.8)
Greece	56.7	(1.9)	2.6	(0.3)	2.2	(0.3)	6.7	(0.5)	2.7	(0.4)	6.6	(0.7)	1.7	(0.3)	20.7	(1.7)	63.3	(2.6)
Hungary	63.8	(1.2)	1.4	(0.2)	3.7	(0.5)	4.3	(0.4)	3.0	(0.4)	3.0	(0.4)	2.2	(0.3)	18.5	(1.0)	71.2	(2.1)
Iceland	65.2	(1.1)	3.9	(0.5)	3.6	(0.4)	4.2	(0.5)	3.6	(0.5)	4.6	(0.5)	1.6	(0.3)	13.2	(0.7)	52.0	(2.4)
Ireland	79.3	(0.9)	2.9	(0.4)	1.2	(0.2)	3.6	(0.4)	1.6	(0.3)	4.0	(0.5)	0.6	(0.2)	6.8	(0.6)	44.1	(2.7)
Israel	59.9	(1.5)	3.1	(0.3)	2.1	(0.3)	5.1	(0.4)	2.8	(0.4)	5.3	(0.5)	1.5	(0.3)	20.2	(1.1)	64.2	(1.9)
Italy	66.6	(1.2)	3.0	(0.3)	3.7	(0.5)	4.8	(0.5)	3.4	(0.4)	4.6	(0.5)	1.6	(0.2)	12.2	(0.8)	52.7	(2.4)
Japan	82.4	(1.0)	1.0	(0.2)	4.0	(0.4)	2.5	(0.4)	1.9	(0.3)	1.2	(0.2)	1.4	(0.3)	5.6	(0.6)	58.1	(3.9)
Korea	77.9	(1.2)	2.0	(0.2)	2.6	(0.4)	3.7	(0.4)	2.0	(0.3)	2.7	(0.3)	1.4	(0.3)	7.7	(0.7)	53.3	(2.9)
Latvia	71.6	(1.0)	1.5	(0.3)	3.3	(0.4)	6.0	(0.7)	2.1	(0.3)	3.1	(0.3)	1.8	(0.3)	10.5	(0.6)	60.6	(2.6)
Luxembourg	65.2	(0.6)	2.0	(0.2)	3.6	(0.4)	3.8	(0.4)	3.5	(0.3)	3.4	(0.4)	1.6	(0.3)	17.0	(0.5)	65.7	(1.7)
Mexico	35.9	(1.3)	2.6	(0.3)	2.3	(0.4)	10.8	(0.6)	2.5	(0.4)	8.9	(0.6)	3.1	(0.4)	33.8	(1.2)	70.7	(1.6)
Netherlands	74.9	(1.1)	2.5	(0.3)	3.0	(0.4)	2.2	(0.3)	2.8	(0.4)	2.3	(0.3)	1.3	(0.3)	10.9	(0.8)	58.8	(2.3)
New Zealand	71.9	(1.1)	1.5	(0.3)	3.1	(0.4)	5.8	(0.5)	1.9	(0.3)	3.5	(0.3)	1.7	(0.3)	10.6	(0.6)	60.7	(2.4)
Norway	74.6	(1.0)	3.2	(0.4)	2.7	(0.4)	3.1	(0.4)	2.4	(0.3)	4.1	(0.4)	0.9	(0.2)	8.9	(0.5)	47.8	(2.1)
Poland	75.7	(1.0)	2.1	(0.3)	2.9	(0.4)	4.0	(0.5)	2.1	(0.4)	3.8	(0.4)	1.2	(0.2)	8.3	(0.6)	50.9	(2.3)
Portugal	70.8	(1.1)	1.4	(0.2)	2.6	(0.4)	6.7	(0.4)	1.4	(0.3)	3.8	(0.4)	2.5	(0.4)	10.7	(0.6)	61.8	(2.1)
Slovak Republic	59.2	(1.1)	3.1	(0.3)	5.3	(0.5)	2.9	(0.3)	4.8	(0.5)	2.8	(0.4)	2.0	(0.3)	20.1	(1.0)	65.5	(1.7)
Slovenia	76.7	(0.6)	1.6	(0.2)	3.2	(0.4)	3.6	(0.4)	2.3	(0.3)	2.9	(0.4)	1.4	(0.2)	8.2	(0.4)	54.7	(2.2)
Spain	71.7	(1.0)	1.6	(0.2)	2.5	(0.4)	6.0	(0.4)	2.0	(0.3)	4.4	(0.4)	1.4	(0.2)	10.3	(0.7)	56.5	(2.3)
Sweden	70.3	(1.4)	2.9	(0.3)	3.2	(0.3)	3.8	(0.4)	2.7	(0.4)	4.6	(0.4)	1.1	(0.2)	11.4	(0.8)	52.6	(2.1)
Switzerland	73.3	(1.2)	2.3	(0.3)	4.7	(0.5)	2.2	(0.4)	3.9	(0.5)	2.2	(0.4)	1.3	(0.3)	10.1	(0.8)	54.6	(3.2)
Turkey	40.7	(2.2)	2.2	(0.3)	3.0	(0.5)	8.8	(0.8)	2.8	(0.4)	8.3	(0.6)	3.0	(0.4)	31.2	(1.8)	70.1	(1.6)
United Kingdom	71.0	(1.0)	1.6	(0.2)	3.5	(0.4)	5.8	(0.5)	2.1	(0.3)	3.7	(0.4)	2.3	(0.3)	10.1	(0.7)	57.8	(3.2)
United States	66.4	(1.5)	1.2	(0.2)	1.9	(0.3)	9.0	(0.8)	1.2	(0.2)	4.4	(0.5)	2.4	(0.3)	13.6	(0.9)	66.8	(2.3)
European Union total	70.1	(0.3)	2.1	(0.1)	3.2	(0.1)	4.5	(0.1)	2.5	(0.1)	3.6	(0.1)	1.7	(0.1)	12.3	(0.2)	59.8	(0.7)
OECD total	65.2	(0.5)	1.7	(0.1)	2.7	(0.1)	6.6	(0.2)	2.0	(0.1)	4.5	(0.2)	2.0	(0.1)	15.2	(0.3)	64.8	(0.8)
OECD average	69.2	(0.2)	2.0	(0.0)	3.0	(0.1)	4.9	(0.1)	2.4	(0.1)	3.8	(0.1)	1.7	(0.0)	13.0	(0.1)	59.2	(0.4)
Partners																		
Albania	33.6	(1.9)	1.6	(0.3)	8.0	(0.8)	9.1	(0.7)	3.6	(0.5)	5.5	(0.6)	7.6	(0.7)	31.1	(1.6)	74.5	(2.0)
Algeria	9.3	(1.0)	1.0	(0.2)	4.8	(0.6)	6.0	(0.6)	3.9	(0.4)	4.7	(0.6)	9.1	(0.7)	61.1	(1.7)	86.4	(1.1)
Brazil	25.2	(1.1)	1.3	(0.2)	1.7	(0.2)	12.8	(0.6)	1.6	(0.3)	9.7	(0.6)	3.7	(0.3)	44.1	(1.1)	77.8	(1.1)
B-S-J-G (China)	73.9	(1.6)	1.1	(0.2)	6.1	(0.6)	1.9	(0.3)	3.0	(0.4)	1.2	(0.2)	1.8	(0.3)	10.9	(1.0)	67.2	(2.4)
Bulgaria	48.0	(2.0)	1.3	(0.2)	5.0	(0.5)	5.9	(0.5)	3.6	(0.4)	3.4	(0.4)	3.3	(0.4)	29.6	(1.7)	78.1	(1.7)
CABA (Argentina)	60.1	(3.1)	1.8	(0.6)	3.0	(0.9)	11.0	(1.8)	1.1	(0.5)	5.3	(1.2)	3.2	(0.7)	14.5	(1.9)	64.1	(4.6)
Colombia	31.5	(1.1)	0.6	(0.1)	1.0	(0.2)	15.4	(0.8)	0.6	(0.1)	9.6	(0.7)	3.1	(0.4)	38.2	(1.5)	78.0	(1.5)
Costa Rica	32.6	(1.3)	1.5	(0.3)	1.9	(0.2)	15.2	(0.9)	1.5	(0.2)	10.3	(0.6)	3.9	(0.6)	33.0	(1.2)	71.3	(1.5)
Croatia	62.6	(1.4)	2.0	(0.3)	1.9	(0.3)	8.9	(0.7)	1.5	(0.2)	6.6	(0.6)	2.0	(0.3)	14.5	(1.0)	58.9	(2.4)
Cyprus ^{1,2}	45.9	(0.8)	4.0	(0.4)	3.4	(0.5)	6.5	(0.5)	4.1	(0.4)	7.9	(0.6)	2.0	(0.3)	26.1	(0.6)	62.0	(1.4)
Dominican Republic	7.3	(0.9)	1.3	(0.3)	0.2	(0.1)	6.1	(0.7)	0.6	(0.2)	13.1	(0.9)	0.7	(0.2)	70.7	(1.5)	82.4	(1.2)
FYROM	17.6	(0.6)	2.3	(0.3)	6.0	(0.5)	5.0	(0.5)	3.9	(0.4)	4.4	(0.4)	8.6	(0.5)	52.2	(0.9)	83.0	(1.1)
Georgia	30.4	(1.1)	4.7	(0.4)	4.9	(0.5)	6.4	(0.5)	2.9	(0.3)	6.8	(0.6)	7.5	(0.5)	36.3	(1.2)	71.5	(1.4)
Hong Kong (China)	85.6	(0.9)	1.3	(0.3)	2.2	(0.3)	2.0	(0.3)	1.8	(0.3)	1.7	(0.3)	0.7	(0.2)	4.5	(0.5)	48.2	(3.5)
Indonesia	23.1	(1.3)	1.9	(0.3)	4.2	(0.4)	9.9	(0.7)	2.1	(0.3)	9.7	(0.7)	6.8	(0.6)	42.3	(1.6)	75.5	(1.4)
Jordan	26.0	(1.2)	1.8	(0.3)	2.8	(0.3)	15.4	(1.1)	1.8	(0.3)	10.4	(0.6)	6.0	(0.5)	35.7	(1.4)	71.7	(1.3)
Kosovo	13.2	(0.7)	1.1	(0.3)	5.5	(0.5)	5.2	(0.8)	2.5	(0.5)	3.7	(0.5)	8.4	(0.7)	60.4	(1.0)	89.2	(0.9)
Lebanon	22.6	(1.5)	2.8	(0.3)	7.4	(0.7)	2.2	(0.4)	7.1	(0.6)	2.1	(0.3)	5.3	(0.6)	50.7	(1.7)	80.9	(1.2)
Lithuania	64.6	(1.1)	2.1	(0.3)	4.6	(0.5)	4.2	(0.4)	3.3	(0.4)	4.0	(0.5)	1.9	(0.3)	15.3	(0.8)	62.0	(1.8)
Macao (China)	85.0	(0.5)	0.9	(0.2)	4.5	(0.3)	1.7	(0.3)	2.9	(0.4)	0.7	(0.2)	0.7	(0.2)	3.5	(0.3)	43.6	(3.8)
Malta	56.4	(0.8)	3.0	(0.4)	6.2	(0.6)	2.5	(0.4)	5.2	(0.6)	2.4	(0.5)	2.3	(0.4)	21.9	(0.7)	67.4	(2.1)
Moldova	37.3	(1.0)	2.8	(0.3)	6.0	(0.6)	8.3	(0.8)	3.6	(0.4)	5.8	(0.5)	6.1	(0.7)	30.1	(1.0)	71.2	(1.4)
Montenegro	37.0	(0.8)	4.5	(0.4)	2.6	(0.3)	7.1	(0.6)	4.0	(0.4)	9.5	(0.5)	2.2	(0.3)	33.0	(0.8)	64.7	(1.3)
Peru	27.6	(1.4)	2.0	(0.3)	2.0	(0.3)	8.9	(0.7)	2.2	(0.3)	7.5	(0.6)	3.0	(0.4)	46.7	(1.4)	79.9	(1.3)
Qatar	34.9	(0.5)	1.3	(0.1)	2.9	(0.3)	8.0	(0.4)	2.2	(0.3)	4.3	(0.3)	4.4	(0.3)	42.0	(0.5)	84.3	(0.9)
Romania	45.5	(1.9)	5.4	(0.7)	5.0	(0.6)	5.7	(0.6)	4.1	(0.5)	4.7	(0.5)	5.2	(0.6)	24.3	(1.5)	63.1	(2.1)
Russia	70.8	(1.5)	3.0	(0.4)	4.1	(0.6)	5.7	(0.5)	3.2	(0.4)	4.3	(0.5)	1.2	(0.3)	7.7	(0.7)	42.4	(2.6)
Singapore	85.5	(0.5)	1.2	(0.2)	3.0	(0.3)	1.2	(0.2)	2.7	(0.3)	0.9	(0.2)	0.6	(0.1)	4.8	(0.3)	49.9	(3.2)
Chinese Taipei	79.2	(0.9)	0.8	(0.2)	4.9	(0.4)	1.9	(0.2)	2.4	(0.3)	0.9	(0.1)	1.6	(0.3)	8.3	(0.6)	67.0	(2.5)
Thailand	34.9	(1.6)	1.8	(0.3)	5.0	(0.5)	8.7	(0.6)	4.5	(0.5)	4.7	(0.5)	4.7	(0.5)	35.8	(1.5)	76.5	(1.5)
Trinidad and Tobago	39.6	(0.8)	3.1	(0.4)	3.2	(0.4)	6.7	(0.6)	1.7	(0.3)	8.1	(0.6)	4.6	(0.4)	32.9	(0.8)	71.8	(1.5)
Tunisia	16.2	(1.0)	1.0	(0.3)	4.6	(0.5)	6.9	(0.6)	3.3	(0.5)	4.3	(0.5)	6.3	(0.6)	57.3	(1.4)	86.9	(1.2)
United Arab Emirates	43.4	(1.1)	1.9	(0.2)	3.0	(0.3)	8.6	(0.5)	2.9	(0.4)	5.7	(0.4)	3.2	(0.3)	31.3	(1.1)	74.9	(1.5)
Uruguay	41.9	(1.1)	1.3	(0.2)	2.7	(0.3)	10.8	(0.6)	1.7	(0.3)	7.0	(0.5)	3.8	(0.4)	30.8	(1.1)	75.4	(1.4)
Viet Nam																		



Table 11 Top performers in science, reading and mathematics in PISA 2015

	15-year-old students who are:														Percentage of top performers in science who are also top performers in reading and mathematics			
	Not top performers in any of the three domains		Top performers only in science		Top performers only in reading		Top performers only in mathematics		Top performers in science and reading but not in mathematics		Top performers in science and mathematics but not in reading		Top performers in reading and mathematics but not in science				Top performers in all three domains	
	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.	%	S.E.			%	S.E.
OECD																		
Australia	81.6	(0.6)	2.0	(0.2)	3.3	(0.3)	3.0	(0.3)	1.7	(0.3)	2.4	(0.3)	0.9	(0.1)	5.1	(0.4)	45.5	(2.5)
Austria	83.8	(0.9)	0.9	(0.2)	2.1	(0.3)	5.4	(0.7)	0.7	(0.2)	2.6	(0.3)	1.0	(0.2)	3.4	(0.3)	44.6	(3.2)
Belgium	80.3	(0.7)	0.9	(0.2)	2.2	(0.2)	6.7	(0.4)	0.7	(0.1)	2.8	(0.2)	1.8	(0.3)	4.6	(0.3)	50.9	(2.4)
Canada	77.3	(0.9)	1.5	(0.2)	4.1	(0.4)	4.7	(0.5)	2.0	(0.3)	2.4	(0.2)	1.5	(0.2)	6.4	(0.4)	52.0	(2.1)
Chile	96.7	(0.4)	0.3	(0.1)	1.4	(0.2)	0.6	(0.1)	0.3	(0.1)	0.2	(0.1)	0.2	(0.1)	0.4	(0.1)	34.2	(7.2)
Czech Republic	86.0	(0.8)	0.8	(0.2)	2.1	(0.3)	3.5	(0.5)	0.7	(0.2)	1.9	(0.2)	1.1	(0.2)	3.9	(0.4)	53.9	(4.0)
Denmark	85.1	(0.8)	0.9	(0.2)	1.8	(0.3)	5.1	(0.5)	0.6	(0.2)	2.4	(0.4)	1.0	(0.2)	3.1	(0.4)	43.9	(4.4)
Estonia	79.6	(0.9)	2.1	(0.3)	2.3	(0.3)	3.8	(0.5)	1.8	(0.3)	3.5	(0.4)	0.8	(0.2)	6.1	(0.5)	45.2	(3.0)
Finland	78.6	(0.8)	2.9	(0.3)	3.9	(0.4)	2.4	(0.3)	3.0	(0.3)	2.4	(0.3)	0.8	(0.2)	6.0	(0.4)	42.1	(2.4)
France	81.6	(0.8)	0.8	(0.2)	4.9	(0.5)	3.7	(0.4)	1.3	(0.3)	1.4	(0.2)	1.8	(0.3)	4.5	(0.4)	56.5	(3.1)
Germany	80.8	(1.0)	1.3	(0.2)	3.6	(0.4)	3.7	(0.4)	1.3	(0.2)	2.6	(0.3)	1.3	(0.2)	5.4	(0.4)	51.0	(3.3)
Greece	93.2	(0.6)	0.3	(0.1)	2.2	(0.3)	1.9	(0.3)	0.4	(0.1)	0.5	(0.1)	0.6	(0.1)	0.9	(0.2)	44.0	(6.2)
Hungary	89.7	(0.7)	0.6	(0.1)	1.1	(0.2)	3.9	(0.4)	0.4	(0.1)	1.5	(0.3)	0.6	(0.1)	2.1	(0.3)	45.8	(4.9)
Iceland	86.8	(0.8)	0.4	(0.2)	2.2	(0.4)	5.2	(0.6)	0.3	(0.1)	1.0	(0.2)	2.0	(0.3)	2.1	(0.3)	55.5	(6.7)
Ireland	84.5	(0.7)	0.6	(0.2)	3.8	(0.5)	3.1	(0.4)	1.2	(0.2)	1.1	(0.2)	1.6	(0.2)	4.1	(0.4)	57.8	(4.0)
Israel	86.1	(1.0)	0.6	(0.1)	3.5	(0.4)	3.1	(0.5)	0.9	(0.2)	1.0	(0.2)	1.4	(0.3)	3.3	(0.3)	56.7	(4.2)
Italy	86.5	(0.8)	0.4	(0.1)	2.2	(0.4)	5.9	(0.6)	0.3	(0.1)	1.5	(0.2)	1.3	(0.2)	1.9	(0.2)	46.0	(4.4)
Japan	74.2	(1.3)	2.4	(0.3)	1.8	(0.3)	7.4	(0.7)	1.2	(0.2)	5.1	(0.5)	1.3	(0.3)	6.5	(0.7)	42.5	(2.6)
Korea	74.4	(1.4)	0.8	(0.2)	3.2	(0.4)	9.0	(0.8)	0.7	(0.1)	3.1	(0.4)	2.8	(0.3)	5.9	(0.6)	55.7	(3.5)
Latvia	91.7	(0.5)	0.7	(0.2)	1.8	(0.4)	2.3	(0.3)	0.6	(0.2)	1.0	(0.2)	0.4	(0.1)	1.5	(0.2)	40.2	(4.7)
Luxembourg	85.9	(0.5)	0.7	(0.2)	2.4	(0.4)	3.7	(0.3)	0.9	(0.2)	1.6	(0.2)	1.1	(0.2)	3.7	(0.3)	53.1	(3.3)
Mexico	99.4	(0.1)	0.0	(0.0)	0.2	(0.1)	0.2	(0.1)	0.0	(0.0)	0.0	(0.0)	0.0	(0.0)	0.1	(0.0)	42.2	(21.8)
Netherlands	80.0	(0.8)	1.4	(0.2)	2.1	(0.4)	5.0	(0.5)	0.9	(0.2)	2.7	(0.3)	1.8	(0.3)	6.1	(0.5)	54.8	(3.0)
New Zealand	79.5	(0.9)	2.2	(0.3)	4.4	(0.5)	2.4	(0.3)	2.5	(0.3)	2.2	(0.3)	0.8	(0.2)	5.9	(0.5)	46.3	(3.0)
Norway	82.4	(0.8)	0.8	(0.2)	5.0	(0.4)	3.1	(0.4)	1.2	(0.2)	1.5	(0.2)	1.6	(0.3)	4.5	(0.4)	56.1	(4.5)
Poland	84.2	(1.0)	0.7	(0.2)	2.4	(0.4)	4.7	(0.6)	0.5	(0.2)	2.1	(0.3)	1.3	(0.3)	4.0	(0.5)	54.7	(4.4)
Portugal	84.4	(0.8)	1.0	(0.2)	2.5	(0.4)	4.6	(0.5)	0.7	(0.2)	2.5	(0.3)	1.1	(0.2)	3.3	(0.3)	43.8	(3.3)
Slovak Republic	90.3	(0.6)	0.6	(0.1)	0.9	(0.2)	4.4	(0.5)	0.3	(0.1)	1.3	(0.2)	0.8	(0.2)	1.4	(0.2)	39.3	(4.9)
Slovenia	81.9	(0.7)	1.3	(0.3)	2.1	(0.3)	4.6	(0.5)	1.2	(0.2)	3.2	(0.4)	0.8	(0.2)	4.8	(0.5)	45.5	(3.6)
Spain	89.1	(0.7)	0.8	(0.1)	2.1	(0.4)	3.1	(0.4)	0.7	(0.2)	1.5	(0.2)	0.7	(0.1)	1.9	(0.3)	39.0	(4.9)
Sweden	83.3	(1.1)	1.2	(0.2)	3.9	(0.4)	3.2	(0.5)	1.1	(0.3)	2.2	(0.3)	1.0	(0.2)	3.9	(0.5)	46.0	(3.2)
Switzerland	77.8	(1.2)	1.0	(0.2)	1.4	(0.3)	9.4	(0.8)	0.5	(0.2)	3.9	(0.4)	1.5	(0.3)	4.4	(0.4)	44.9	(3.1)
Turkey	98.4	(0.4)	0.1	(0.1)	0.3	(0.1)	0.8	(0.3)	0.0	(0.0)	0.1	(0.1)	0.1	(0.1)	0.1	(0.1)	28.4	(15.1)
United Kingdom	83.1	(0.8)	2.2	(0.3)	2.3	(0.3)	3.1	(0.3)	1.8	(0.2)	2.5	(0.3)	0.7	(0.2)	4.4	(0.4)	40.5	(2.4)
United States	86.7	(0.8)	1.7	(0.3)	3.3	(0.4)	1.0	(0.3)	2.4	(0.3)	0.9	(0.2)	0.5	(0.2)	3.5	(0.4)	40.9	(3.5)
European Union total	84.4	(0.3)	1.0	(0.1)	2.8	(0.1)	3.9	(0.1)	1.0	(0.1)	1.9	(0.1)	1.2	(0.1)	3.7	(0.1)	48.6	(1.1)
OECD total	86.0	(0.3)	1.2	(0.1)	2.5	(0.1)	3.1	(0.1)	1.3	(0.1)	1.7	(0.1)	0.9	(0.1)	3.5	(0.1)	45.7	(1.2)
OECD average	84.7	(0.1)	1.1	(0.0)	2.5	(0.1)	3.9	(0.1)	1.0	(0.0)	2.0	(0.0)	1.1	(0.0)	3.7	(0.1)	46.8	(1.0)
Partners																		
Albania	98.0	(0.4)	0.1	(0.1)	0.7	(0.2)	0.8	(0.2)	0.1	(0.1)	0.1	(0.1)	0.1	(0.1)	0.1	(0.1)	22.5	(16.4)
Algeria	99.9	(0.1)	0.0	(0.0)	0.0	(0.0)	0.1	(0.1)	0.0	(0.0)	0.0	(0.0)	0.0	c	0.0	c	m	m
Brazil	97.8	(0.3)	0.2	(0.1)	1.0	(0.2)	0.4	(0.1)	0.2	(0.0)	0.1	(0.1)	0.1	(0.1)	0.2	(0.1)	28.2	(7.5)
B-S-J-G (China)	72.3	(2.0)	0.6	(0.2)	1.1	(0.2)	11.2	(1.0)	0.4	(0.1)	5.0	(0.5)	1.9	(0.3)	7.6	(1.1)	55.8	(3.8)
Bulgaria	93.1	(0.8)	0.5	(0.1)	1.5	(0.3)	2.0	(0.4)	0.5	(0.1)	0.8	(0.2)	0.5	(0.2)	1.2	(0.3)	40.4	(5.9)
CABA (Argentina)	92.5	(1.5)	1.0	(0.5)	2.3	(0.7)	2.1	(0.7)	0.3	(0.2)	0.7	(0.3)	0.5	(0.3)	0.7	(0.3)	26.2	(9.2)
Colombia	98.8	(0.2)	0.1	(0.0)	0.7	(0.1)	0.1	(0.1)	0.1	(0.0)	0.0	(0.0)	0.1	(0.1)	0.1	(0.1)	35.1	(11.5)
Costa Rica	99.1	(0.2)	0.0	(0.0)	0.5	(0.1)	0.1	(0.1)	0.1	(0.1)	0.0	(0.0)	0.1	(0.1)	0.0	(0.0)	33.5	(30.5)
Croatia	90.7	(0.6)	0.6	(0.1)	2.6	(0.4)	2.0	(0.3)	0.6	(0.1)	0.9	(0.2)	0.8	(0.2)	1.9	(0.3)	49.0	(5.5)
Cyprus ^{1,2}	94.5	(0.4)	0.3	(0.1)	1.8	(0.3)	1.8	(0.3)	0.3	(0.1)	0.4	(0.2)	0.4	(0.1)	0.6	(0.1)	39.0	(8.1)
Dominican Republic	99.9	(0.1)	0.0	(0.0)	0.1	(0.1)	0.0	(0.0)	0.0	(0.0)	0.0	(0.0)	0.0	(0.0)	0.0	(0.0)	m	m
FYROM	99.0	(0.2)	0.1	(0.1)	0.1	(0.1)	0.7	(0.2)	0.0	(0.0)	0.1	(0.1)	0.1	(0.0)	0.0	(0.0)	16.6	(23.2)
Georgia	97.4	(0.5)	0.4	(0.1)	0.6	(0.1)	0.9	(0.3)	0.1	(0.0)	0.2	(0.1)	0.3	(0.1)	0.2	(0.1)	22.3	(8.6)
Hong Kong (China)	70.7	(1.2)	0.2	(0.1)	2.4	(0.3)	15.4	(0.9)	0.2	(0.1)	2.2	(0.3)	4.1	(0.5)	4.8	(0.6)	65.6	(4.4)
Indonesia	99.2	(0.2)	0.0	(0.0)	0.1	(0.1)	0.6	(0.2)	0.0	(0.0)	0.0	(0.0)	0.0	(0.0)	0.0	(0.0)	21.5	(20.8)
Jordan	99.4	(0.2)	0.1	(0.1)	0.2	(0.1)	0.2	(0.1)	0.0	(0.0)	0.0	(0.0)	0.0	(0.0)	0.0	(0.0)	4.2	(8.0)
Kosovo	100.0	(0.0)	0.0	(0.0)	0.0	c	0.0	(0.0)	0.0	c	0.0	(0.0)	0.0	c	0.0	c	m	m
Lebanon	97.5	(0.4)	0.1	(0.1)	0.4	(0.2)	1.5	(0.3)	0.0	(0.0)	0.1	(0.1)	0.2	(0.1)	0.2	(0.1)	39.0	(15.4)
Lithuania	90.5	(0.8)	0.5	(0.1)	1.6	(0.3)	3.1	(0.4)	0.4	(0.1)	1.4	(0.3)	0.6	(0.2)	1.8	(0.3)	43.4	(4.6)
Macao (China)	76.1	(0.6)	0.8	(0.2)	0.9	(0.2)	12.8	(0.6)	0.4	(0.1)	3.7	(0.4)	1.1	(0.2)	4.3	(0.4)	46.5	(3.8)
Malta	84.7	(0.6)	1.6	(0.3)	1.3	(0.3)	5.4	(0.6)	0.6	(0.1)	2.7	(0.4)	0.9	(0.2)	2.8	(0.3)	36.6	(4.1)
Moldova	97.2	(0.3)	0.2	(0.1)	0.7	(0.2)	1.1	(0.2)	0.1	(0.1)	0.2	(0.1)	0.2	(0.1)	0.2	(0.1)	24.8	(9.2)
Montenegro	97.5	(0.3)	0.1	(0.1)	0.9	(0.3)	1.0	(0.2)	0.1	(0.0)	0.1	(0.1)	0.2	(0.1)	0.2	(0.1)	46.1	(14.8)
Peru	99.4	(0.2)	0.0	(0.0)	0.2	(0.1)	0.3	(0.1)	0.0	(0.0)	0.0	(0.0)	0.0	(0.0)	0.0	(0.0)	31.1	(20.5)
Qatar	96.6	(0.2)	0.4	(0.1)	0.6	(0.1)	1.0	(0.2)	0.3	(0.1)	0.5	(0.1)	0.2	(0.1)	0.6	(0.1)	33.8	(3.9)
Romania	95.7	(0.6)	0.2	(0.1)	0.9	(0.2)	2.0	(0.4)	0.0	(0.0)	0.2	(0.1)	0.8	(0.2)	0.3	(0.1)	41.2	(13.6)
Russia	87.0	(0.9)	0.5	(0.2)	3.2	(0.5)	4.9	(0.6)	0.6	(0.2)	1.0	(0.2)	1.2	(0.2)	1.7	(0.2)	45.0	(5.2)
Singapore	60.9	(0.8)	1.6	(0.2)	1.5	(0.3)	11.4	(0.6)	1.1	(0.2)	7.7	(0.5)	2.0	(0.3)	13.7	(0.6)	56.6	(2.1)
Chinese Taipei	70.1	(1.2)	1.1	(0.2)	0.4	(0.1)	13.5	(0.8)	0.3	(0.1)	8.4	(0.7)	0.7	(0.2)	5.6	(0.7)	36.5	(3.4)
Thailand	98.3	(0.4)	0.1	(0.1)	0.1	(0.1)	1.0	(0.3)	0.0	(0.0)	0.2	(0.1)	0.1	(0.0)	0.1	(0.1)	28.6	(10.2)
Trinidad and Tobago	95.8	(0.3)	0.3	(0.1)	1.2	(0.2)	1.1	(0.2)	0.1	(0.1)	0.4	(0.1)	0.5	(0.1)	0.5	(0.2)	36.5	(9.6)
Tunisia	99.4	(0.2)	0.0	c	0.0	(0.0)	0.5	(0.2)	0.0	(0.0)	0.0	(0.0)	0.0	(0.0)	0.0	(0.0)	m	m
United Arab Emirates	94.2	(0.4)	0.6	(0.1)	1.1	(0.2)	1.6	(0.2)	0.4	(0.1)	0.7	(0.1)	0.3	(0.1)	1.1	(0.2)	38.7	(4.8)
Uruguay	96.4	(0.5)	0.2	(0.1)	1.4	(0.3)	0.6	(0.2)	0.3	(0.1)	0.2	(0.1)	0.3	(0.1)	0.5	(0.1)	43.1	(5.0)
Viet Nam	88.0	(1.5)	2.2	(0.3)	0.2	(0.1)	3.4	(0.5)	0.2	(0.1)	3.8	(0.6)	0.2	(0.1)	2.0	(0.6)	24.8	(5.5)
Argentina*	98.1	(0.3)	0.3	(0.2)	0.6	(0.1)	0.5	(0.2)	0.1	(0.1)	0.1	(0.1)	0.1	(0.0)	0.1	(0.1)	17.7	(8.6)
Kazakhstan*	94.5	(0.9)																



Socio-economic status of students in PISA 2015

Table 12 Results based on students' self-reports

	PISA index of economic, social and cultural status (ESCS)																		
	All students		Variability in index		Bottom quarter		Second quarter		Third quarter		Top quarter		5th percentile		95th percentile		Difference between 5th and 95th percentiles		
	Mean index	S.E.	S.D.	S.E.	Mean index	S.E.	Mean index	S.E.	Mean index	S.E.	Mean index	S.E.	Mean index	S.E.	Mean index	S.E.	Dif.	S.E.	
OECD																			
Australia	0.27	(0.01)	0.79	(0.01)	-0.81	(0.02)	0.06	(0.01)	0.65	(0.01)	1.18	(0.01)	-1.10	(0.02)	1.35	(0.02)	2.45	(0.02)	
Austria	0.09	(0.02)	0.85	(0.01)	-0.97	(0.03)	-0.24	(0.02)	0.37	(0.03)	1.21	(0.02)	-1.19	(0.04)	1.46	(0.02)	2.64	(0.04)	
Belgium	0.16	(0.02)	0.91	(0.01)	-1.05	(0.03)	-0.13	(0.03)	0.59	(0.03)	1.25	(0.02)	-1.31	(0.03)	1.44	(0.02)	2.75	(0.03)	
Canada	0.53	(0.02)	0.81	(0.01)	-0.58	(0.02)	0.34	(0.02)	0.91	(0.02)	1.46	(0.01)	-0.90	(0.03)	1.66	(0.01)	2.56	(0.02)	
Chile	-0.49	(0.03)	1.09	(0.01)	-1.86	(0.04)	-0.92	(0.03)	-0.12	(0.04)	0.96	(0.03)	-2.25	(0.05)	1.27	(0.02)	3.52	(0.05)	
Czech Republic	-0.21	(0.01)	0.80	(0.01)	-1.19	(0.02)	-0.53	(0.02)	0.04	(0.02)	0.85	(0.02)	-1.39	(0.03)	1.11	(0.01)	2.50	(0.03)	
Denmark	0.59	(0.02)	0.87	(0.01)	-0.64	(0.03)	0.41	(0.03)	1.07	(0.02)	1.53	(0.01)	-1.02	(0.03)	1.66	(0.01)	2.68	(0.03)	
Estonia	0.05	(0.01)	0.77	(0.01)	-0.96	(0.02)	-0.25	(0.02)	0.39	(0.02)	1.01	(0.01)	-1.18	(0.03)	1.19	(0.02)	2.38	(0.04)	
Finland	0.25	(0.02)	0.75	(0.01)	-0.73	(0.02)	-0.02	(0.03)	0.60	(0.03)	1.17	(0.02)	-0.95	(0.01)	1.32	(0.02)	2.27	(0.02)	
France	-0.14	(0.02)	0.80	(0.01)	-1.17	(0.02)	-0.42	(0.02)	0.19	(0.02)	0.85	(0.02)	-1.44	(0.03)	1.05	(0.01)	2.49	(0.03)	
Germany	0.12	(0.02)	0.95	(0.01)	-1.07	(0.02)	-0.24	(0.02)	0.43	(0.03)	1.36	(0.02)	-1.33	(0.02)	1.59	(0.01)	2.92	(0.02)	
Greece	-0.08	(0.03)	0.96	(0.01)	-1.31	(0.03)	-0.47	(0.04)	0.32	(0.04)	1.14	(0.02)	-1.58	(0.03)	1.33	(0.02)	2.91	(0.03)	
Hungary	-0.23	(0.02)	0.96	(0.01)	-1.44	(0.02)	-0.62	(0.03)	0.13	(0.03)	1.02	(0.02)	-1.75	(0.04)	1.25	(0.02)	3.00	(0.04)	
Iceland	0.73	(0.01)	0.73	(0.01)	-0.28	(0.02)	0.57	(0.02)	1.10	(0.01)	1.55	(0.01)	-0.59	(0.03)	1.71	(0.02)	2.30	(0.04)	
Ireland	0.16	(0.02)	0.84	(0.01)	-0.94	(0.02)	-0.15	(0.03)	0.52	(0.03)	1.21	(0.02)	-1.19	(0.04)	1.42	(0.02)	2.62	(0.04)	
Israel	0.16	(0.03)	0.85	(0.02)	-0.99	(0.05)	-0.01	(0.04)	0.55	(0.02)	1.10	(0.02)	-1.28	(0.06)	1.28	(0.02)	2.56	(0.05)	
Italy	-0.07	(0.02)	0.95	(0.01)	-1.31	(0.02)	-0.38	(0.02)	0.27	(0.02)	1.16	(0.02)	-1.64	(0.02)	1.43	(0.03)	3.06	(0.03)	
Japan	-0.18	(0.01)	0.70	(0.01)	-1.10	(0.02)	-0.44	(0.02)	0.08	(0.02)	0.72	(0.01)	-1.32	(0.01)	0.94	(0.01)	2.26	(0.02)	
Korea	-0.20	(0.02)	0.68	(0.01)	-1.06	(0.02)	-0.45	(0.03)	0.04	(0.03)	0.68	(0.03)	-1.27	(0.03)	0.91	(0.02)	2.18	(0.03)	
Latvia	-0.44	(0.02)	0.92	(0.01)	-1.62	(0.02)	-0.82	(0.03)	-0.02	(0.03)	0.72	(0.02)	-1.84	(0.02)	0.94	(0.03)	2.78	(0.03)	
Luxembourg	0.07	(0.01)	1.11	(0.01)	-1.42	(0.02)	-0.26	(0.02)	0.56	(0.02)	1.41	(0.01)	-1.89	(0.04)	1.62	(0.01)	3.52	(0.04)	
Mexico	-1.22	(0.04)	1.22	(0.02)	-2.72	(0.04)	-1.73	(0.04)	-0.86	(0.05)	0.42	(0.05)	-3.09	(0.05)	0.88	(0.05)	3.96	(0.06)	
Netherlands	0.16	(0.02)	0.76	(0.01)	-0.85	(0.03)	-0.07	(0.02)	0.50	(0.02)	1.07	(0.02)	-1.08	(0.03)	1.25	(0.02)	2.34	(0.03)	
New Zealand	0.17	(0.02)	0.78	(0.01)	-0.89	(0.02)	-0.06	(0.02)	0.52	(0.02)	1.09	(0.02)	-1.18	(0.04)	1.28	(0.02)	2.46	(0.04)	
Norway	0.48	(0.02)	0.73	(0.01)	-0.53	(0.03)	0.33	(0.02)	0.82	(0.02)	1.31	(0.01)	-0.82	(0.03)	1.47	(0.01)	2.28	(0.03)	
Poland	-0.39	(0.02)	0.82	(0.01)	-1.34	(0.02)	-0.81	(0.02)	-0.18	(0.03)	0.75	(0.02)	-1.53	(0.02)	1.05	(0.02)	2.58	(0.03)	
Portugal	-0.39	(0.03)	1.15	(0.01)	-1.83	(0.02)	-0.88	(0.03)	0.00	(0.05)	1.16	(0.03)	-2.15	(0.02)	1.45	(0.03)	3.60	(0.04)	
Slovak Republic	-0.11	(0.02)	0.95	(0.03)	-1.24	(0.04)	-0.47	(0.02)	0.18	(0.03)	1.10	(0.02)	-1.38	(0.05)	1.37	(0.02)	2.74	(0.06)	
Slovenia	0.03	(0.01)	0.82	(0.01)	-1.04	(0.01)	-0.30	(0.02)	0.40	(0.02)	1.07	(0.01)	-1.22	(0.02)	1.26	(0.02)	2.48	(0.03)	
Spain	-0.51	(0.04)	1.19	(0.01)	-2.06	(0.03)	-0.98	(0.04)	-0.04	(0.05)	1.03	(0.03)	-2.40	(0.04)	1.31	(0.03)	3.70	(0.04)	
Sweden	0.33	(0.02)	0.82	(0.01)	-0.78	(0.03)	0.12	(0.03)	0.72	(0.02)	1.27	(0.01)	-1.07	(0.03)	1.44	(0.01)	2.50	(0.03)	
Switzerland	0.14	(0.02)	0.92	(0.01)	-1.05	(0.03)	-0.18	(0.03)	0.50	(0.03)	1.30	(0.02)	-1.43	(0.03)	1.50	(0.01)	2.92	(0.03)	
Turkey	-1.43	(0.05)	1.17	(0.02)	-2.87	(0.04)	-1.91	(0.05)	-1.06	(0.06)	0.14	(0.07)	-3.22	(0.03)	0.62	(0.07)	3.84	(0.07)	
United Kingdom	0.21	(0.02)	0.86	(0.01)	-0.92	(0.02)	-0.09	(0.03)	0.58	(0.03)	1.27	(0.02)	-1.18	(0.02)	1.48	(0.03)	2.67	(0.03)	
United States	0.10	(0.04)	1.00	(0.02)	-1.25	(0.06)	-0.18	(0.04)	0.55	(0.04)	1.29	(0.02)	-1.67	(0.07)	1.51	(0.02)	3.18	(0.07)	
OECD average	-0.04	(0.00)	0.89	(0.00)	-1.20	(0.00)	-0.35	(0.00)	0.32	(0.01)	1.08	(0.00)	-1.48	(0.01)	1.31	(0.00)	2.79	(0.01)	
Partners																			
Albania	-0.77	(0.03)	0.95	(0.01)	-1.90	(0.02)	-1.21	(0.02)	-0.52	(0.04)	0.54	(0.03)	-2.17	(0.03)	0.85	(0.03)	3.02	(0.04)	
Algeria	-1.28	(0.04)	1.03	(0.02)	-2.63	(0.04)	-1.57	(0.04)	-0.94	(0.04)	0.01	(0.05)	-3.03	(0.04)	0.37	(0.04)	3.40	(0.05)	
Brazil	-0.96	(0.03)	1.16	(0.01)	-2.43	(0.03)	-1.36	(0.03)	-0.61	(0.03)	0.57	(0.04)	-2.85	(0.03)	1.00	(0.03)	3.84	(0.04)	
B-S-J-G (China)	-1.07	(0.04)	1.10	(0.02)	-2.36	(0.03)	-1.57	(0.03)	-0.83	(0.06)	0.47	(0.07)	-2.67	(0.04)	0.91	(0.06)	3.58	(0.07)	
Bulgaria	-0.08	(0.03)	1.00	(0.02)	-1.37	(0.04)	-0.46	(0.04)	0.37	(0.04)	1.14	(0.02)	-1.63	(0.05)	1.31	(0.02)	2.94	(0.05)	
CABA (Argentina)	0.01	(0.09)	1.17	(0.04)	-1.63	(0.10)	-0.29	(0.13)	0.67	(0.11)	1.29	(0.05)	-2.16	(0.07)	1.48	(0.04)	3.63	(0.08)	
Colombia	-0.99	(0.04)	1.12	(0.02)	-2.41	(0.04)	-1.36	(0.03)	-0.62	(0.04)	0.44	(0.05)	-2.86	(0.07)	0.82	(0.05)	3.69	(0.08)	
Costa Rica	-0.80	(0.04)	1.16	(0.01)	-2.29	(0.03)	-1.23	(0.04)	-0.41	(0.05)	0.73	(0.03)	-2.69	(0.03)	1.02	(0.03)	3.71	(0.04)	
Croatia	-0.24	(0.02)	0.82	(0.01)	-1.22	(0.02)	-0.59	(0.01)	-0.03	(0.03)	0.89	(0.02)	-1.44	(0.03)	1.16	(0.02)	2.60	(0.04)	
Cyprus ^{1,2}	0.20	(0.01)	0.93	(0.01)	-1.02	(0.01)	-0.15	(0.02)	0.62	(0.02)	1.33	(0.01)	-1.33	(0.03)	1.54	(0.02)	2.87	(0.03)	
Dominican Republic	-0.90	(0.03)	1.04	(0.01)	-2.23	(0.04)	-1.27	(0.03)	-0.57	(0.03)	0.46	(0.03)	-2.61	(0.04)	0.78	(0.03)	3.40	(0.05)	
FYROM	-0.23	(0.01)	0.90	(0.01)	-1.38	(0.02)	-0.55	(0.01)	0.11	(0.02)	0.90	(0.01)	-1.74	(0.02)	1.12	(0.02)	2.85	(0.03)	
Georgia	-0.33	(0.02)	0.88	(0.01)	-1.47	(0.02)	-0.67	(0.03)	0.05	(0.03)	0.76	(0.02)	-1.72	(0.03)	0.96	(0.02)	2.68	(0.03)	
Hong Kong (China)	-0.53	(0.03)	0.95	(0.01)	-1.73	(0.02)	-0.91	(0.03)	-0.18	(0.04)	0.69	(0.03)	-2.00	(0.03)	0.96	(0.03)	2.97	(0.03)	
Indonesia	-1.87	(0.04)	1.11	(0.02)	-3.20	(0.04)	-2.34	(0.05)	-1.59	(0.05)	-0.36	(0.05)	-3.47	(0.06)	0.21	(0.04)	3.68	(0.07)	
Jordan	-0.42	(0.03)	1.01	(0.02)	-1.75	(0.05)	-0.72	(0.03)	0.00	(0.03)	0.77	(0.02)	-2.11	(0.08)	1.01	(0.02)	3.12	(0.08)	
Kosovo	-0.14	(0.02)	0.87	(0.01)	-1.25	(0.02)	-0.44	(0.02)	0.16	(0.02)	0.97	(0.02)	-1.61	(0.04)	1.23	(0.02)	2.83	(0.04)	
Lebanon	-0.60	(0.04)	1.07	(0.02)	-2.05	(0.05)	-0.87	(0.04)	-0.18	(0.04)	0.68	(0.05)	-2.48	(0.05)	1.02	(0.04)	3.51	(0.05)	
Lithuania	-0.06	(0.02)	0.87	(0.01)	-1.24	(0.02)	-0.37	(0.03)	0.38	(0.03)	0.97	(0.02)	-1.44	(0.02)	1.14	(0.02)	2.58	(0.03)	
Macao (China)	-0.54	(0.01)	0.86	(0.01)	-1.59	(0.02)	-0.87	(0.01)	-0.30	(0.01)	0.60	(0.01)	-1.90	(0.02)	0.95	(0.02)	2.84	(0.03)	
Malta	-0.05	(0.01)	0.95	(0.01)	-1.27	(0.02)	-0.44	(0.02)	0.31	(0.02)	1.19	(0.02)	-1.51	(0.02)	1.46	(0.03)	2.97	(0.03)	
Moldova	-0.69	(0.02)	0.90	(0.01)	-1.79	(0.03)	-1.02	(0.02)	-0.42	(0.03)	0.49	(0.03)	-2.09	(0.02)	0.81	(0.04)	2.90	(0.04)	
Montenegro	-0.18	(0.01)	0.83	(0.01)	-1.23	(0.01)	-0.48	(0.01)	0.13	(0.01)	0.88	(0.01)	-1.49	(0.01)	1.08	(0.02)	2.58	(0.02)	
Peru	-1.08	(0.04)	1.20	(0.02)	-2.56	(0.03)	-1.58	(0.04)	-0.74	(0.05)	0.55	(0.05)	-2.91	(0.03)	0.98	(0.05)	3.89	(0.05)	
Qatar	0.58	(0.01)	0.78	(0.01)	-0.47	(0.01)	0.47	(0.01)	0.89	(0.01)	1.42	(0.01)	-0.89	(0.03)	1.61	(0.01)	2.50	(0.03)	
Romania	-0.58	(0.04)	0.87	(0.02)	-1.59	(0.03)	-0.91	(0.02)	-0.43	(0.05)	0.60	(0.06)	-1.88	(0.05)	0.97	(0.04)	2.85	(0.06)	
Russia	0.05	(0.02)	0.75	(0.01)	-0.95	(0.03)	-0.20	(0.03)	0.40										

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How Your School Compares Internationally

OECD Test for Schools

How prepared are 15-year-old students at your school to continue as lifelong learners, to find and fill jobs of the 21st century and compete and collaborate as citizens in a globalized economy?

The OECD Programme for International Student Assessment (PISA) has evaluated and compared education systems worldwide for more than a decade, highlighting education systems that have either repeatedly outperformed others or have shown considerable improvement – sometimes within a relatively short period of time.

Increasingly, however, local educators and school staff are just as interested in international benchmarking and improvement as policy makers. The *OECD Test for Schools* and the school results presented in this report allow local educators to do just that. The report presents performance results in reading, mathematics and science for schools that participated in the assessment, along with contextual information collected from students and school staff. Each school's results are presented in over 40 figures that are unique to each school. Along with performance results, the report attempts to show that the learning climate at school and students' engagement towards learning are important factors in understanding the overall performance of a school.

Because benchmarking is one step towards school improvement, the report also presents examples of relevant school policies and practices from around the world to stimulate reflection and discussions among local educators. The report also includes links that allow the reader one-click access to relevant OECD research, reports and resources.

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