

1 Context and background

This chapter provides information about the two international assessments – the OECD Programme for International Student Assessment (PISA) and the International Association for the Evaluation of Educational Achievement (IEA) Trends in International Mathematics and Science Study (TIMSS) – the analysis in this report is based on. It also gives details on the students the two assessments assess, the assessment frameworks, how performance is reported and the background information about students and their schools that each assessment collects.

Scope of the report

This report presents analysis of Türkiye's international assessment data to better understand how students in the country perform throughout schooling. It focuses on student performance in Türkiye as measured by two international assessments – PISA and TIMSS. It aims to understand how student performance has evolved over time and analyse whether factors related to student background – such as gender or socio-economic information – are associated with performance. In particular, through the analysis of PISA and TIMSS data, it seeks to answer the following questions:

- How do students in Türkiye perform in the main domains of mathematics, science and reading across schooling, compared to other countries?
- How has the student performance in Türkiye changed over time and across different levels of schooling?
- Are there certain student characteristics that are associated with lower (or higher) performance in Türkiye? How do these associations change and develop as students progress through school?
- How are school-level characteristics and features associated with performance? Do these associations change depending on the level of schooling?
- Are there certain domains or aspects of learning in specific domains on which students in Türkiye excel? What are the weaknesses of students in Türkiye across the main domains?

To answer these questions, the report analyses key aspects related to student and school background. Not all of the information collected by both international assessments, such as teaching and learning practices or student well-being, are explored in this report.

Türkiye's participation in international assessments

Türkiye participates in two international assessments – PISA since 2003 and TIMSS Grade 8 since 1999 and TIMSS Grade 4 since 2007 (Table 1.1). PISA takes place every three years (although the 2021 assessment was pushed back to 2022 because of disruption related to the COVID-pandemic) and covers mathematics, science and reading. TIMSS takes place every four years and covers mathematics and science.

Table 1.1. Türkiye's participation in international assessments

	PISA 2000		PISA 2003		PISA 2006		PISA 2009		PISA 2012		PISA 2015		PISA 2018	
Participation			x		x		x		x		x		x	
Computer-based Assessment											x		x	
Türkiye's participation in TIMSS	TIMSS 1995		TIMSS 1999		TIMSS 2003		TIMSS 2007		TIMSS 2011		TIMSS 2015		TIMSS 2019	
Grade	4	8	4	8	4	8	4	8	4	8	4	8	4	8
Participation				x				x	x	x	x	x	x	x

Note: The grade of participation refers to the name of the assessment i.e. TIMSS Grade 4 or TIMSS Grade 8. In 2019, students in Türkiye taking the TIMSS Grade 4 assessment were in Grade 5.

Source: IEA (2020^[1]), *TIMSS 2019 International Results in Mathematics and Science*, <https://timssandpirls.bc.edu/timss2019/international-results/> (accessed on 21 May 2021); OECD (2021^[2]), "PISA: Programme for International Student Assessment", <https://doi.org/10.1787/data-00365-en> (accessed on 21 May 2021).

Comparison between PISA and TIMSS

While this report makes observations about student performance in Türkiye across different levels of schooling based on PISA and TIMSS data, the data are not directly comparable because each assessment

differs in its design. Most importantly, the assessments assess different knowledge and skills – mastery of an international, school-based curriculum in TIMSS compared with the application of competencies to real-life contexts in PISA. Contextual variables, such as students’ socio-economic status or school resources, also differ.

Both PISA and TIMSS employ rigorous and professionally recognised sampling techniques to ensure that the sample of students selected represents the full target population in the participating countries (15-year-old students in PISA and students enrolled in Grades 4 and 8 in TIMSS) (OECD, 2018^[3]; IEA, 2020^[4]).

Who is assessed by PISA and TIMSS?

TIMSS, Grade 4

For the Grade 4 assessment, TIMSS assesses students in their fourth year of formal schooling, provided that the mean age of students at the time of testing is at least 9.5 years. Since education systems differ in structure and starting ages, some countries assess students in different grades (Martin, von Davier and Mullis, 2020^[5]). In 2019, Türkiye chose to assess students in Grade 5 for the first time to provide a better match between the curricula that students are expected to cover in Türkiye and what is assessed by TIMSS (Table 1.2).¹ This meant that students in Türkiye’s sample had an average age of 10.6 years. In previous rounds of TIMSS, Türkiye assessed students in the last grade of primary school, Grade 4, which meant that students in Türkiye’s sample were on average, 9.9 years (Martin, Mullis and Hooper, 2016^[6]). In this report, the terminology of “TIMSS, Grade 4” is used throughout since this is the official name of the assessment. However, the data from 2019 refer to Grade 5 students in lower secondary education in Türkiye.

Table 1.2. School structure in Türkiye and international assessments, 2018-19

ISCED level	Starting age	Grade	International assessments	Education programme in English	
3	13.5	12		Upper secondary general education	Upper secondary vocational education
		11			
		10	PISA		
		9			
2	9.5	8	TIMSS	Lower secondary education	
		7			
		6			
		5	TIMSS		
1	5.5	4		Primary education	
		3			
		2			
		1			

Note: ISCED - International Standard Classification of Education.

Source: Kitchen, H. et al. (2019^[7]), *OECD Reviews of Evaluation and Assessment in Education: Student Assessment in Türkiye*, <https://dx.doi.org/10.1787/5edc0abe-en>; Martin, M., M. von Davier and I. Mullis (eds.) (2020^[5]), *Methods and Procedures: TIMSS 2019 Technical Report*, <https://timssandpirls.bc.edu/timss2019/methods/pdf/TIMSS-2019-MP-Technical-Report.pdf> (accessed on 24 July 2021); OECD (2019^[8]), *PISA 2018 Results (Volume I): What Students Know and Can Do*, <https://dx.doi.org/10.1787/5f07c754-en>.

In Türkiye, like in all countries, certain categories of students and schools were excluded from the TIMSS assessment. This included students with functional or intellectual disabilities and schools that cater solely to those students, as well as students not proficient in the Turkish language.

TIMSS, Grade 8

For the Grade 8 assessment, TIMSS assesses students in their eighth year of formal schooling, provided the mean age at the time of testing is 13.5 years. In 2019, Türkiye chose to assess students in Grade 8, as in previous years, with a mean age of 13.9 years (Martin, von Davier and Mullis, 2020^[5]).

PISA

In contrast to TIMSS, PISA assesses students based on their age, rather than grade. The students assessed by PISA are aged between 15 years 3 months and 16 years 2 months at the time of the assessment, and they have completed at least 6 years of formal schooling. To be eligible for the PISA assessment, students must also be enrolled in at least Grade 7 in an educational institution (OECD, 2019^[8]). In Türkiye, most of the students who sit the PISA assessment are in Grade 10, as is the case in the majority of OECD countries. A minority of students in Türkiye were still in Grade 9 when the assessment took place, while an even smaller minority were already in Grade 11 (Table 1.3). These differences might reflect misalignment between PISA testing and cut off dates for entry into formal schooling or grade retention or advancement policies.

Table 1.3. Share of students in PISA sample by grade, PISA 2018

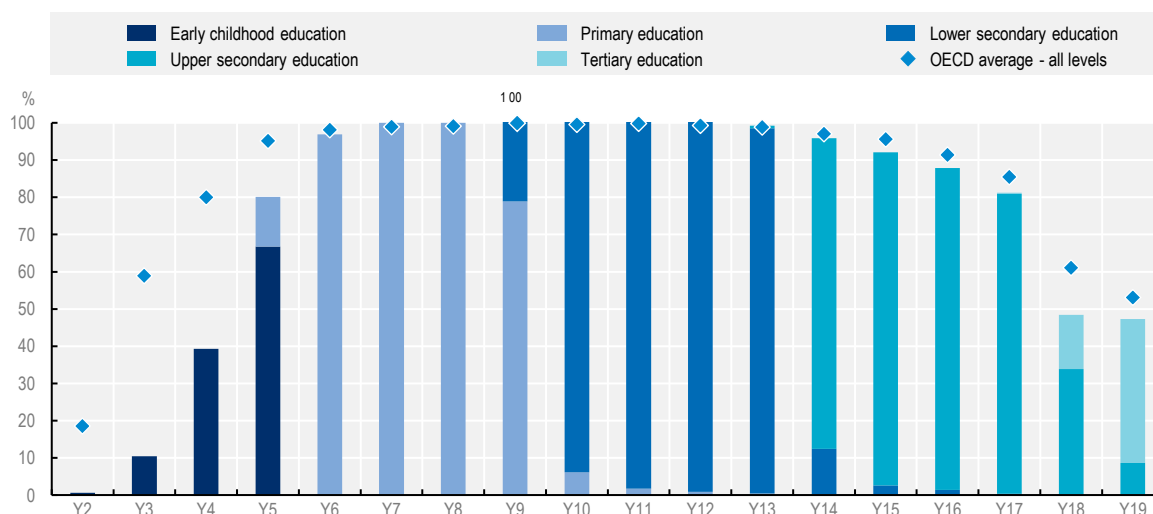
	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11	Grade 12 and above
Türkiye	0.1	0.4	17.7	78.8	2.9	0.1
OECD average	0.5	4.5	35.4	51.4	7.4	0.3

Source: OECD (2019^[9]), *PISA 2018 Online Education Database*, <http://www.oecd.org/pisa/data/>.

Türkiye's PISA coverage index in 2018 was 73%. The coverage index is the proportion of 15-year-olds in a country or economy that were covered by the PISA sample (OECD, 2019^[8]). Türkiye's PISA coverage index is almost 20% lower than the share of 15-year-olds who are enrolled in school at this age (Figure 1.1). There are a number of reasons why the PISA coverage index is lower than national enrolment rates. First, because countries may exclude up to 5% of otherwise-eligible 15-year-old students enrolled in Grade 7 or above for various reasons, including the remoteness and inaccessibility of their school, intellectual or physical disability, a lack of proficiency in the test language or a lack of test material in the language of instruction. In 2018, Türkiye excluded 5.66% of students (OECD, 2019^[8]), including students with special learning needs and who do not speak Turkish fluently.

Second, the large difference in the PISA coverage index and the share of 15-year-olds enrolled at school according to national and international administrative data in Türkiye is likely explained by students who are enrolled in open high schools.² In Türkiye, open high schools provide distance learning programmes and offer an alternative for students to complete their compulsory education, such as those who have had to repeat two school years or have been unwell for an extended period (Kitchen et al., 2019^[7]). Since PISA only assesses students attending physical schools, those attending open high schools are not covered by the assessment. However, open high schools are included in Türkiye's school enrolment statistics which explains the discrepancy between the PISA coverage index and enrolment rates in upper secondary education.


Figure 1.1. Enrolment rate by age and level of education, 2018



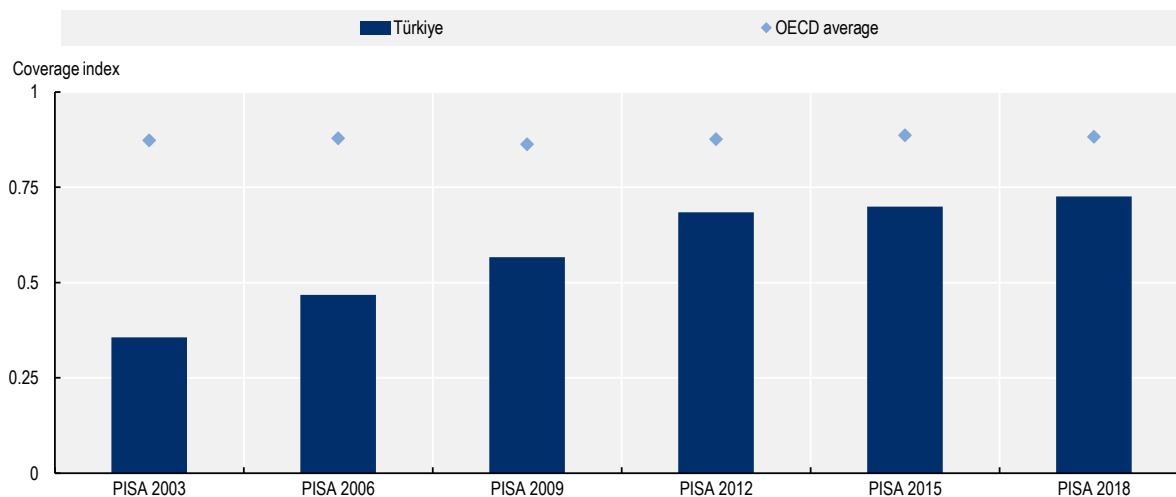
Note: The levels of education correspond to: Early childhood education and care (ISCED 2011 Level 0); Primary education (ISCED 2011 Level 1); Lower secondary education (ISCED 2011 Level 2); Upper secondary and post-secondary non-tertiary education (ISCED 2011 Levels 3 and 4); Total tertiary education (ISCED 2011 Levels 5 to 8).

The PISA coverage index is the proportion of 15-year-olds in a country or economy that were covered by the PISA sample (OECD, 2019^[8]). The difference between the PISA coverage index for Türkiye (73% in 2018) and the enrolment rate for 15 year olds in 2018 (92%) in Türkiye is because of a number of factors including excluded students (5.66%) and students attending open high schools.

Source: Adapted from OECD (2021^[10]), "Education Database: Enrolment by age", <https://doi.org/10.1787/71c07338-en> and OECD (2021^[11]), "Education Database: Population data", <https://doi.org/10.1787/ccca3172-en>.

StatLink  <https://stat.link/rakq9b>

Türkiye's coverage index has increased significantly over PISA cycles (Figure 1.2). However, the country continues to have one of the lowest coverage indices of all OECD countries, after Colombia, Costa Rica and Mexico (OECD, 2019^[8]). The low coverage index has important implications for interpretations of Türkiye's PISA results because it means that the analysis of the PISA results presented in this report does not reflect the full population of 15-year-olds in the country.

Figure 1.2. PISA coverage index for Türkiye across PISA cycles

Source: OECD (2021_[2]), "PISA: Programme for International Student Assessment", <https://dx.doi.org/10.1787/data-00365-en>.

StatLink  <https://stat.link/s16xal>

Assessment frameworks

The PISA assessment framework

In each round of PISA, three domains are assessed – mathematics, reading and science – one of which is the major domain and focus of each cycle. The major domain rotates with each cycle. In the most recent PISA assessment, 2018, reading was the major domain. The PISA assessments are not designed to examine whether students can reproduce knowledge of a particular curriculum but rather if they can apply the knowledge and skills they have acquired in real-life settings.

The PISA 2018 framework for reading guided the development of the PISA 2018 reading literacy assessment. It conceptualises reading as an activity where the reader interacts with both the text that he or she reads and with the tasks that he or she wants to accomplish during or after reading the text. To be as complete as possible, the assessment covers different types of texts and tasks over a range of difficulty levels (OECD, 2019_[8]).

The assessment also requires students to use a variety of processes or different ways in which they cognitively interact with the text. The PISA 2018 framework identifies processes that readers activate when engaging with a piece of text (Table 1.4). Information on the assessment of mathematics and science can be found in the report *PISA 2018 Assessment and Analytical Framework* (OECD, 2019_[12]).

Table 1.4. Reading processes assessed by PISA across text source, 2018

Reading processes	Single-source text	Multiple-source text
Locating information (25%)	Scanning and locating (15%)	Searching for and selecting relevant text (10%)
Understanding (45%)	Representing literal meaning (15%) Integrating and generating inferences	Integrating and generating inferences (15%)

	(15%)	
Evaluating and reflecting (30%)	Assessing quality and credibility, and reflecting on content and form (20%)	Corroborating and handling conflict (10%)

Note: Percentages in parenthesis show the share of items by process and text source.

The PISA 2018 reading framework includes a fourth process, “reading fluently”, which underpins the other three processes and is not included in the table.

Source: OECD (2019_[8]), *PISA 2018 Results (Volume I): What Students Know and Can Do*, <https://dx.doi.org/10.1787/5f07c754-en>.

The TIMSS assessment framework

The TIMSS assessment frameworks are based on a curriculum model that is updated each cycle by participating countries that review the frameworks describing the mathematics and science content to be assessed and take part in item development (Mullis et al., 2020_[13]). The mathematics and science frameworks include content domains, which specify the content to be assessed, and cognitive domains, which specify the thinking processes to be assessed. Within each of these areas, further sub-domains are set out depending on the grade and subject (Table 1.5).

Table 1.5. Sub-domains assessed by TIMSS, 2019

	Mathematics		Science	
	Grade 4	Grade 8	Grade 4	Grade 8
Content domains	Number	Number	Life science	Biology
	Measurement and geometry	Algebra	Physical science	Chemistry
	Data	Geometry	Earth science	Physics
		Data and probability		
Cognitive domains		Knowing Applying Reasoning		

Source: Mullis, I. et al. (2020_[13]), *Highlights from TIMSS 2019*, <https://timss2019.org/reports/> (accessed on 24 July 2021).

Measuring performance

Performance in PISA

PISA reports performance in various ways. The most straightforward way is through the mean performance of a country’s students. PISA also reports students’ performance in terms of proficiency levels (Table 1.6). Summaries of the proficiency levels in mathematics and science can be found in the OECD report *PISA 2018 Results (Volume 1): What Students Know and Can Do* (OECD, 2019_[8]). The scale summarises both the proficiency of a person in terms of his or her ability and the complexity of an item in terms of its difficulty. Level 2 is usually considered the minimum level of competency that students need for success in life and work, and students who perform below Level 2 are considered “low performers”. In contrast, high performers are defined as students who attain Levels 5 or 6 of proficiency. Türkiye’s average performance and share of students across proficiency levels are discussed in Chapter 2.

Table 1.6. Summary description of the eight levels of reading proficiency in PISA 2018

Level	Lower score limit	Percentage of students able to perform tasks at each level or above (OECD average)	Characteristics of tasks
6	698	1.3	<ul style="list-style-type: none"> • Readers at Level 6 can comprehend lengthy and abstract texts in which the information of interest is deeply embedded and only indirectly related to the task. They can compare, contrast and integrate information representing multiple and potentially conflicting perspectives, using multiple criteria and generating inferences across distant pieces of information to determine how the information may be used. • Tasks at Level 6 typically require the reader to set up elaborate plans, combining multiple criteria and generating inferences to relate the task and the text(s). Materials at this level include one or several complex and abstract text(s), involving multiple and possibly discrepant perspectives.
5	626	8.7	<ul style="list-style-type: none"> • Readers at Level 5 can comprehend lengthy texts, inferring which information in the text is relevant even though the information of interest may be easily overlooked. They can perform causal or other forms of reasoning based on a deep understanding of extended pieces of text. They can also answer indirect questions by inferring the relationship between the question and one or several pieces of information distributed within or across multiple texts and sources. • Readers can establish distinctions between content and purpose, and between fact and opinion as applied to complex or abstract statements. They can assess neutrality and bias based on explicit or implicit cues pertaining to both the content and/or source of the information. • For all aspects of reading, tasks at Level 5 typically involve dealing with concepts that are abstract or counterintuitive and going through several steps until the goal is reached.
4	553	27.6	<ul style="list-style-type: none"> • At Level 4, readers can comprehend extended passages in single or multiple-text settings. They interpret the meaning of nuances of language in a section of text by taking into account the text as a whole. They can compare perspectives and draw inferences based on multiple sources. • Readers can search, locate and integrate several pieces of embedded information in the presence of plausible distractors. They can generate inferences based on the task statement in order to assess the relevance of target information. • In addition, students at this level can evaluate the relationship between specific statements and a person's overall stance or conclusion about a topic. • Texts at Level 4 are often long or complex, and their content or form may not be standard. Many of the tasks are situated in multiple-text settings. The texts and the tasks contain indirect or implicit cues.
3	480	53.6	<ul style="list-style-type: none"> • Readers at Level 3 can represent the literal meaning of single or multiple texts in the absence of explicit content or organisational clues. Readers can integrate content and generate both basic and more advanced inferences. • They can search for information based on indirect prompts, and locate target information that is not in a prominent position and/or is in the presence of distractors. In some cases, readers at this level recognise the relationship between several pieces of information based on multiple criteria. • Level 3 readers can reflect on a piece of text or a small set of texts, and compare and contrast several authors' viewpoints based on explicit information. Reflective tasks at this level may require the reader to perform comparisons, generate explanations or evaluate a feature of the text. • Tasks at Level 3 require the reader to take many features into account when comparing, contrasting or categorising information. The required information is often not prominent or there may be a considerable amount of competing information.

Level	Lower score limit	Percentage of students able to perform tasks at each level or above (OECD average)	Characteristics of tasks
2	407	77.4	<ul style="list-style-type: none"> • Readers at Level 2 can identify the main idea in a piece of text of moderate length. They can understand relationships or construe meaning within a limited part of the text when the information is not prominent by producing basic inferences, and/or when the text(s) include some distracting information. • They can select and access a page in a set based on explicit though sometimes complex prompts, and locate one or more pieces of information based on multiple, partly implicit criteria. • Readers at Level 2 can, when explicitly cued, reflect on the overall purpose, or on the purpose of specific details, in texts of moderate length. Typical reflective tasks at this level require readers to make a comparison or several connections between the text and outside knowledge by drawing on personal experience and attitudes.
1a	335	92.3	<ul style="list-style-type: none"> • Readers at Level 1a can understand the literal meaning of sentences or short passages. Readers at this level can also recognise the main theme or the author's purpose in a piece of text about a familiar topic, and make a simple connection between several adjacent pieces of information, or between the given information and their own prior knowledge. • Most tasks at this level contain explicit cues regarding what needs to be done, how to do it and where in the text(s) readers should focus their attention.
1b	262	98.6	<ul style="list-style-type: none"> • Readers at Level 1b can evaluate the literal meaning of simple sentences. They can also interpret the literal meaning of texts by making simple connections between adjacent pieces of information in the question and/or the text. • Tasks at Level 1b explicitly direct readers to consider relevant factors in the task and in the text. Texts at this level are short and typically provide support to the reader, such as through repetition of information, pictures or familiar symbols.
1c	189	99.9	<ul style="list-style-type: none"> • Readers at Level 1c can understand and affirm the meaning of short, syntactically simple sentences on a literal level, and read for a clear and simple purpose within a limited amount of time. • Tasks at this level involve simple vocabulary and syntactic structures.

Source: OECD (2021^[2]), "PISA: Programme for International Student Assessment", <https://dx.doi.org/10.1787/data-00365-en>.

Performance in TIMSS

TIMSS also reports average scale scores by country, grade and subject. The TIMSS achievement scale centre point of 500 is located at the mean of the combined achievement distribution (TIMSS 2019).

TIMSS also describes achievement at four points along the scale as international benchmarks (Tables 1.7 and 1.8) Descriptions of benchmarks for mathematics and science for Grade 8 can be found in the report *TIMSS 2019 International Results in Mathematics and Science* (Mullis et al., 2020^[13]). Türkiye's average performance and share of students across proficiency levels are discussed in Chapter 2.

Table 1.7. TIMSS international benchmark in Grade 4 mathematics, 2019

International benchmark	Lower score limit	Percentage of students reaching benchmarks (median across countries)	Description of benchmark
Low	400	92	Students have some basic mathematical knowledge. They can add, subtract, multiply and divide one- and two-digit whole numbers. They can solve simple word problems. They have some knowledge of simple fractions and common geometric shapes. Students can read and complete simple bar graphs and tables.
Intermediate	475	71	Students can apply basic mathematical knowledge in simple situations. They can

			compute with three- and four-digit whole numbers in a variety of situations. They have some understanding of decimals and fractions. Students can identify and draw shapes with simple properties. They can read, label and interpret information in graphs and tables.
High	550	34	Students apply conceptual understanding to solve problems. They can apply conceptual understanding of whole numbers to solve two-step word problems. They show understanding of the number line, multiples, factors and rounding numbers, and operations with fractions and decimals. Students can solve simple measurement problems. They demonstrate an understanding of the geometric properties of shapes and angles. Students can interpret and use data in tables and a variety of graphs to solve problems.
Advanced	625	7	Students can apply their understanding and knowledge in a variety of relatively complex situations and explain their reasoning. Students can solve a variety of multistep word problems involving whole numbers and show an understanding of fractions and decimals. They can apply knowledge of two- and three-dimensional shapes in a variety of situations. Students can interpret and represent data to solve multistep problems.

Source: Mullis, I. et al. (2020_[13]), *Highlights from TIMSS 2019*, <https://timss2019.org/reports/> (accessed on 24 July 2021).

Table 1.8. TIMSS international benchmark in Grade 4 science, 2019

International benchmark	Lower score limit	Percentage of students reaching benchmarks (median across countries)	Description of benchmark
Low	400	92	Students show limited understanding of scientific concepts and limited knowledge of foundational science facts.
Intermediate	475	71	Students show knowledge and understanding of some aspects of science. Students demonstrate some basic knowledge of plants and animals. They demonstrate knowledge about some properties of matter and some facts related to electricity and can apply elementary knowledge of forces and motion. They show some understanding of Earth's physical characteristics.
High	550	32	Students communicate and apply knowledge of life, physical and Earth sciences. Students communicate knowledge of characteristics of plants, animals and their life cycles and apply knowledge of ecosystems and humans' and organisms' interactions with their environment. Students demonstrate knowledge of states and properties of matter and energy transfer in practical contexts and show some understanding of forces and motion. Students know various facts about the Earth's physical characteristics and show a basic understanding of the Earth-Moon-Sun system.
Advanced	625	6	Students communicate their understanding of life, physical and Earth sciences and demonstrate some knowledge of the process of scientific inquiry. Students demonstrate knowledge of the characteristics and life processes of a variety of organisms. They can communicate an understanding of relationships in ecosystems and interactions between organisms and their environment. They communicate an understanding of properties and states of matter and physical and chemical changes. Students communicate an understanding of Earth's physical characteristics, processes and history and show knowledge of Earth's revolution and rotation.

Source: Mullis, I. et al. (2020_[13]), *Highlights from TIMSS 2019*, <https://timss2019.org/reports/> (accessed on 24 July 2021).

Background questionnaires

Both PISA and TIMSS include questionnaires that collect information about students' backgrounds, their schools and learning contexts to understand how these factors are associated with performance. TIMSS collects data on national and community, home, school and classroom contexts through questionnaires that are completed by students, teachers and school principals. For students participating in the Grade 4

assessment, TIMSS also asks parents or caregivers to complete a questionnaire (IEA, 2020^[14]). PISA collects contextual information through questionnaires that are distributed to students and school principals. The questionnaire to students asked questions about the students themselves, their attitudes, dispositions and beliefs, their homes and their school and learning experiences. The questionnaire to school principals covered school management and organisation, and the learning environment (OECD, 2019^[8]). PISA also has optional questionnaires which countries can distribute if they wish. Data from the optional questionnaires are not analysed in this report.

Benchmark countries

This report has selected a number of benchmark countries, whose performance is reported alongside Türkiye's throughout the report. The benchmark countries help to contextualise Türkiye's performance and provide more specific insights on country-level performance than international averages. The benchmark countries in this report are – Germany, Poland and Russia and were selected in 2020.³

These countries were selected based on similarities with Türkiye in terms of a number of demographics, socio-economic indicators and performance on international assessments (Table 1.9). Their participation in the same cycles of PISA and TIMSS as Türkiye also influenced the choice of benchmark countries (Table 1.10).

Table 1.9. Selected demographic and socio-economic indicators in benchmark countries

	PISA 2018 score in reading	Size of country in km ²	Population	Public expenditure on education as a percentage of GDP	GDP per-capita	Gini Index 2016
Türkiye	466	769 630	83 429 615	4.1	9 127	41.9
Germany	498	349 360	83 132 799	4.0	46 445	31.9
Poland	512	306 190	37 970 874	3.9	15 693	31.2
Russia	479	16 376 870	144 373 535	3.1	115 85	36.8

Source: World Bank (2018^[15]), *Land Area (sq.km) (dataset)*, <https://data.worldbank.org/indicator/AG.LND.TOTL.K2?end=2018&start=2018> (accessed on 20 July 2021); World Bank (2020^[16]), *Population, Total (dataset)*, <https://data.worldbank.org/indicator/SP.POP.TOTL> (accessed on 20 July 2021); OECD (2020^[17]), *Education at a Glance 2020: OECD Indicators*, <https://doi.org/10.1787/69096873-en>; World Bank (2020^[18]), *GDP Per-capita (current US\$) (dataset)*, <https://data.worldbank.org/indicator/NY.GDP.PCAP.CD> (accessed on 20 July 2021); World Bank (2019^[19]), *Gini Index (World Bank estimate) (dataset)*, <https://data.worldbank.org/indicator/SI.POV.GINI> (accessed on 20 July 2021).

Table 1.10. Participation of benchmark countries across PISA and TIMSS cycles

	PISA 2012	PISA 2015	PISA 2018	TIMSS 2011		TIMSS 2015		TIMSS 2019	
				Grade 4	Grade 8	Grade 4	Grade 8	Grade 4	Grade 8
Türkiye	X	X	X	X	X	X	X	X	X
Germany	X	X	X	X		X		X	
Poland	X	X	X	X		X		X	
Russia	X	X	X	X	X	X	X	X	X

Source: IEA (2020^[11]), *TIMSS 2019 International Results in Mathematics and Science*, <https://timssandpirls.bc.edu/timss2019/international-results/> (accessed on 21 May 2021); OECD (2021^[2]), "PISA: Programme for International Student Assessment", <https://dx.doi.org/10.1787/data-00365-en>.

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Notes

¹ The Ministry of National Education in Türkiye examined the match between the TIMSS evaluation framework and the mathematics and science curricula for Grades 4 and 8 in Türkiye. The match with the Grade 4 science curriculum was low and as a consequence MoNE decided that Grade 5 in Türkiye would participate for the Grade 4 TIMSS assessment in 2019. The change also brought the average age of students in Türkiye's sample closer to the average age across other countries participating in TIMSS 2019 Grade 4 (10.2 years). Norway and South Africa also chose to participate at Grade 5 for the TIMSS 2019 Grade 4 assessment (IEA, 2020^[1]).

² In Türkiye, students can pursue their education through distance learning courses in the open school system. Open schools enable students to continue their education in formal education institutions when they cannot attend a physical high school for various reasons. Reasons for attending an open high school include: being over 18 years which means that students can no longer enrol in physical high schools; students who are required to repeat a grade more than once; students who are expelled from physical high schools; and married students.

³ This report was sent for comments to the Education Policy Committee at the OECD between 29 April and 20 May 2022. It should be noted that the Russian Federation no longer participates in the work of the Committee.



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