New PISA study due to be published

Frequently asked questions about the German PISA test

The new PISA study (PISA 2025) will be presented on 8 September 2026. To assist with your reporting, we have compiled answers to frequently asked questions about the German section of the study.

In addition, the press office of the Technical University of Munich (TUM) and the team at the Centre for International Student Assessment (ZIB), which is responsible for the study in Germany, are happy to answer any questions you may have.

Quick access

PISA: General Information

What is PISA?

The **Programme for International Student Assessment (PISA)** is an international comparative survey that assesses the skills of 15-year-old students, particularly in the key areas of reading, mathematics and science. The study has been conducted every three years since 2000 – except during the pandemic years, when the 2021 survey was postponed to 2022. From now on, the regular interval between data collection rounds will be four years.

What is the purpose of the PISA study?

PISA serves **to monitor educational objectives** such as educational quality and equity, providing **international comparisons between education systems** in relation to these objectives. To this end, students' skills are assessed shortly before they complete their compulsory schooling. In Germany, this corresponds to the end of full-time compulsory education.

Who manages the PISA study in Germany?

The German part of the study is carried out by the **Centre for International Student Assessment (ZIB)** at the Technical University of Munich (TUM). ZIB conducts the study on behalf of the Standing Conference of the Ministers of Education and Cultural Affairs (KMK) and the Federal Ministry of Education, Family Affairs, Senior Citizens, Women and Youth (BMBFSFJ). ZIB is responsible for the study's scientific quality and produces a national report, published simultaneously with the OECD's international report. Prof. Dr. Samuel Greiff is the national project manager for PISA. Internationally, the PISA study is coordinated by the Organization for Economic Co-operation and Development (OECD).

In addition to TUM, two other ZIB sites are involved in compiling the national report: the Leibniz Institute for Research and Information in Education (DIPF) in Frankfurt am Main and the Leibniz Institute for Science and Mathematics Education (IPN) in Kiel. The Research Data Centre (FDZ) at the Institute for Educational Quality Improvement (IQB) in Berlin is also part of ZIB. This site is responsible for making research data from a wide range of educational studies, including the PISA surveys, available for research purposes.

What types of skills are tested?

PISA measures students' **functional literacy**. The study shows the extent to which young people are able to apply the knowledge they have gained from various school subjects and their lives outside school to new, everyday situations. Therefore, testing is not concerned with information that has solely been memorized. In a modern, knowledge-based society, the ability to apply knowledge is essential for lifelong learning and, thus, for continuing professional development.

Shouldn't we assess subject knowledge rather than just practical skills?

Learning is particularly effective when content and methods are applied to real-life situations. Not only does this lead to deeper understanding but also to greater flexibility in coping with problems which go beyond the standard cases students have learnt. Applied skills are a **prerequisite for lifelong learning**. For this reason, it is important to assess them in the PISA study.

In addition to applied skills, subject knowledge can also provide important insights into the quality of education. The 'Bildungstrend' report, for instance, is a publication by the Institute for Educational Quality Improvement (IQB) which regularly examines the extent to which students achieve the subject-specific learning objectives set out in the federal states' educational standards and enshrined in their legislation.

The authors of the various educational studies, such as PISA and the IQB 'Bildungstrend', regularly collaborate to gain insights from the combined analysis of different research questions. This enables them to provide education policymakers and practitioners with a comprehensive picture.

Which subject areas are tested?

Reading, **mathematics** and **science** form the core of the PISA study. These three fundamental skills are crucial for learning and comprehension, structured problem-solving, and developing skills which are essential for social participation in all countries which take part in the PISA survey.

Each study cycle examines one of these areas in greater depth through a 'major domain'. In PISA 2025, this was scientific literacy. Therefore, the most directly comparable rounds are those in which the focus was also on science, namely PISA 2006 and PISA 2015. Reading and mathematical literacy were assessed as minor domains in 2025. The innovative domain, the focus of which changes with each PISA study, was self-regulated learning on computers in 2025. This domain is called **Learning in the Digital World (LDW)**. This area includes the sub-competence **Computational Problem Solving**. Additionally, PISA 2025 included the **Foreign Language Assessment English**.

Alongside assessing students' competencies, the **context of learning and teaching** was examined. To this end, students, teachers, school principals and parents were asked to complete questionnaires. Data collected from students included information such as gender, social background, attitudes and behaviours, while data collected from parents covered cooperation with the school, as well as support at home and household rules. Teachers were asked about their training and experience, as well as aspects of their teaching practice. The questionnaire for school principals included, for example, questions about staffing at the school, quality assurance, and collaboration among teaching staff and with parents.

What are 'domains' in the PISA study?

In short, a **PISA domain** is a subject area defined by its content. Each PISA study focuses particularly on one of these three domains: reading, mathematics, or science. This area of focus is referred to as the **major domain** of the study. However, the other two areas are also examined in every PISA study. These form the **minor domains**. In 2025, for example, science was the major domain, with reading and mathematics as the minor domains.

The **innovative domain** changes with each survey cycle. It assesses the skills necessary for lifelong learning. Previous innovative domains have included Complex Problem Solving (2012), Collaborative Problem Solving (2015), Global Competence (2018) and Creative Thinking (2022). In the 2018 PISA survey on Global Competence, Germany had only used the background questionnaire and did not participate in the competence assessment. For PISA 2025, the innovative domain is **Learning in the Digital World (LDW),** with the sub-competence **Computational Problem Solving**. In Germany, the results for this domain will be published directly alongside the science, reading and mathematics results for the first time. Previously, they were only reported in the following year.

For the **optional domain**, the sample was extended to examine an additional area. Individual countries can decide whether to participate in the optional domain surveys. In 2025, Germany participated in the survey of the optional domain, which covered **Foreign Language Assessment in English**. From 2012 to 2022, Financial Literacy was the optional domain of the PISA study.

Who has taken part in PISA?

For the current study, the skills of around **6,700 15-year-olds** from approximately **245 secondary schools** in Germany were assessed. This sample is representative of 15-year-olds in Germany. The schools and the students were selected at random. Additionally, science and English teachers, school principals and the parents of the tested students were surveyed at all participating schools.

Worldwide, more than 760,000 students in 91 countries and economies have taken part in PISA 2025, including all member states of the Organization for Economic Co-operation and Development (OECD).

When and how often is the PISA study conducted?

The study has traditionally been conducted every **three years**, except during the pandemic years, when the surveys were postponed from 2021 to 2022. From 2025 onwards, the standard interval between data collection rounds will be **four years**. The PISA 2025 survey took place from March to May 2025. The results are published one year later in each case. For PISA 2025, however, the results will be published in September 2026 rather than in December of the following year, as has been the case until now.

How is participants' data protected?

All PISA survey data is **confidential**. The PISA team at the Technical University of Munich cannot draw any conclusions about specific individuals from the data. Therefore, it is not possible to link identifiable individuals to their PISA proficiency levels. The list of students' names never leaves the school. It is kept there and destroyed once the data collection process is complete. School staff do not have access to the students' test papers at any time.

The processing of the data and the published results of the PISA study are based on aggregated and anonymized data that does not allow any conclusions to be drawn about individuals. The results cannot be attributed to individuals or schools. The data processing procedure is reviewed and approved anew by the data protection officers of the federal states in each survey round. Consequently, the collection of all data is carried out **in compliance with the DSGVO** (General Data Protection Regulation).

Do students undergo educational testing too frequently?

Very few children and young people ever participate in an educational study during their lives. Of the more than 770,000 15-year-olds in Germany in 2025, only around 6,700 took part in the non-class-based section of the PISA study. This equates to approximately 0.9 per cent. Participants do not experience **any additional exam pressure**; they are not expected to prepare for the test. The data is used exclusively for research purposes to improve the German education system and can therefore only be accessed by the study management, who cannot identify individuals.

How is the test conducted?

During the two-hour test, students complete tasks of varying difficulty levels. Some of these are multiple-choice questions, for which the correct answer must be selected from a list of options. The test also includes open questions which require answers to be entered into text fields. Since 2015, the PISA test has been conducted entirely on computers. For tasks relating to **Computational Problem Solving** – a sub-area of **Learning in the Digital World (LDW) –** the system provides feedback to students while they are working.

One example of a task relating to scientific literacy concerns the loss of biodiversity. In this task, students had to evaluate the accuracy of various pre-formulated statements based on a short text and a graph. In the next sub-task, they assessed the reliability of various sources. Finally, in the last sub-task, students had to decide whether a given headline was supported by the data in the graph. They were required to justify their decisions.

Sample tasks covering the areas of science, mathematics, reading and Learning in the Digital World are available on the website of the Centre for International Student Assessment (ZIB): https://www.zib.education/beispielaufgaben/.

These tasks were developed by a group of international researchers and tested in all participating countries through a multi-stage process. This includes a field test, in which students complete the tasks under the same conditions as in the actual survey. The field test takes place one year before the main survey and allows for subsequent revision of the tasks. This ensures that the tasks are equally suitable for young people in all participating countries.

Students also complete a **questionnaire** about themselves and their social background, their learning conditions at home and at school, and their attitudes. School principals, teachers, and parents complete additional questionnaires, covering topics such as the school's (digital) resources, lesson organization, and support for learning at home.

What does Germany's position in the ranking of participating countries tell us?

Germany's position in the ranking of participating countries provides an insight into the skills of students in Germany compared with those of young people in other countries. Furthermore, the trend in Germany's rankings over the years can be used to draw conclusions about the **development of the education system** and the **participation of certain social groups**. However, the individual rankings would not always be meaningful if one were to consider only the ranking of the average scores achieved by students in each country. The differences between the scores can, in fact, be so small that they are not statistically significant. This means that these differences could be due to chance.

What is more important than Germany's exact ranking is a comparison with the average of the member countries of the **Organization for Economic Co-operation and Development (OECD)**. This provides a stable, internationally recognized benchmark. A comparison with the **EU Member States'** average is also significant for Germany, as common educational objectives have been formulated, and the EU member states form a single economic area.

The trend in Germany's PISA rankings over the course of the surveys is of particular interest. Since the first PISA study in 2000, various education policy measures have been implemented, the impact of which can be linked to the results. The same is true for other countries, meaning that PISA allows us to look beyond the boundaries of the German education system. In this way, the German education system can draw inspiration from measures taken in other countries.

To draw conclusions from international comparisons, it is also important to take into account the distribution of skills within individual countries. A comprehensive interpretation must also incorporate the specific contextual conditions of the education systems in order to identify the conditions necessary for successful education.

While rankings provide an insight into a country's educational performance, they should not be viewed in isolation.

Are the German federal states compared with one another?

No, the study is only representative of 15-year-old students in Germany as a whole and **not at the federal state level**. To analyse results at federal state level, the sample size within each federal state would need to be larger.

Major Domain: Science Literacy

What is the significance of science literacy in PISA 2025?

Science literacy is the 'major domain' of the PISA 2025 study. This means that it is the study's main focus, while the other two areas – **reading** and **mathematics**, which are also assessed in all PISA studies – are given less scope in the analysis.

Which areas does science literacy cover in PISA 2025?

The science assessment in the PISA 2025 study covers a range of areas.

In the area of **science competencies**, for instance, PISA assesses how well young people can explain phenomena scientifically. It also involves finding and evaluating scientific information in response to questions relating to a given subject. This requires familiarity with various sources, the ability to distinguish between scientifically proven facts and opinions, and the capacity to evaluate information in terms of its scientific validity. Therefore, the tasks not only test acquired knowledge, but also how it is applied to one's own actions.

Environmental science competencies, which were assessed alongside science competencies, involve young people's ability to explain the impact of human activity on the Earth. This includes an understanding of the social, cultural and economic factors that influence our actions. Based on this knowledge, young people can make informed decisions, understand different perspectives and develop solutions to problems and crises.

Another factor is applied **scientific knowledge.** This includes specialist knowledge in subjects such as physics, chemistry, biology and Earth and space sciences, provided that it is age-appropriate and relevant to the situations which young people face in real life. It also involves an understanding of how reliable scientific data may be obtained. Understanding the aims and values of science is also important.

Lastly, the concept of science literacy also encompasses **science identity**. This includes, for example, access to scientific content through social contacts, for example. Attitudes such as enjoyment of scientific activities or the expectation of positive outcomes are also part of this.

What changes to the assessment of science literacy were made in PISA 2025?

The focus of the survey has shifted with regard to science. Unlike previous studies, the ability to plan experiments is no longer considered to be of prime importance. Instead, greater importance is placed on **researching** and **evaluating** scientific information in order to draw appropriate conclusions regarding one's own actions.

The assessment of emotions and attitudes has also changed. While earlier studies focused primarily on attitudes towards science, PISA 2025 now employs the concept of **science identity**. The introduction of **environmental science competencies** – which are analysed separately within the field of science competencies – has established a new focus, encompassing the fields of environmental and sustainability education.

What are environmental science competencies?

In PISA 2025, **environmental science competencies** refer to young people's science education outcomes in relation to environmental issues. In order to develop the capacity to take action in this context, young people must be able to understand and explain how human activity has already changed the Earth and will continue to do so. They recognize that humans are part of ecosystems and can adjust their own behaviour accordingly. They respect different perspectives on ecological crises and develop hope regarding their own potential to find solutions.

Young people with a high level of environmental competencies are, for example, convinced that they can help slow down climate change and preserve biodiversity. While they accept that socio-cultural perspectives exist, they remain confident that their own actions can help to tackle ecological and societal crises.

What is *science identity*?

Although scientific knowledge and skills are important, it is crucial that they become part of one's personality and actions. Only then can young people become capable, active citizens who can cope in a rapidly changing world. As a component of science literacy, **science identity** includes attitudes towards the sciences, for example. Do young people enjoy the natural sciences? Do they believe that science competencies offer them personal advantages? Do they think they can make a worthwhile personal contribution to preserving our environment? Alongside such attitude-related questions, science identity also involves access to suitable resources, for example through social contacts or personal interest. Environmental awareness and a willingness to take action on environmental issues are also part of science identity.

Minor Domains: Reading and Mathematics

How does the study assess *reading literacy?*

In PISA, **reading literacy** is defined as a person's ability to understand and engage with texts in order to achieve specific goals and participate in social life. The PISA test uses various types of text to assess the reading literacy of 15-year-old students. The tasks vary in difficulty. Reading tasks may include texts such as newspaper articles, letters, graphs and tables.

Sometimes the information needed to complete a task comes from a single source, and sometimes it comes from several sources. Reading tasks also include those in which students have to evaluate the quality and credibility of the information in a text. Digital reading is assessed through tasks involving navigating websites.

How does the study assess *mathematical literacy?*

PISA tasks assess young people's **mathematical literacy** by testing their ability to think mathematically, formulate, apply and interpret mathematical concepts. More specifically, they cover quantities, space and shape, as well as relationships between different types of data and potential measurement uncertainties. Therefore, these are not purely arithmetic problems, but rather tasks which are embedded in a real-life context. This context may relate to the students' personal lives or concern professional or scientific issues.

Innovative Domain: Learning in the Digital World/Computational Problem Solving

What is *Computational Problem Solving* as a sub-area of *Learning in the Digital World (LDW)*?

The rapid pace of digitalization requires students to be able to competently use computer models and simulated realities. These skills are relevant not only to young people's current lives, but also to lifelong learning and success in future labour markets. The innovative domain **Learning in the Digital World (LDW),** with the sub-competence **Computational Problem Solving** focuses on the competencies which are essential for learning with technology.

Self-regulated learning, or the ability to manage one's own thought processes, behaviour, motivations, and attitudes in relation to the learning process, is a prerequisite for digital learning. In the PISA study, for instance, students must independently decide how much time to dedicate to a sub-task within a digital learning environment. Learners therefore actively shape the learning process themselves.

Another key competence is the **ability to use digital tools** to explore systems, develop ideas and solve problems using computer-based logic. This involves more than just finding and reproducing information. In the PISA study tasks, students can decide for themselves which of the provided tools they wish to use to achieve their goal. These options include computer-based models, algorithmic approaches, tutorials, example problems and feedback on their own learning progress.

What sorts of problems do students solve regarding *Computational Problem Solving* as a part of *Learning in the Digital World (LDW)?*

Students solve the tasks on **Learning in the Digital World (LDW)**, specifically the sub-area of **Computational Problem Solving**, in an interactive, digital environment in which they must carry out various activities. As students have varying levels of prior knowledge, each task consists of several phases.

During the ***Introduction*** **phase**, students learn what the objectives of the task are. It explains the subject area and the nature of the problem to be solved. In this phase, the virtual tutors who guide the students through the tasks introduce themselves.

In the ***Show*** **phase**, pupils are presented with tasks designed to assess their prior knowledge. It is only once their prior knowledge is known that it is possible to assess the extent to which the pupils' learning has progressed.

During the ***Learn*** **phase**, students complete practice exercises which closely resemble the actual test questions. By doing so, they become familiar with the thematic context of the tasks, such as the various factors that influence an ecosystem. At the same time, they practise the specific skills that they will need in the subsequent application phase. One example of this is the ability to relate different factors to one another in order to understand their collective effect on an ecosystem.

The ***Apply*** **phase** constitutes the actual testing phase. Here, the students apply the skills they have practised to new scenarios. For example, different factors may be selected for a given ecosystem in the application phase than in the learning phase, in order to examine their combined influence. Further information is available to them within the system during this phase.

After the learning and application phases, students complete a brief ***Reflect*** **phase**, answering questions about how they assess their own performance, effort and feelings while completing the task. This allows self-regulated learning to be assessed.

Optional Domain: Foreign Language Assessment English

Why did Germany decide to take part in the *Foreign Language Assessment?*

In PISA 2025, Germany took part in the data collection for an optional domain for the first time. By doing so, the country acknowledges the individual and societal importance of foreign language learning. In a globalized society, overcoming language barriers is not enough; it is also necessary to acquire intercultural competence through learning a foreign language. Foreign language learning is therefore regarded as a key competence in the world of work and lifelong learning, with positive economic implications. Furthermore, foreign language learning also contributes to the development of cognitive abilities and problem-solving skills.

Participation in the optional domain of **Foreign Language Assessment** enables English language proficiency to be assessed in an international context. Within the EU, this provides insight into the extent to which the EU's defined objective of multilingualism is being achieved. International comparisons provide knowledge about effective foreign language teaching and learning in schools across different education systems. Participation in this optional domain therefore places foreign language teaching in schools at the centre of the social and educational policy debates.

How is language proficiency assessed?

The language section of the optional domain **Foreign Language Assessment** consists of tests in the following three skills: reading comprehension, listening comprehension, and spoken production. In Germany, a fourth skill, writing, is also assessed through additional national research. The tasks cover levels from below A1 to C1 of the Common European Framework of Reference for Languages (CEFR).

Alongside the language-related tests, the survey also includes questionnaires for students, parents, teachers and school principals. These enquire about attitudes towards foreign language learning, the students' mother tongues and factors relating to their learning environment. As not all schools in Germany teach the same sequence of languages and numerous options are available to students, the questionnaires also collect background information at the system level. This includes the year in which foreign language teaching began, how intensive the teaching was, and how many languages were learnt at school.

How are writing skills assessed?

The study of writing skills in English is being conducted as supplementary research for the PISA 2025 Foreign Language Assessment in English. Writing is therefore only assessed in Germany. The study examines how writing skills develop over a period of four data collection points within a single year.

The study analyses how the use of **generative artificial intelligence (AI)** influences the writing process and text quality, and how writing skills develop when AI tools are used. Students produce texts both with and without AI support. Background questionnaires are also used to investigate which characteristics influence the learners' writing competence.

When will the results of the Foreign Language Assessment be available?

Unlike the PISA results for other competencies, the results for this optional domain will not be available in September 2026. The Foreign Language Assessment data will only be processed and analysed during 2026, meaning that the results will not be published **until 2027**.

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