School Report

The Westminster School

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PISA Background

PISA is a survey designed to evaluate education systems worldwide by testing the skills and knowledge of students nearing the end of compulsory education. In other words, it is designed to assess students who are preparing to proceed to either post-secondary education or the labour market. This differs from other international assessments in that it tests students at age 15 rather than assessing by grade level. TIMSS, for example, tests students in both grades four and eight regardless of the age of the student.

PISA was developed by the OECD in response to the demand by member countries for consistent and trustworthy data on the knowledge and skills of their students and the performance of education systems around the globe. Development of the assessment began in the mid 1990s and the first cycle was conducted in 2000.

PISA 2018 was the seventh cycle of PISA. Around 800,000 students in 78 economies took part representing about 28 million 15-year-olds globally. Reading literacy was the major domain, which allowed an in-depth analysis of reading literacy and the reporting of results by knowledge and system subscales.

Every three years, fifteen-year-old students from randomly selected schools in participating economies take assessments in three core domains: reading, mathematics, and science. Additionally, each cycle of PISA focuses on one particular domain in greater detail, taking up nearly two-thirds of the testing time. The results allow for a deeper dive into student learning and performance in that particular domain. Reading was the domain of focus during Dubai's first participation in PISA in 2009. PISA 2018 again focused on reading, allowing for the comparison of student performance in reading in a more detailed way through insightful trend analysis.

In addition to the assessments, PISA also collects information in the form of questionnaires at the school, teacher, and student level. In PISA 2018, specific attention was also given to collecting data on student well-being.

UAE VISION 2021: First Rate Education

Understanding the value of a first-rate education system and global benchmarks, student achievement on international assessments such as PISA and the Trends in International Mathematics and Science Study (TIMSS) has been included by the leadership of the UAE as part of the UAE Vision 2021 National Agenda.
The following goals have been set by His Highness Sheikh Mohammed Bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai in regard to student performance on these two international assessments:
* The UAE will be ranked among the 15 highest performing countries in TIMSS
* The UAE will be ranked among the 20 highest performing countries in PISA

Education Indicators & Targets

There are eight education related indicators and targets, two of which are related to international assessments.This report focuses on PISA

Index	INDICATOR	TARGET
1	Average TIMSS Score	Among the top 15 countries
2	Average PISA Score	Among the top 20 countries
3	Upper Secondary Graduation Rate	98%
4	Enrolment Rate in Preschools (public and private)	95%
5	% of Students with High Skills in Grade 9	90%
6	% of Schools with High Quality Teachers	100%
7	% of Schools with Highly Effective School Leadership	100%
8	Enrolment Rate in Foundation Year	0%

Dubai Private Schools Performance Since 2009 till 2018

Trend for private schools in Dubai 2009 till 2018
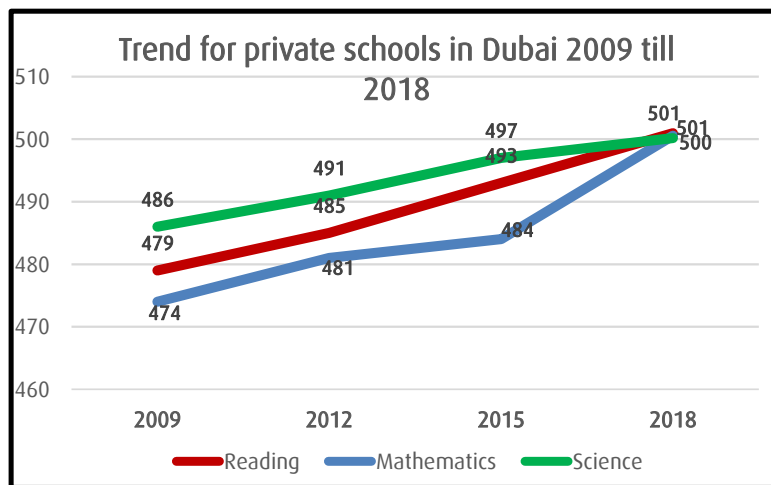
2018 Dubai Private school world ranking	Science	Mathematics	Reading
	19th	19th	19th

Your PISA National Agenda Targets

To work towards achieving PISA targets in the UAE National Agenda, and based upon the PISA results for the school in 2015, KHDA had set individual 2018 targets for each private school in Dubai. The table below shows your school's performance in 2018 PISA against the KHDA previously set targets.

2018 Performance against set targets			
PISA Domains	Science	Mathematics	Reading
Your PISA 2018 Target Scores based on 2015 results	505	505	521
Actual PISA 2018 Scores	510	512	527

Using PISA 2018 results, every school now receives a new target for moving to the next achievement level in PISA 2021. Three targets for your school for the three domains in PISA are given in the table below. Although, the individual targets may appear aspirational, the detailed information presented in this report should provide school leaders with a full understanding of their students' performances in PISA. Therefore, it is important that school leaders use all the data presented in the different sections of this report to plan for meeting these targets.

Your School New 2021 targets			
PISA Domains	Science	Mathematics	Reading
Your PISA 2021 Target Scores	530	532	537

Through annual school inspections, KHDA continues to monitor each school's performance against their National Agenda targets. The KHDA also launched the National Agenda Parameter (N.A.P); a method for measuring and monitoring schools' progress towards achieving their individual National Agenda targets, through the use of external benchmark tests.

Inspectors evaluate:
- SEF and action plan based on results
- The quality of data analysis received from N.A.P and use of these to impact education.
- The extent to which schools have modified their curricula to address shortfalls, and how teaching methods have been adapted to engage students in aspects of their learning that are in need of improvement; (e.g. critical thinking or problem solving).
- The validity of each school's assessment methods, so that progress towards targets can be accurately and reliably measured.
- The progress students are making towards targets in mathematics, reading and science - the differences in the progress of girls and boys and between Emirati and expatriate students.

The Westminster School

Summary

School Profile:

School Type	Private
School Curriculum	UK
Location	Dubai
Number of Students Assessed	67
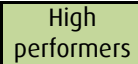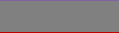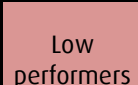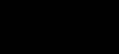
Selecting students at your school

The sampling design used for the PISA assessment is a two-stage stratified sample design. The first-stage sampling units consists of individual schools with 15-year-old students. Schools are sampled systematically from a comprehensive national list of all eligible schools, known as the sampling frame. Prior to sampling, schools in the sampling frame were assigned to mutually exclusive groups based on school characteristics called explicit strata, formed in order to improve the precision of sample-based estimates and to ensure representation of students in various school types.

The second-stage sampling units are students within sampled schools. Once schools are selected to be in the sample, a complete list of each sampled school's 15-year-old students is prepared. The students are selected to be representative of the students in the population, and weights are used to adjust for any differences arising from intended features of the design (e.g. to over-sample minorities) or non-participation by students who were selected. In this way we can provide measures of achievement for the population, based on the responses of a sample of students, along with the confidence interval to indicate the precision of those measures.

Overall Performance

Domain	Score	Proficeincy level
Science Literacy	510	Level 3
Mathematical Literacy	512	Level 3
Reading Literacy	527	Level 3

Level 6	High performers	
Level 5		
Level 4	Middle performers	
Level 3		
Level 2		
Level 1	Low performers	
Below Level 1		

*Please refer to appendix for more details on proficeincy levels

How well did your students perform?

	Comparing your students' results to average results in:				
	Your School Score	Dubai private schools Average	Difference from the Vision 2021 National Target	Difference from the OECD Average	Top performing country and its score
Science	510	500	0	21	B-S-J-Z (China) (590)
Math	512	501	2	23	B-S-J-Z (China) (591)
Reading	527	501	17	40	B-S-J-Z (China) (555)

Vision 2021 National Target : 510
OECD Average : Science (489) Mathematics (489) Reading (487)

Your students' achievement compared to their peers in private school of Dubai
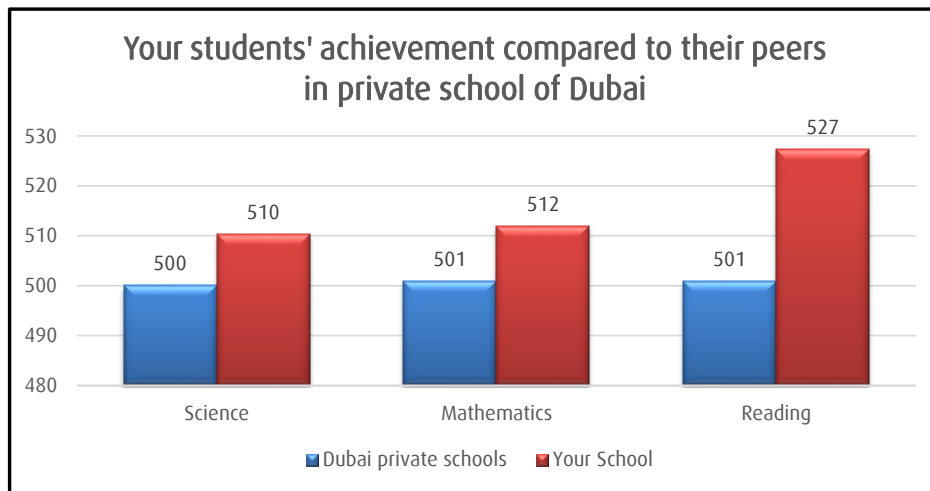
Performance of students in private schools in Dubai based on the curriculum

Curriculum	Reading	Mathematics	Science
Private - UK	529	515	522
Private - Indian	512	517	513
Private - IB	542	539	536
Private - US	472	483	477
Private - MoE	425	431	431

How well did your students achieve against proficiency levels?

This chart shows the distribution of your students across each of the OECD proficiency levels. Students whose scores fell in Levels 5 and 6 were considered "High Achievers" in contrast to those whose scores fell in Level 1 and below and were considered to be "At risk" students.

Distribution across proficiency levels (%)

	Reading	Mathematics	Science
Level 6	3	3	1
Level 5	14	12	8
Level 4	22	21	21
Level 3	28	25	30
Level 2	22	26	27
Level 1	9	11	10
Below Level 1	2	3	2
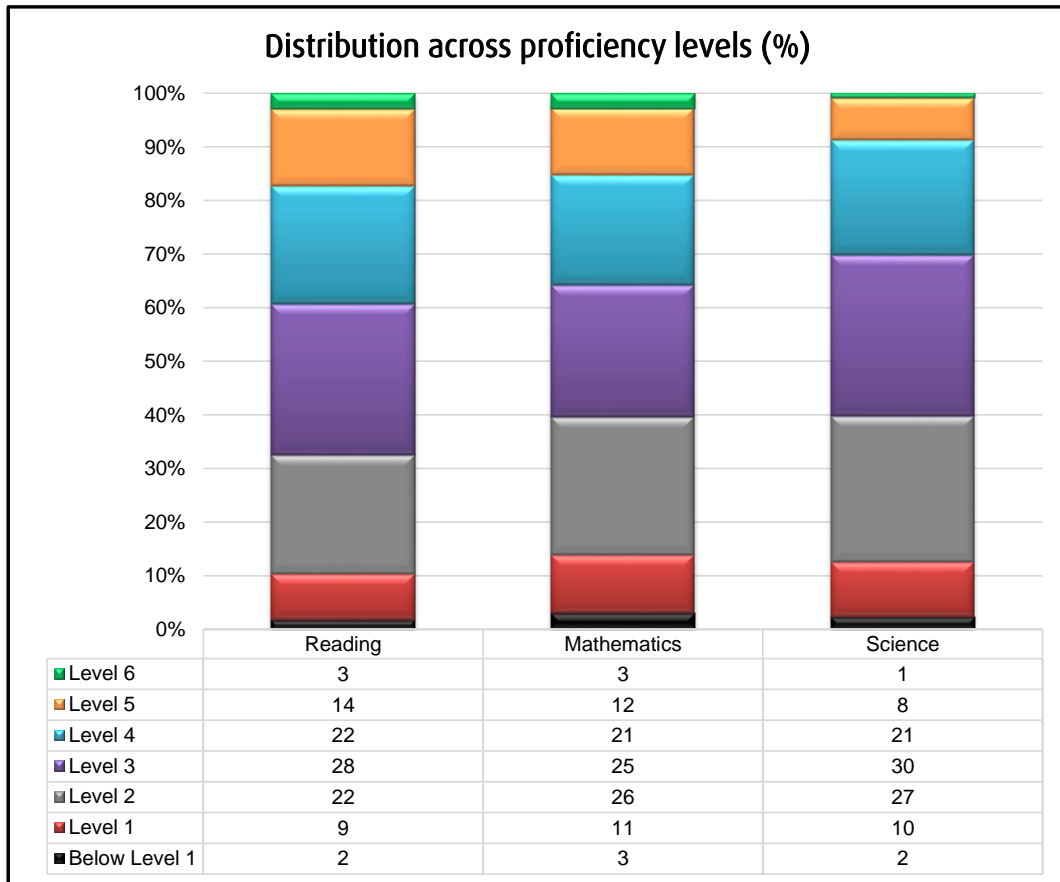
*The total values might not add up to 100% due to system rounding

PISA proficiency levels boundaries

	Proficiency levels	Reading	Math	Science
High performers	Level 6	698	669	708
	Level 5	626	607	633
Middle performers	Level 4	553	545	559
	Level 3	480	482	484
	Level 2	407	420	409
Low performers	Level 1	335	358	335
	Below Level 1	<335	<358	<335

* Please refer to the Appendix for full descriptions of the proficiency levels

Change Over Time

The chart below compares your students' average scores over the last three cycles of PISA.

PISA Scores 2012 VS 2015 VS 2018

	Science	Mathematics	Reading
2012	525	509	518
2015	486	476	501
2018	510	512	527
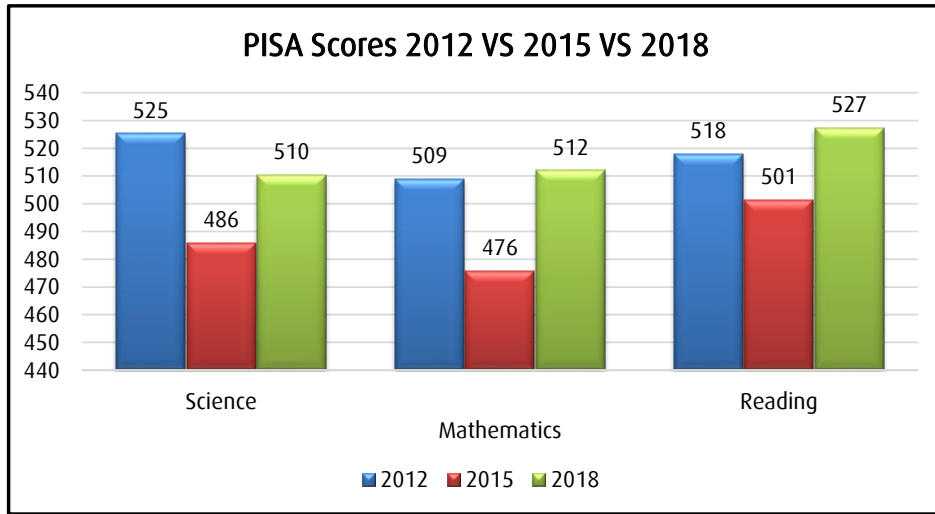
School Achievement by gender?

This bar chart compares the performance of female and male students in PISA 2018.

Gender	Female students	Male students
Number of students in Sample	34	33

Achievement by Gender (Average Score)

	Science	Mathematics	Reading
Female	510	497	536
Male	511	527	518
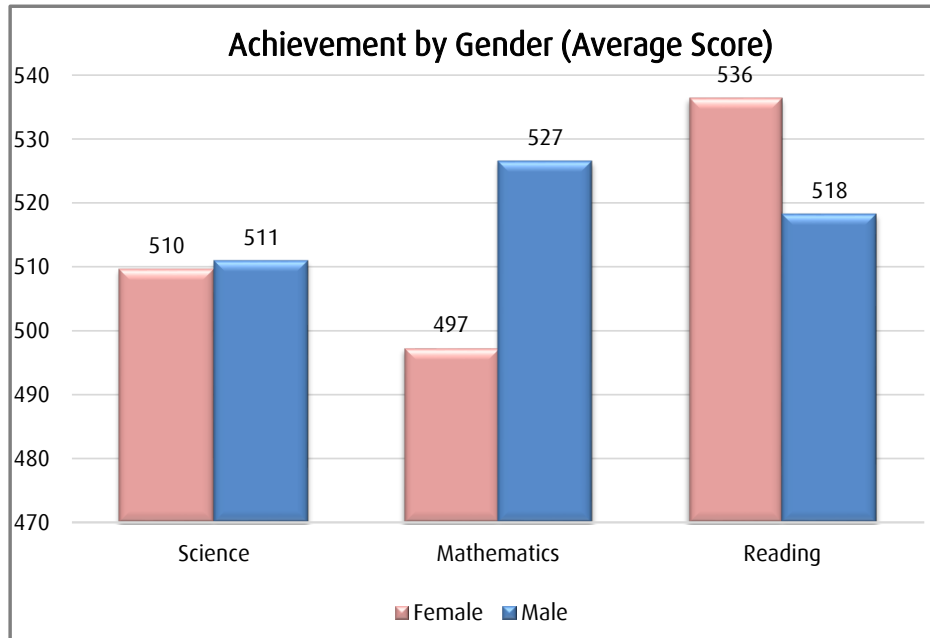
*no comparison data for above section in schools with single gender

PISA 2018 Major Domain : Reading Literacy

PISA 2018 focused on reading literacy as the key domain, Reading literacy is understanding,using,evaluating, reflecting on and engaging with texts in order to achieve one's goals, to develop one's knowledge and potential and to participate in society.

PISA assesses students' performance in reading through questions that involve a variety of:

Processes (aspects): Students are expected to demonstrate their proficiency in locating information, including both accessing and retrieving information within a piece of text, and searching for and selecting relevant text;understanding text, including both acquiring a representation of the literal meaning of text and constructing an integrated representation of text; and evaluating and reflecting on text, including both assessing its quality and credibility, and reflecting on content and form.

Text formats: PISA uses both single-source and multiple-source texts; static and dynamic texts; continuous texts (organised in sentences and paragraphs); non-continuous texts (e.g. lists, forms, graphs or diagrams); and mixed texts.

Reading Literacy Subscales in PISA 2018

Processes	Congnitive Processes
Locate information	• Access and retrieve information within a text • Search and select relevant text
Understand	• Representation of the literal meaning • Integrate and generate inferences
Evaluate and reflect	• Assess quality and credibility • Reflect on content and form • Detect and handle conflict

Text Formats	Targeted process
SINGLE Text	• Scan and Locate • Literal Comprehension • Inference Comprehension • Assess quality and credibility • Reflect on content and form
MULTIPLE Text	• Search and select relevant text • Inference Comprehension • Corroborate/Handle conflict

How well did your students achieve in each of the Reading Literacy Subscales?

Processes:

	Processes		
	Locate Information	Understand	Evaluate and reflect
Average score of your students	543	522	529
Overall average of Dubai private schools	498	501	515

Distribution across proficiency levels (%)

	Locate Information	Understand	Evaluate and reflect
Level 6	7	2	4
Level 5	15	15	14
Level 4	22	21	22
Level 3	31	27	24
Level 2	17	21	26
Level 1	5	12	8
Below Level 1	3	2	1
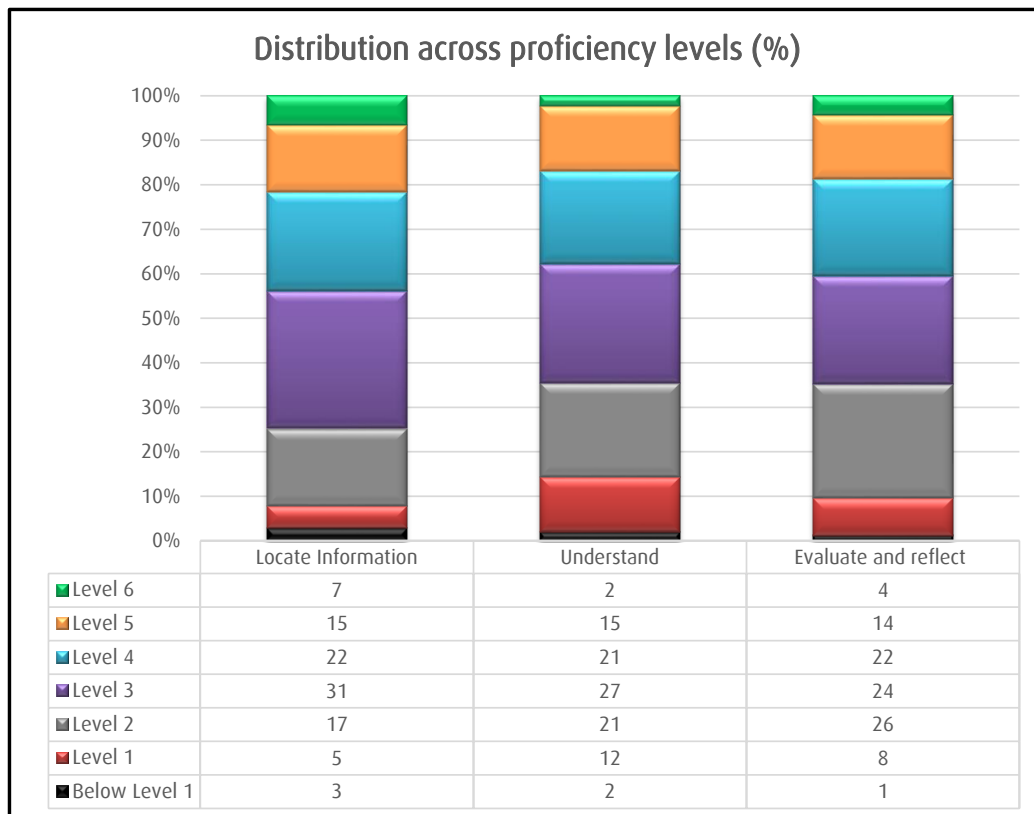
*The total values might not add up to 100% due to system rounding

Text Formats:

	Text Formats	
	Single Text	Multiple Text
Average score of your students	526	529
Overall average of Dubai private schools	502	505

Distribution across proficiency levels (%)

	Single Text	Multiple Text
Level 6	3	3
Level 5	16	16
Level 4	19	19
Level 3	30	28
Level 2	21	23
Level 1	8	8
Below Level 1	2	2
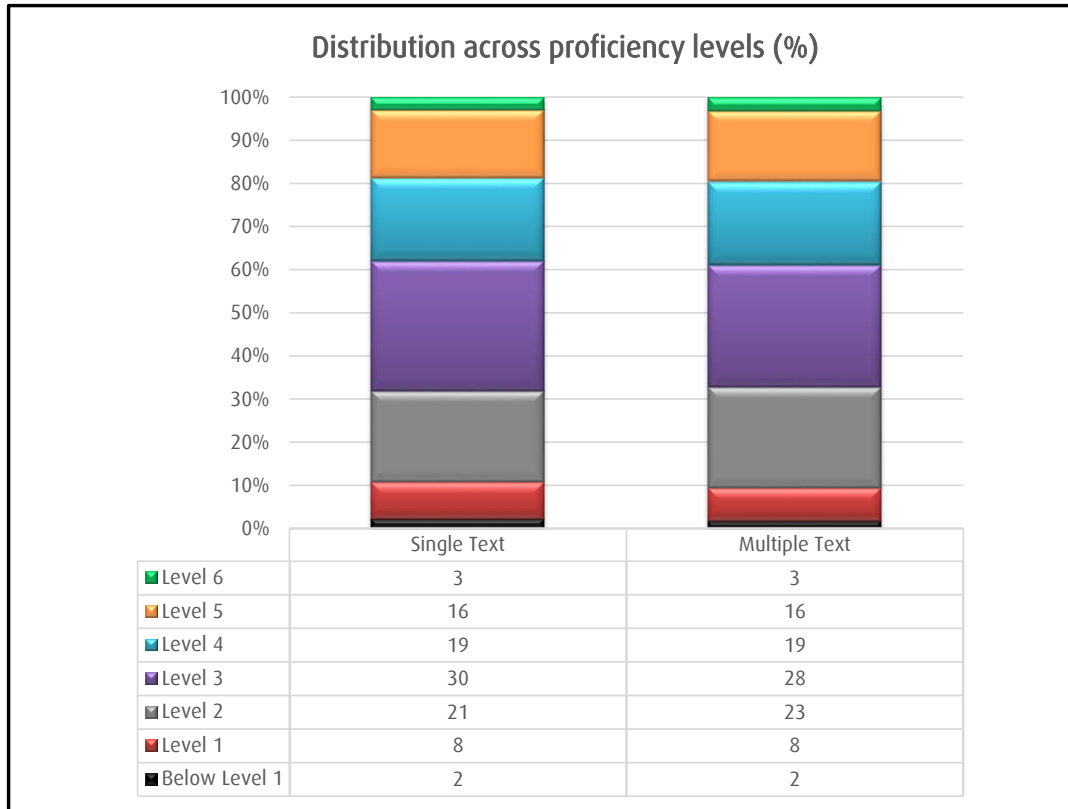
*The total values might not add up to 100% due to system rounding

The performance of Emirati students in your school

The standards of achievement of Emirati students is a very high priority for KHDA. The table below outlines the difference in achievement between Emiratis and expatriate students in your school.

It is important for schools to work towards improving the overall academic performance of Emarati students by identifying gaps in their achievement in all domains

Through strategic leadership and adaptations to the curriculum and pedagogy, schools must make provision to ensure that Emirati and expatriate students alike go on to make the highest levels of progress in mathematics, science and reading.Any gaps in achievement that exist must be narrowed and closed.

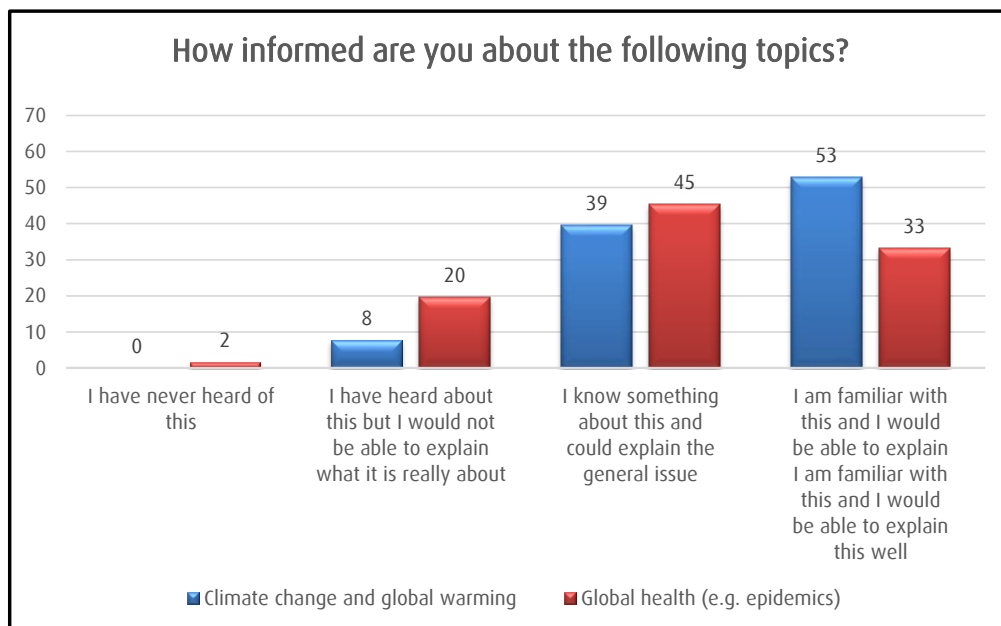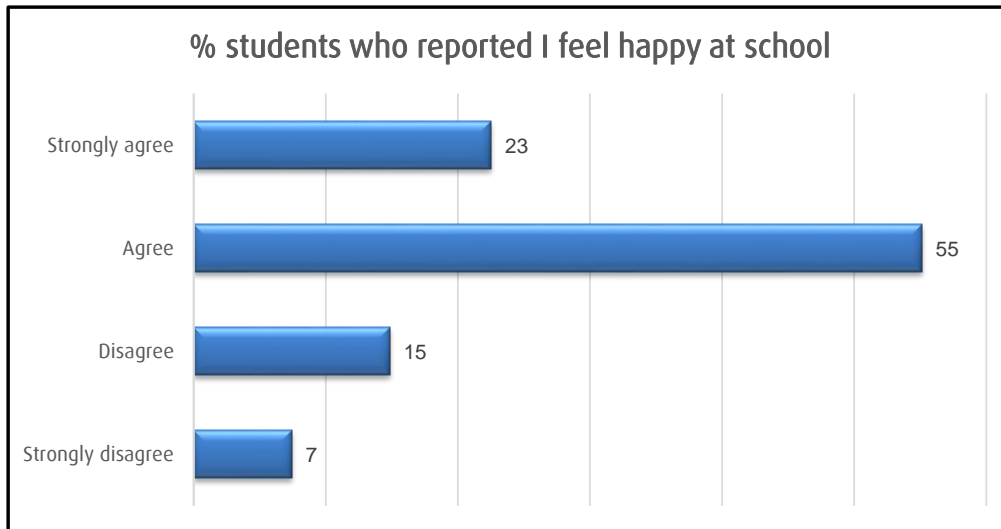| Nationality	Overall Score in Science	Overall Score in Mathematics	Overall Score in Reading
Emirati students In your Schools			
Expatriates students In your Schools			
Emirati students In Private Schools	439	445	426
2021 PISA Dubai Target Scores for Emirati Students	474	480	461

*** Note : Schools whose sample of Emirati students is less than 5 will not receive an achievement comparision due to statistical limitations.
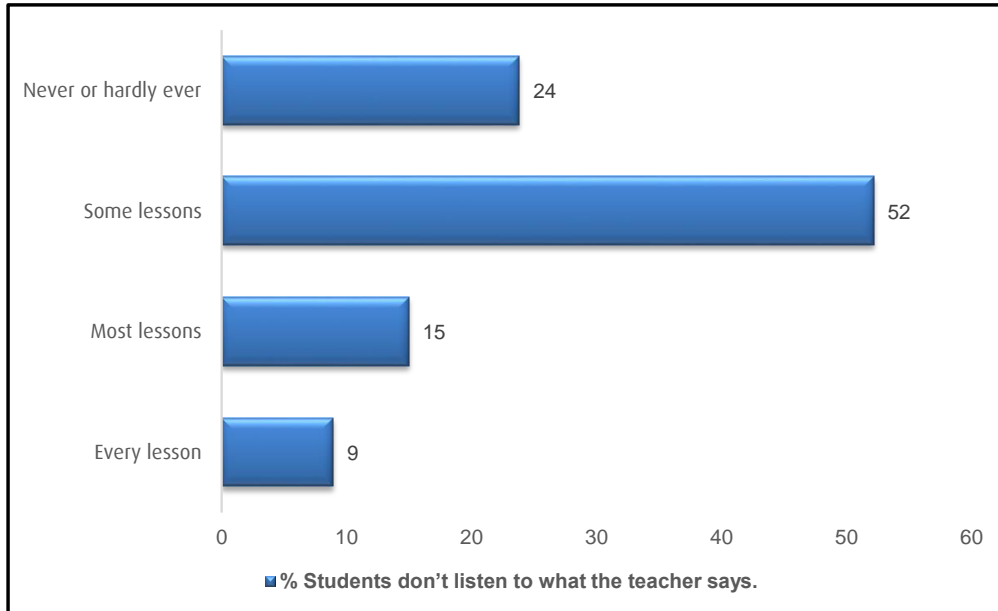
What did your students have to say?

Students who sat for PISA 2018, answered a background and well being questionnaire in addition to the test. The test sought information about the students themselves, their homes and their school and learning experiences. The questionnaire was divided into six sections encompassing seventy questions. In its effort to improve standards and bring to the school's attention certain areas worth prioritising, KHDA has chosen few of these questions to share with you. Answers to these questions may be relevant to your students' performance. Teachers and school principals need to be able to identify issues that students have. Understanding the problems that students face in their learning should help schools to find suitable solutions. PISA results also indicated that personal drive, motivation and confidence are essential if students are to fulfil their potentials. Eighty five percent of students in Dubai indicated that they were happy with their schools and the education that they were receiving. Schools should reflect on what these responses are suggesting about provision and respond accordingly.

The tables below reflect the percentage of students in your school who answered to the following questions:

Thinking about your school: to what extent do you agree with the following statement?

% students who reported I feel happy at school

Response	Percentage
Strongly agree	23
Agree	55
Disagree	15
Strongly disagree	7

How informed are you about the following topics?

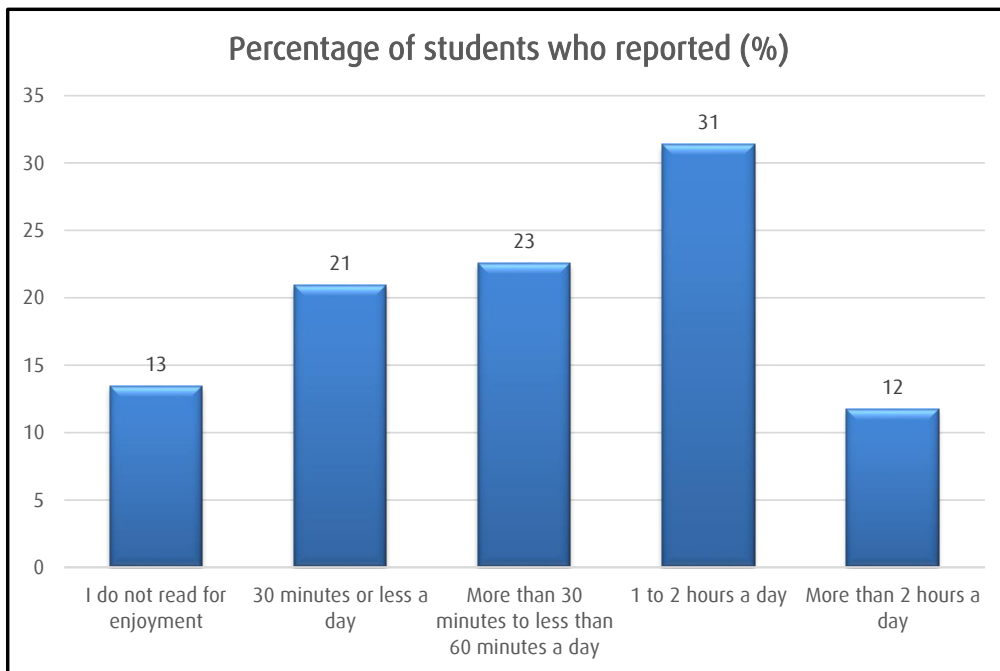| Topic	I have never heard of this	I have heard about this but I would not be able to explain what it is really about	I know something about this and could explain the general issue	I am familiar with this and I would be able to explain this well
Climate change and global warming	0	8	39	53
Global health (e.g. epidemics)	2	20	45	33

How often students don't listen to what the teacher says in Language Lesson?

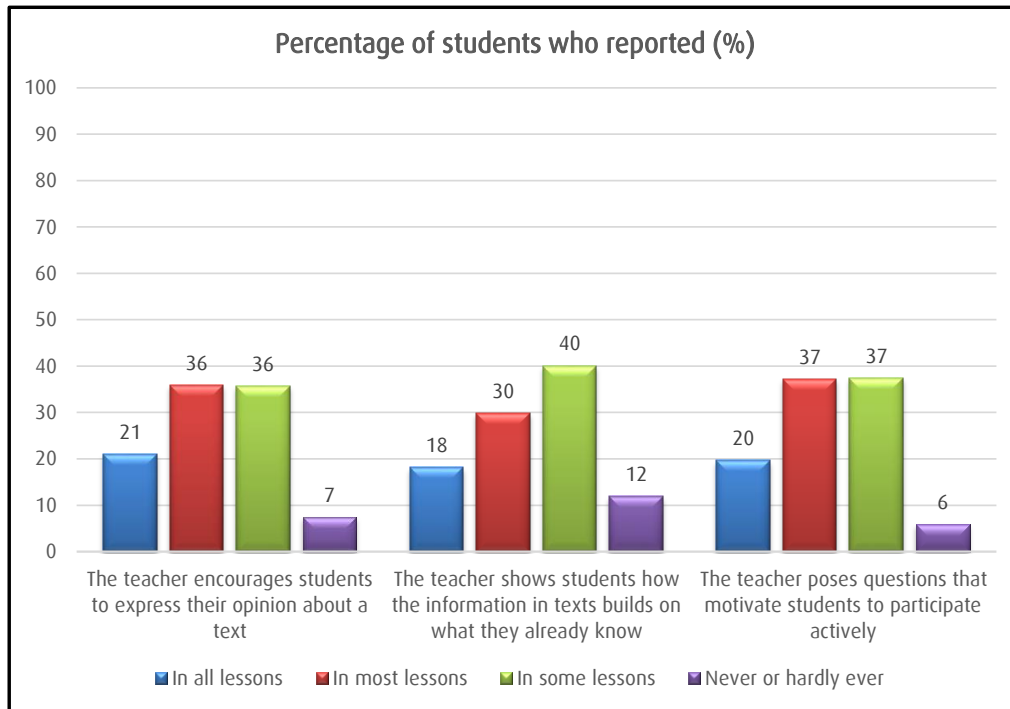**About how much time do you usually spend reading for enjoyment?**
(Please take into account diverse kinds of reading, such as books, magazines, newspapers, websites, blogs, emails...)

(Please select one response.)

In your language lessons, how often does the following occur?

Percentage of students who reported (%)

	The teacher encourages students to express their opinion about a text	The teacher shows students how the information in texts builds on what they already know	The teacher poses questions that motivate students to participate actively
In all lessons	21	18	20
In most lessons	36	30	37
In some lessons	36	40	37
Never or hardly ever	7	12	6

How often the teachers tell in which areas of language lesson I can still improve?

Percentage of students who reported (%)

Every lesson or almost every lesson	7
Many lessons	25
Some lessons	39
Never or almost never	29
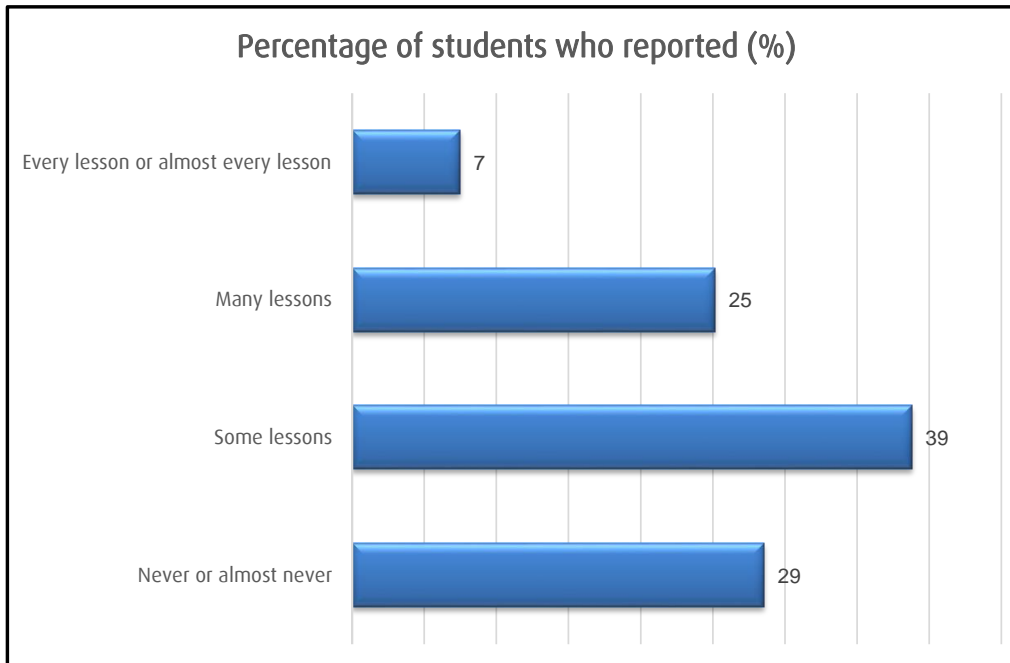
Next Step

As well as setting out in some considerable detail, the outcomes of your school's performance in PISA 2018, this report has provided you with the new 2021 PISA targets for your school. As such, this report is intended to support you in your action planning to ensure that these new targets are met or exceeded.
Inspection teams in 2020/21 will expect this report to have been explicitly referred to, in your own self-evaluation as well as in your strategic school improvement planning.

Below, you will find a description of some useful documentation generated by OECD, to support schools' work in this area.

Suggested Reading
Useful Documentation Generated by OECD

Preamble
The two international benchmark assessment regimes that sit in prime position within the UAE National Agenda (Education) are of course, TIMSS and PISA. These Two regimes provide a window on the state of education and achievement (mathematics, science and reading), across a range of participating countries every three to four years. These regimes also survey students about their attitudes to school, to learning and to their own progress. In addition, both TIMSS and PISA are, by default, substantive research programmes. TIMSS has, since 1995, been assessing and surveying grade four and eight students, every four years.

PISA has been assessing grade 15 year students every three years, since 2000. Each regime has assessed and surveyed millions of students, representing tens of millions of students over the years. PISA is more skills based assessing students' abilities to apply their knowledge and understanding of science, mathematics, financial literacy, problem solving and literacy (reading) to real-world scenarios. Its surveys place a focus on learners, their learning and their attitudes to learning. Conversely, TIMSS is more curriculum and achievement based and its surveys consider more the work of the school, the teacher and teaching.

In addition to generating a significant dataset; quantitative and qualitative, at the levels of student, school and country, OECD also created a wealth of useful documentation that helps to identify the best path for future improvement.

Some of the documentation is of value at national and school-system level, other documentation is more useful for principals and governing bodies. Yet other materials support the work of subject leaders and classroom teachers. This section of the report highlights some of this documentation, outlines its usefulness and signposts it for the most useful audience.

PISA 2018: What Students know and can do
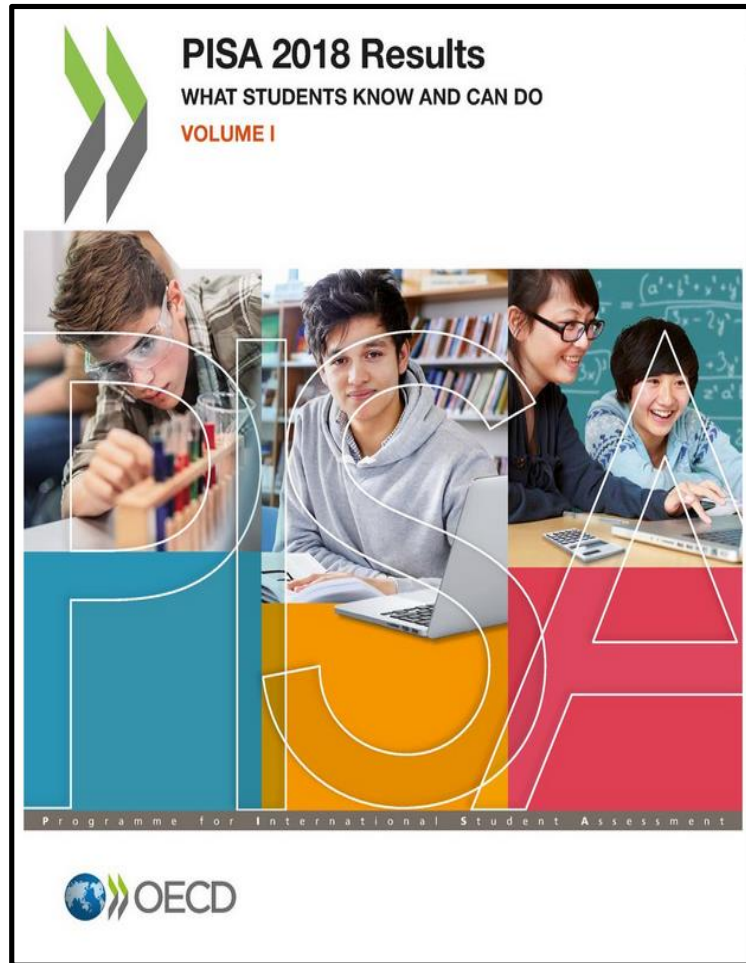
The PISA Assessment and Analytical Framework

This document, that is published every assessment window, provides a substantive summary of the findings of PISA over the years and how these findings have informed the evolution of the assessment regime used by PISA. This framework essentially presents the conceptual foundations upon which the 2018 cycle was to be based. Again, due to the reading emphasis in 2018, in this publication, reading literacy is the focus although there are also very detailed and useful sections on science as well as mathematical and financial literacy along with student questionnaire and student well being questionnaire.

As such, for principals and middle leaders, the document is a worthwhile read for those wishing to understand the emerging, evidence- based thinking behind what makes for relevant and excellent mathematics and science provision and assessment.

For those looking for a better appreciation of the proficiency levels in PISA as well as how the student surveys inform the analyses of the data and what they tell us. The draft 2021 framework, where mathematics is the key focus, is also already available online and worth schools accessing in the lead up to PISA 2021.
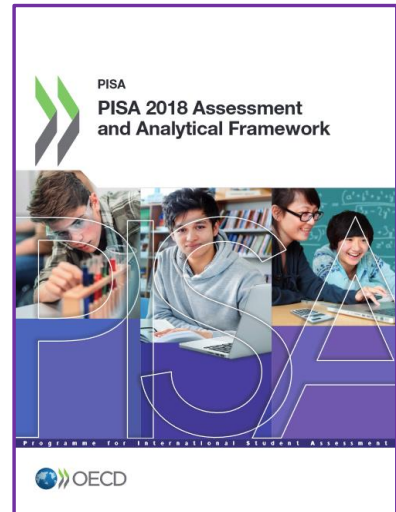
Where All Students can Suceed

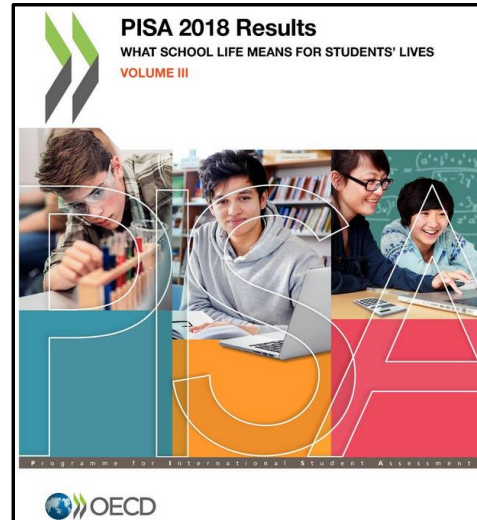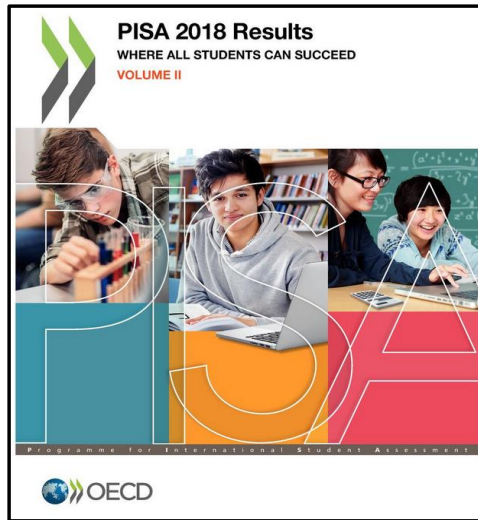https://read.oecd-ilibrary.org/education/pisa-2018-results-volume-ii_b5fd1b8f-en#page1

What School Life Means for Students' Lives

https://read.oecd-ilibrary.org/education/pisa-2018-results-volume-iii_acd78851-en#page1

Science
Level 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 to offer explanatory hypotheses of novel scientific phenomena, events and processes or to make predictions. In interpreting data and evidence, they can 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.
Level 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 causal links. They can apply more sophisticated epistemic knowledge to evaluate 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.
Level 4 - 559
At Level 4, students can use more complex or more abstract content 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 can 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.
Level 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 2 - 409
At Level 2, students can draw on everyday content knowledge and basic procedural 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 1 - 335
At Level 1, students can use basic or everyday content and procedural knowledge to recognize or identify explanations of simple scientific phenomenon. With support, they can undertake structured scientific enquiries with no more than two variables.
Below Level 1
Students below level 1 usually fail at the basic levels of science that PISA measures. Such students will have serious difficulties in using science for further education and learning.

Mathematics

Level 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.

Level 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 characterizations, and insight pertaining to these situations. They begin to reflect on their work and can formulate and communicate their interpretations and reasoning.

Level 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 and communicate explanations and arguments based on their interpretations, arguments, and actions.

Level 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.

Level 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 a single representational mode. Students at this level can employ basic algorithms, formulae, procedures, or conventions to solve problems involving whole numbers.

Level 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 can identify information and to carry out routine procedures according to direct instructions in explicit situations.

Below Level 1

Students below level 1 may able to perform very direct and straightforward mathematical tasks, such as reading a single value from well labelled chart or table.

Reading

Level 6 - 698

At level 6, Students 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.Target information may take the form of details that are deeply embedded within or across texts and potentially obscured by competing information.

Level 5 - 626

At level 5, Students 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.
Tasks at Level 5 typically involve dealing with concepts that are abstract or counterintuitive, and going through several steps until the goal is reached. In addition, tasks at this level may require the reader to handle several long texts, switching back and forth across texts in order to compare and contrast information.

Level 4 - 553

At level 4, Students can search, locate and integrate several pieces of embedded information in the presence of plausible distractors. They are able to generate inferences based on the task statement in order to assess the relevance of target information. They can handle tasks that require them to memorise prior task context.
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.

Level 3 - 480

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 might be a fair amount of competing information. Texts typical of this level may include other obstacles, such as ideas that are contrary to expectation or negatively worded.

Level 2 - 407

At level 2, Students 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 information is in the presence of some distracting information. Tasks may involve comparisons or contrasts based on a single feature in the text.Typical reflective tasks at this level require a comparison or several connections to be made between the text and outside knowledge by drawing on personal experience and attitudes

Level 1 - 335

At level 1, tasks 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.

Below Level 1

Students below level 1 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.

For more information about Dubai's participation in PISA 2018, please check Dubai's PISA 2018 report:

https://www.khda.gov.ae/en/publications

How to contact us:

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