



Llywodraeth Cymru
Welsh Government

PISA 2025: national report for Wales

Research report September 2026

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Notes for readers

Readers who require a screen reader to read this report are advised to adjust settings to include reading aloud of punctuation marks as asterisks and subtraction signs are used throughout.

This report is based on the OECD International Database for PISA 2025 and is correct as of the 7th July 2026.

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Executive Summary

Introduction

The Programme for International Student Assessment (PISA) assesses the knowledge and skills in science, reading and mathematics of 15-year-old learners¹ in countries around the world. PISA is run by the Organisation for Economic Co-operation and Development (OECD), and the assessment is typically carried out every 3 years allowing countries to chart how performance changes over time and across different countries. PISA 2022 was undertaken 4 years after the previous assessment in 2018 because of the global COVID-19 pandemic. PISA 2025 restores the 3-year cycle and involved 91 countries, including the United Kingdom – a full list of participating countries is in Appendix B.

This report, Volume 1 of the National Report for Wales, analyses learners' performance in the 3 subject domains of science, reading and mathematics. Science was the core domain for 2025. Volume 2² will analyse their performance in computational problem solving, summarise responses to the PISA questionnaires, and explore further a selection of findings from Volume 1.

In Wales, 3,406 15-year-old learners from 113 schools completed a 2-hour onscreen assessment and a learner questionnaire that took approximately 30 minutes to complete. PISA assessments in Wales could be taken in Welsh, English or a combination of these³. They were carried out in September and October 2025, and learners who took part were due to complete their GCSE examinations in 2026. Wales has participated in all PISA cycles since the first one in 2000.

When reading this report, it is important to keep in mind that although Wales met the technical standards required for PISA, Wales' sample of participants may not be entirely representative of all 15-year-old learners in Wales. This is, to some degree, always the case with international studies such as PISA. For Wales, the Non-Response Bias Analysis (NRBA) showed that the sample in Wales represented schools and learners well. The issues with non-response, both for Wales and for other participating education systems, mean that cautious interpretation is particularly necessary when considering trends in performance over time and when making international comparisons. More confident conclusions can be drawn when making comparisons between groups of learners within Wales, where we are not trying to generalise beyond our sample (such analysis takes place in Chapter 5, where a fuller explanation is provided).

¹ Refer to Chapter 1 in this Volume for a more detailed description of the PISA age range.

² Due for publication in December 2026.

³ 2969 learners completed all assessments in English; 427 learners completed all assessments in Welsh; 10 learners completed the assessments in a combination of English and Welsh.

The term 'significant' is used throughout this report to refer to statistically significant differences between scores or values. In this report, we use a '95% confidence level' to define statistical significance, which means that there is less than a 1 in 20 chance that the finding is due to sampling or measurement error. Similarly, the term average, as in 'average score', is used to refer to the statistical mean for the relevant group, unless stated otherwise. The 35 OECD trend countries are those OECD countries in PISA 2025 that have participated in every cycle since PISA 2015, excluding Costa Rica and Spain⁴.

Performance in science

Learners in Wales achieved an average score of 476 in science in PISA 2025, which was significantly below the OECD average of 482. In Wales, learners' average science score in 2025 was not significantly different from the score of 473 in PISA 2022 or the score of 485 in PISA 2015, but was significantly below the score of 488 in PISA 2018.

The OECD trend average in 2025 was 484 which was not significantly different from the scores of 487 in 2022 or 489 in 2018, but was significantly below the score of 491 in PISA 2015.

The average science score of learners in 54 countries was significantly below the average achieved by learners in Wales, and in a further 11 countries the average science score was not significantly different from that in Wales. In each of the remaining 25 countries, the average science score for learners was significantly above the average score for learners in Wales.

Most of the higher-performing countries were from East Asia: the Beijing, Shanghai, Jiangsu, and Zhejiang regions in China (B-S-J-Z (China)) (597), Singapore (560), Macao (541), Taiwan (540), Japan (538), South Korea (526), and Hong Kong (496). The European countries whose learners had an average science score significantly above the score for learners in Wales in 2025 were Estonia (527), Finland (504), Switzerland (501), the Republic of Ireland (500), Austria (497), Poland (495), Czech Republic (490), Belgium (490), Lithuania (488), Germany (486), the Netherlands (485), Sweden (485), and Slovenia (484).

PISA also describes performance in terms of proficiency, with higher proficiency levels representing better knowledge and skills in the subject domain. Learners performing below proficiency Level 2 in PISA are considered not have not met the baseline level of proficiency needed to participate fully in society. In Wales, 6% of learners performed at the highest proficiency levels (Levels 5 or 6), which was significantly smaller than the OECD

⁴ For Spain and Costa Rica the data required for particular trend comparisons are not available across all cycles. For more details about interpretation of PISA data, see Chapter 1 of this Volume.

average of 7%. Wales had 27% of learners working at the lower proficiency levels (below Level 2), which was not significantly different from the OECD average of 26%.

Performance in reading

Learners in Wales achieved an average score of 459 in reading in PISA 2025, which was not significantly different from the OECD average score of 461. Learners' average reading score in 2025 was not significantly different from the score of 466 in 2022, but was significantly below the score of 483 in 2018 and the score of 477 in 2015. The OECD trend average in 2025 was 463 which was significantly below the scores in 2022 (477), 2018 (488) and 2015 (490).

In contrast to Wales, most higher-performing countries experienced statistically significant declines in their learners' average reading scores between PISA 2022 and 2025. For example, in Hong Kong (–20), Czech Republic (–20), Sweden (–21), Hungary (–21), Croatia (–22), Spain (–23), Norway (–24), Slovenia (–24), and Denmark (–29) all saw declines of 20 or more score points. The average across OECD trend countries also declined significantly over this period, from 477 in PISA 2022 to 463 in PISA 2025.

The average reading score of learners in 58 countries was significantly below the average achieved by learners in Wales, and in a further 11 countries the average reading score was not significantly different from that in Wales. In each of the remaining 20 countries, the average reading score for learners was significantly above the average score for learners in Wales.

In Wales, 4% of learners performed at the highest reading proficiency levels (Levels 5 or 6), which was significantly smaller than the OECD average of 6%. Wales had 31% of learners working at the lower proficiency levels (below Level 2), which was not significantly different from the OECD average of 31%.

Performance in mathematics

Learners in Wales achieved an average score of 456 in mathematics in PISA 2025, which was significantly below the OECD average of 463. Learners' average mathematics score in 2025 was significantly below the average scores in PISA 2022 (466), 2018 (487), and 2015 (478).

The OECD trend average in 2025 was 465, significantly below the OECD trend averages in PISA 2022 (475), 2018 (490) and 2015 (487). The average mathematics score of learners in 51 countries was significantly below the average achieved by learners in Wales, and in a further 14 countries the average mathematics score was not significantly different from that for learners in Wales. In each of the remaining 24 countries, the average mathematics score for learners was significantly above the average score for learners in Wales.

In Wales, 6% of learners performed at the highest mathematics proficiency levels (Levels 5 or 6), which was significantly smaller than the OECD average of 8%. Wales had 36% of learners working at the lower proficiency levels (below Level 2), which was not significantly different from the OECD average of 35%.

Variations in PISA scores by learner characteristics

Learners' PISA scores in science, reading, and mathematics were analysed by gender, socioeconomic status and immigration status.

In 2025, girls and boys in Wales achieved average scores of 476 and 475, respectively, in science. Both scores were not significantly different from the scores achieved in 2022. A similar pattern was observed in the OECD trend average with no significant changes in girls' or boys' scores between 2022 and 2025.

Over the longer term, girls' science scores in Wales were stable between 2015 and 2025 while boys' science scores in 2025 were significantly below the scores achieved in 2015. This was also the case for the OECD trend averages for girls and boys.

In Wales in PISA 2025, there was no significant gender gap in science, continuing the pattern observed in the previous 3 PISA cycles. Across the same period, the OECD trend average showed significant gender gaps in 2025 and 2018 (favouring girls) and in 2015 (favouring boys).

In Wales, the same percentage of girls and boys (6%) achieved the highest science proficiency levels (Levels 5 or 6) in 2025 while there was also no significant difference in the percentages of girls (26%) and boys (27%) performing below the baseline science proficiency level (Level 2).

For reading, girls and boys in Wales achieved average scores of 472 and 446 respectively in 2025. For girls and boys, this was not significantly different from the scores achieved in 2022. However, the OECD trend averages for girls' and boys' scores in 2025 were significantly below the scores in 2022.

Girls in Wales significantly outperformed boys in terms of average reading scores in 2025. Between 2015 and 2025, girls' reading scores in Wales were stable while boys recorded a significant decrease, contributing to the gender gap significantly widening from 11 points in 2015 to 26 points in 2025⁵. However, the OECD trend averages for both girls and boys decreased significantly over the same period.

In Wales, a significantly larger percentage of girls achieved the highest reading proficiency levels compared with boys (5% and 3% at Levels 5 or 6) in 2025 while a significantly

⁵ Gender score point gaps were calculated by subtracting the average score for boys from the average score for girls (girls' score – boys' score).

smaller percentage performed below the baseline science proficiency level (25% compared with 35% below Level 2).

For mathematics, girls and boys in Wales achieved average scores of 450 and 462, respectively in 2025. For girls, this was significantly below the score achieved in 2022 while, for boys, the score was not significantly different. The 2025 OECD trend average scores for both girls and boys were significantly below those observed in 2022.

In 2025, boys significantly outperformed girls in terms of average mathematics scores, mirroring performance in PISA 2022 and 2015. The OECD trend averages show boys significantly outperforming girls in each of the latest 4 PISA cycles. There was a significant gender gap in average mathematics scores in favour of boys in Wales in 2025. However, this gap was not significantly different from the gaps recorded in previous PISA cycles.

There were no significant differences recorded in the percentages of girls and boys who achieved the highest mathematics proficiency levels (5% compared with 7% at Levels 5 or 6) or the percentages of girls and boys who performed below the baseline mathematics proficiency level (38% compared with 34% below Level 2).

In terms of socioeconomic status, across all 3 domains the least disadvantaged group had higher scores than the most disadvantaged group. In science, there was a 65 score point difference between the most disadvantaged group of learners and the least disadvantaged group of learners in Wales in 2025. In reading, this difference was 50 score points and in mathematics it was 70 score points. In each subject the range of scores in Wales between the most and least disadvantaged learners was significantly narrower than the range for the OECD average.

Learners in Wales who were eligible for free school meals achieved average scores in science, reading and mathematics significantly below scores for learners who were not eligible. The difference in performance associated with a one-unit increase in the ESCS index in 2025 was significantly smaller in Wales across all three subjects than on average across OECD countries. This indicates that socioeconomic status has less impact on learner attainment in Wales than on average across the OECD countries as a whole.

The average science, reading and mathematics scores for learners in Wales with a second-generation immigration background were significantly above the average scores for both first-generation immigrant learners and non-immigrant learners.

PISA in the UK

In PISA 2025, learners' average science score in Wales was significantly below the corresponding scores in England, Northern Ireland and Scotland. In Wales, and each of the other UK countries, there was a stable trend in learners' average science performance over time with no significant score difference between the average score for PISA 2015 compared with the average score in 2025.

In Wales there was a significant downward trend in learners' average reading scores between PISA 2015 and 2025, as in Northern Ireland. Learners' reading scores were stable in England and Scotland over the same period.

Over the same 2015-2025 time period, there was also a significant downward trend in learners' average scores for mathematics in Wales. The same trend is evident in Northern Ireland and Scotland, but average scores for learners in England remained stable over this same period.

In science there was a significant gender gap in favour of boys in England but no significant difference between girls' and boys' science scores in Wales, Northern Ireland and Scotland. Gender differences in PISA 2025 were consistent across the 4 countries for reading with girls achieving a significantly higher average score than boys. Significant gender gaps in favour of boys in learners' average mathematics scores emerged in each country except Northern Ireland.

As in previous cycles, learners from less disadvantaged socioeconomic backgrounds performed better than their peers from more disadvantaged backgrounds across all domains and all countries.

1 Introduction to PISA

1.1 What is PISA?

The Programme for International Student Assessment (PISA) is a study of 15-year-old learners around the world organised by the Organisation for Economic Co-operation and Development (OECD). PISA assesses the knowledge and skills that are considered necessary for participation in social and economic life, specifically in science, reading and mathematics. PISA also offers participation in optional innovative domain assessments. In 2025 this domain was Learning in a Digital World in which Wales participated. PISA is typically carried out every 3 years; however, PISA 2022 was undertaken 4 years after the previous assessment in 2018 because of the global COVID-19 pandemic. PISA 2025 restores the 3-year cycle.

Pearson delivered the PISA 2025 study on behalf of the Welsh Government Department for Education. The UCL Institute of Education (IOE) and the Oxford University Centre for Educational Assessment (OUCEA) led on the analysis and reporting for Wales.

The data for Wales was collected as part of a wider collaborative effort with the other nations of the United Kingdom, and although this report focuses on Wales, the OECD reports on the UK as a whole. To enable countries to identify and monitor trends in learner performance over time, each PISA subject score is presented on a scale that is comparable over PISA cycles. Each participating country receives detailed results, enabling them to understand how different groups of learners performed, such as those from different socioeconomic backgrounds. PISA data also enables governments to benchmark education policy and performance, make evidence-based decisions and learn from policies and practices in other countries.

In this chapter, we present an overview of the PISA study comprising:

- information about other countries that participated in PISA
- a description of Wales' past participation
- a guide to interpreting the PISA results, including details of the study design, data collection, and analysis
- an overview of the structure of this report

1.2 Who participated in PISA?

The number of OECD countries, associate or partner countries and economies (education systems)⁶ participating in PISA, has increased from 43 in the initial cycle in 2000 to 91⁷ in

⁶For the purpose of this report, the term country is used for each participant unless specific reference is made to an education system.

⁷ 91 countries participated in the science assessments and 90 in the reading and mathematics assessments. The country affected was not included in the OECD trend average calculations (see Section 1.4.8)

the current PISA 2025 cycle (OECD, 2025)⁸, and more than 760,000 learners⁹ participated worldwide. Of the 91, 38 were OECD members, including the UK¹⁰. All participants are shown in 0.

1.2.1 Wales' participation in PISA

In Wales, 3,406 15-year-old learners¹¹ from 113 schools completed a 2-hour onscreen assessment and a learner questionnaire that took approximately 30 minutes to complete. PISA assessments in Wales could be taken in:

- **Welsh** (427 learners completed all assessments in Welsh)
- **English** (2,969 learners completed all assessments in English)
- **a combination of these** (10 learners completed the assessments in a combination of English and Welsh).

Headteachers at participating schools were also asked to complete a questionnaire, asking about the context of their school, staff and learners. The assessments and questionnaires were completed in September and October 2025, with learners who took part due to complete their GCSE examinations in 2026. Wales has participated in all cycles since the first PISA study in 2000.

1.3 What does PISA measure?

Science, reading and mathematics are always assessed but each PISA cycle focuses on one of these 3 areas in particular – this is referred to as the 'major domain'. For PISA 2025, the major domain was science, as it was in 2015 and 2006, with reading and mathematics both minor subject domains. PISA 2025 also included an assessment of Learning in the Digital World. This domain measures learners' 'capacity to engage in an iterative process of knowledge building and problem solving using computational tools'¹².

1.3.1 The PISA 2025 assessment frameworks

Learners' performance was assessed using measures outlined in the science, reading and mathematics frameworks. The frameworks outline the competencies (skills) developed through the study of each of these subjects and the knowledge learners must gain to demonstrate these competencies. These competencies specify what learners should

⁸ See [OECD \(2025\) Countries and economies that have participated in PISA to date](#)

⁹ Learners is the preferred term instead of pupils or students in Wales.

¹⁰ 91 countries participated in PISA 2025 for science, 90 countries participated for reading and mathematics.

¹¹ The [OECD \(2025\) PISA 2025 Technical Standards](#) state that PISA Target Population comprises students aged between 15 years and 3 (completed) months and 16 years and 2 (completed) months at the beginning of the testing period.

¹² See [OECD \(2025\) Learning in a Digital World](#)

know, value, and be able to do when applying scientific, reading and mathematical knowledge in real-world contexts.

Science used an updated framework in 2025 while the reading and mathematics frameworks remained unchanged from the PISA 2022 cycle. The science assessment framework has been broadened compared with 2015, when science was last the major domain. The focus on the concept of ‘science literacy’ in 2015 has been replaced with a focus on the general outcomes of science education, bringing it in line with the reading and mathematics frameworks. The PISA 2025 science framework is available on the [OECD website](#), and includes examples of science assessments.

The science framework describes the:

- 3 main science competencies and a subset of 3 environmental science competencies that are developed through science education
- 3 types of knowledge required to develop these competencies
- 3 main contexts in which students will use the competencies
- aspects of science identity that are considered important, such as awareness of, and concern for, the environment

Science competencies

The 3 science competencies¹³ are:

- **explain phenomena scientifically:** retained from PISA 2015, this requires learners to recognise, produce, apply, and evaluate explanations and solutions for a range of natural and technological phenomena and problems
- **construct and evaluate designs for scientific enquiry and interpret scientific data and evidence critically:** a merger of 2 previous competencies in PISA 2015 (‘Evaluate and design scientific enquiry’ and ‘Interpret data and evidence scientifically’) requiring learners to construct, appraise, and evaluate scientific investigations
- **research, evaluate and use scientific information for decision making and action:** a new competency for 2025, this requires learners to critically assess the credibility of scientific information, both genuine and claimed

The new framework also emphasises learners’ environmental awareness and agency by introducing 3 environmental science competencies¹⁴:

- explain the impact of human interactions with Earth’s systems
- use evidence from a wide range of sources, along with creative thinking and systems thinking, to make informed decisions that support the regeneration and long-term sustainability of the environment

¹³ See [OECD \(2025\) PISA Framework for Science](#)

¹⁴ See [OECD \(2025\) PISA Framework for Science](#)

- demonstrate respect for diverse perspectives in seeking solutions to socio-ecological crises

These competencies recognise the influence and substantial impact that humans have had on the Earth.

Science knowledge

In both PISA 2015 and 2025, learners needed to demonstrate 3 types of knowledge to develop these science competencies¹⁵, namely:

- **content:** knowledge and understanding of scientific ideas and theories, assessed through:
 - 3 major areas: physical systems, living systems and Earth and space systems
 - the 4 major fields: physics, chemistry, biology, and Earth and space sciences¹⁶
- **procedural:** knowledge of the standard procedures and practices that scientists use to obtain reliable and valid data
- **epistemic:** knowledge of constructs and features that are essential to producing and justifying scientific knowledge such as the importance of repeating measurements

Science contexts

Competencies and knowledge were assessed using a series of contexts seen as generally consistent with how scientific literacy was applied in the previous PISA frameworks¹⁷.

Assessment items were focussed on the following situations:

- the self, family, and peer groups (personal)
- the community (local and national)
- life across the world (global)

The application of science and technology in the 3 contexts above was primarily assessed using the topics below:

- health and disease
- natural resources
- environmental quality (including environmental impacts and climate change)
- hazards

¹⁵ See [OECD \(2025\) PISA Framework for Science](#) for full definitions.

¹⁶ The framework uses the term “systems” instead of “sciences” in the content knowledge descriptors, as learners must understand concepts from the physical and life sciences, Earth and space sciences, and their application. See [OECD \(2025\) PISA Framework for Science](#)

¹⁷ See [OECD \(2025\) PISA Framework for Science](#)

- frontiers of science and technology (including contemporary advances and challenges)

The extent to which the competencies, knowledge and contexts represented in the PISA science framework reflect the Curriculum for Wales is set out in Chapter 2 Section 2.3. However, it should be noted that learners in Wales who took part in PISA 2025 were not exclusively taught using the Curriculum for Wales.

Other PISA assessments

Alongside assessments in science, learners undertook assessments in:

- **reading:** the ‘capacity to understand, use and reflect on written texts to achieve personal goals, develop knowledge and potential, and participate in society’¹⁸
- **mathematics:** the ‘capacity to reason mathematically and to formulate, employ, and interpret mathematics to solve problems in a variety of real-world contexts. It includes concepts, procedures, facts, and tools to describe, explain, and predict phenomena. It helps individuals know the role that mathematics plays in the world and make the well-founded judgments and decisions needed by constructive, engaged and reflective 21st Century citizens’¹⁹
- **learning in the digital world:** the ‘capacity to engage in an iterative process of knowledge building and problem solving using computational tools...demonstrated by effective self-regulated learning while applying computational and scientific inquiry practices’²⁰

1.3.2 The PISA questionnaires

Alongside the PISA assessments in science, reading, mathematics and Learning in a Digital World, participating schools and learners were asked to complete questionnaires. The learner questionnaire requested information about participating learners’ background (including their parents’ occupation as part of the socioeconomic status measure); their attitudes (such as to learning); feelings towards school; educational experiences, and future aspirations.

Learners were asked to report on their experiences and attitudes to science in greater detail as science was the major domain for PISA 2025. There was an increase in emphasis on affective factors (such as attitudes and motivations) in 2025, with the introduction of ‘science identity’. This centred on the importance of learners’ ‘agency and active citizenship in a rapidly changing world’ alongside their development of competencies and knowledge²¹. These were assessed using a questionnaire.

¹⁸ See [OECD 2025 Reading Performance \(PISA\)](#)

¹⁹ See [OECD PISA 2022 Assessment and Analytical Framework](#)

²⁰ See [OECD PISA 2025 Learning in the Digital World](#)

²¹ See [OECD \(2025\) PISA Framework for Science](#)

The school questionnaire requested information from headteachers about the school climate, resources and any perceived barriers to learning.

1.3.3 The PISA assessment

The OECD iteratively reviewed proposed test items (questions) using different local and international experts. The field trial process, which took place in March 2024 in the UK, ensured that the assessment items met PISA's Technical Standards²² and were suitable for inclusion in the main data collection. This was repeated across all participating countries to ensure that the items met these standards and were comparable across education systems.

PISA takes a complex approach to the design and administration of assessment. This differs from more conventional assessments, such as GCSE examinations, where every learner takes the same test with the same items, and the cohort's average performance is an aggregation of these individual learner performances. The PISA assessment is computer-based²³ and employs multi-stage adaptive testing (for science, reading and mathematics). An adaptive test is one which automatically selects items to suit the learner's performance. This meant that learners were presented with 'blocks' of items that were selected based on their performance on preceding question blocks. Consequently, not every learner answered the same questions²⁴.

1.3.4 PISA study design and sampling

It is impractical for the PISA assessment to be administered to every single learner in each participating country. Participating countries therefore assess a sample of eligible learners. The OECD employs a two-stage sampling method to ensure that the learners chosen to take part in the study are representative of the national learner population. The first stage is to sample schools, the second to sample learners within the selected schools. Countries that participated in PISA were required to adhere to strict international sampling procedures which facilitates sample comparability. Figure 1.1 illustrates this process for Wales.

²² See [OECD \(2025\) PISA 2025 Technical Standards](#)

²³ Some countries used paper based tests: Cambodia, Kurdistan Region (Iraq), Mauritius, Rwanda, Tajikistan, and Zambia.

²⁴ See [OECD \(2023\) PISA 2025 Integrated Design](#)

Figure 1.1 PISA 2025 sampling procedure for Wales

Step	Process
Step 1	The sampling process for PISA 2025 required Wales to select a representative sample of 125 secondary schools
Step 2	Special schools, Alternative Provision, Pupil Referral Units and foreign language schools were excluded
Step 3	Where possible, the OECD selected 2 replacement schools with similar characteristics to each sampled school. They were asked to take part if sampled schools opted out
Step 4	Within each selected school, a sample of 40 learners, with an average age of 15, was chosen to take part
Step 5	In Wales, 3406 learners from 113 schools took part in PISA 2025

In line with this procedure, a sample of secondary schools was selected to take part in PISA 2025. Schools were selected to represent the different geographical regions within Wales, the different types of school that learners may attend (for example, maintained or independent), and a range of academic attainment at the school level (based on the GCSE performance of previous learner cohorts).

A random sample of 40 eligible learners²⁵ was selected to take the assessment within each participating school. All these learners were in year 11. With any sample, some sub-populations may be under- or over-represented once the final data is obtained. It is important to note that the PISA design counteracts this, as far as is possible, through statistical methods (sample weighting)²⁶. The response rates for Wales in relation to these Technical Standards are discussed in section 1.4.7.

1.4 Interpreting data from PISA: a reader's guide

This section provides information and context for interpreting Wales' results in PISA 2025.

1.4.1 Sampling and measurement errors

The PISA 2025 data for Wales was based upon a sample of learners rather than a census of all learners. This means that there is a degree of uncertainty in the findings because, however carefully selected the sample, there is always at least some chance that it does not fully represent the full population of learners. This uncertainty is described as

²⁵ 40 learners were selected from each school unless there were fewer than 40 eligible learners in a school

²⁶ See [OECD \(2025\) PISA 2025 Technical Standards](#)

‘sampling error’. This does not mean a mistake has been made however, it is present in all research which relies on the analysis of data taken from a sample. Another source of uncertainty is ‘measurement error’, which relates to the extent to which an individual learner’s performance on the PISA test reflects their true ability. Measurement error occurs because a learner’s score may be influenced by factors that are unrelated to their ability, such as their interpretation of the items that they respond to or their level of motivation on the day of the test.

1.4.2 Statistical significance

To contextualise and account for this uncertainty, statistical analysis of the differences between countries and groups of learners is undertaken in this report to determine whether they are ‘statistically significant’. Statistically significant differences are unlikely to be the result of either sampling or measurement error and are likely to reflect a true difference between the countries or groups being compared. A ‘95% confidence level’ is used to define statistical significance in this report, which means that there is less than a 1 in 20 chance that the finding is due to sampling or measurement error. The term ‘significant’ is used throughout this report to refer to statistically significant differences between scores or values. Similarly, the term average, as in ‘average score’, is used to refer to the statistical mean for the relevant group, unless stated otherwise.

Due to rounding, the significance of data presented may be affected. For example, when comparing the difference between 2 percentages, in one case a reported percentage may be significantly different from another percentage, but in another case it may not be significantly different even though the percentage is the same.

1.4.3 Rank order

Caution should be taken when considering the ‘rank order’ of countries which participated in PISA as it is not based on statistically significant differences. It can be affected by variation in the number of countries participating in each cycle, for example, fewer countries participating in the latest cycle may cause a country’s rank order to be higher compared with a previous cycle. In addition, the two forms of uncertainty discussed above mean that, were the test to be retaken, there would likely be differences in the average scores of each country that would cause the rank order of performances to change. This report therefore focuses on statistically significant differences between countries and groups, providing greater confidence that findings are robust.

1.4.4 Comparing learner groups

Test items may not be equally difficult for learners from different socio-cultural or language backgrounds, or across countries and translations. Previous research²⁷ suggests that

²⁷ Kreiner S and Christensen KB. (2014) ‘Analyses of Model Fit and Robustness. A New Look at the PISA Scaling Model Underlying Ranking of Countries According to Reading Literacy.’ *Psychometrika*., 79(2),

some test items may not have necessarily performed in a comparable manner across different countries and languages, thus potentially undermining the comparability of results²⁸. Although learners taking part in PISA were the same age range, their educational experiences may have differed depending on what point in the academic year they took the tests. Across the UK (not including Scotland), there were different testing windows:

- Wales and Northern Ireland (September to October 2025)
- England (February to May 2025: approximately two-thirds of learners who were in year 11 and one-third who were in year 10)

1.4.5 Statistical terms

The following measures are referred to in the report:

Interdecile ranges

The spread of performance in each country can be examined by looking at the distribution of scores with percentiles dividing data into 100 equal parts and deciles into 10 equal parts, as illustrated in Figure 1.2. The score at the 90th percentile is the score above which the highest-performing 10% of learners attain (learners in the highest-performing decile), while the 10th percentile is the score below which the lowest-performing 10% of learners attain (learners in the lowest-performing decile). The difference between the highest- and lowest-performing learners at the 90th and 10th percentiles is described as the interdecile range (the difference between learners in the highest-performing and lowest-performing deciles). This is a better measure of the spread of scores when comparing countries than using the very highest- and very lowest-performing learners, as the latter comparison may be affected by a small number of learners with unusually high or low scores.

Interquartile ranges

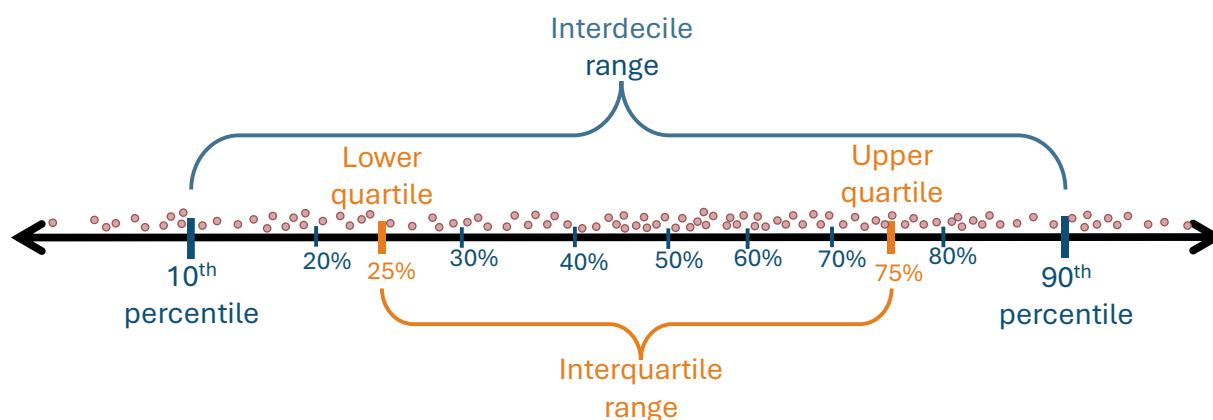
In Chapter 6, the spread of learners' performance is also measured using the OECD's economic, social and cultural status (ESCS) index. Learners completed a questionnaire that asked them about their parents' education, occupation and home possessions. Using their responses, learners were allocated to one of 4 ESCS Quartiles (with 25% of learners in each). The most disadvantaged 25% of learners were placed in Quartile 1 and the least disadvantaged 25% of learners in Quartile 4. In this report, comparisons are made between the relative performance of learners in Quartiles 1 and 4 using their average scores. The interquartile range is used to determine the spread of performance between the least (Quartile 4) and most (Quartile 1) disadvantaged learners by subtracting the

pp.210-231. and Rutkowski, L. and Rutkowski, D. (2016) 'A Call for a More Measured Approach to Reporting and Interpreting PISA Results.' *Educational Researcher*, 45(4), pp.252-257.

²⁸ For more information on how PISA measures learners' success at school please see [What is PISA data and how does it measure students' success at school? – The Education Hub](#)

Quartile 1 average score from the Quartile 4 average score (Quartile 4 average score – Quartile 1 average score).

Figure 1.2 Calculating interdecile and interquartile ranges



Gender gap

In Chapter 5 the score difference between girls and boys is described as the gender gap. This was calculated as the average score for girls minus the average score for boys. Although learners were asked what their sex was in the learner questionnaire, gender is referred to in this report to maintain consistency with the PISA 2025 national reports for England and Northern Ireland and the OECD PISA Assessment and Analytical Framework.

Higher-performing countries

Where the report refers to higher-performing countries this refers to all participating countries with average scores over 440 in PISA 2025. The countries in this category will differ by subject.

Periods studied and trends over time

The report analyses findings from PISA 2025 and the changes over time since PISA 2015, the last PISA cycle in which science was the focus. Trends are reported as:

- A stable trend is reported where there was no significant difference in scores over time
- A downward trend refers to a significant decrease in PISA scores over a specified period
- An upward trend refers to a significant increase in PISA scores over a specified period

1.4.6 PISA and the COVID-19 pandemic

The pandemic caused widespread disruption to schools, teaching and learning, which included significant periods of time when school buildings were closed. Remote instruction or distance learning resources were made available in line with government guidance at the time. Schools were also offered a range of programmes and types of support to learners whose learning and wellbeing were affected. However, the impact of this disruption varied between regions, schools and individual learners within those schools, as well as between different countries and education systems. Given this complexity, it is not possible to ascertain precisely how the COVID-19 pandemic affected performance in the PISA 2025 or 2022 assessments for those who were able to participate, or how it may have affected their responses to the questionnaires.

Data collection for PISA 2022 was undertaken in November and December 2022 and the lasting impacts of COVID-19 affected recruitment, retention and engagement. This is important in the context of PISA 2025 as:

- trend comparisons are made in this report between the performance of learners tested for PISA 2022 and other PISA cycles
- learners tested in PISA 2025 may have also been affected by the disruption to learning caused by COVID-19 pandemic when they were 10 years old and approaching the end of their primary schooling at a critical stage of learning

Charts and tables in this report are annotated to indicate where PISA sampling standards were not met.

1.4.7 PISA 2025 response rates for Wales

Exclusion rate

The overall exclusion rate for schools in the UK²⁹ was 7.6% which was above the 5% OECD target. Though this marks an upward trend (UK³⁰ exclusion rates were 4.9% in 2022, 5.4% in 2018), the OECD has confirmed that the PISA 2025 results can be fully included in reports and used for international and trend comparisons.

Participation rate

PISA requires a country's final weighted school response rate to be at least 85% of sampled eligible and non-excluded schools. For Wales, the final weighted response rate was 87% (up from 78% following the use of replacement schools), meeting this threshold. Similarly, the final weighted learner response rate should be at least 80% of all sampled

²⁹ UK minus Scotland

³⁰ UK minus Scotland

learners across responding schools. For Wales, the final weighted learner response rate was 83%, meeting the target.

Response bias

A voluntary Non-Response Bias Analysis (NRBA) was undertaken to understand, among other things, differences between responding and non-responding schools and between originally sampled schools and replacement schools. The purpose of this analysis was to establish if the final sample of learners was representative of the population of learners in Wales and to thoroughly check the study data. The key findings of the NRBA, and what they mean for interpreting Wales' PISA 2025 results are described briefly below, and a full report of the analysis can be found in 0³¹.

For Wales, the non-response analysis showed that the sample in Wales represented schools and learners well. There was a slight potential bias in the percentage of schools participating from the lowest school attainment band which was eliminated through the non-response adjusted weighting applied in the analysis. The issues with non-response, both for Wales and for other participating education systems, mean that cautious interpretation is particularly necessary when considering trends in performance over time and when making international comparisons. More confident conclusions can be drawn when making comparisons between groups of learners within Wales, where we are not trying to generalise beyond our sample (such analysis takes place in Chapter 5, where a fuller explanation is provided). Overall, while cautious consideration of the results is encouraged, the analysis remains a valuable insight into the knowledge and skills of 15-year-old learners in Wales in mathematics, science and reading, and how they compare to other 15-year-old learners from around the world.

1.4.8 Selection of comparator countries and the OECD averages for comparison purposes

It is necessary to be selective when making international comparisons given the large number of countries that participated in PISA 2025. Four countries have been selected for comparison to Wales for this report: Belgium, Denmark, New Zealand and the Republic of Ireland on the basis that they provide valid, meaningful and valuable comparisons, serving to contextualise the performance of learners from Wales. Belgium and New Zealand each have either a bilingual or multilingual context, like Wales, while the Republic of Ireland and Denmark have integrative curriculums focused on development of the whole child which aligns with Wales' policy direction.

The report compares information about Wales' performance to the OECD average performance which has been selected for such comparisons, rather than the average for all countries which participated in PISA 2025. This is because the countries used to

³¹ See [OECD \(2025\) PISA 2025 Technical Standards](#), Wales met the sampling standards but chose to undertake a voluntary NRBA.

calculate the OECD average are more economically comparable to Wales and have participated in PISA more consistently over time.

The number of countries which are part of the OECD has increased over time affecting the calculation of averages. The OECD has calculated different averages to ensure comparisons are consistent and not unduly distorted by countries which are included or excluded in a given comparison. These include different sets of countries, allowing for accurate comparisons of change over time to be made.

This report compares Wales' performance to 2 OECD averages, depending on the most appropriate comparison. These are the:

- **OECD average** - the average of all 38 OECD countries (including the UK) which participated in the 2025 cycle
- **OECD trend average** - the average across the 35³² OECD member countries which took part in 2015, 2018, 2022 and 2025 (including the UK) and have results included in the international reports for each cycle

1.5 Organisation of this report

The rest of this Volume 1 report is divided into 7 main chapters with the NRBA included in Appendix A.

- chapters 2 to 4 focus on Wales' performance in PISA science, reading and mathematics
- chapters 5 and 6 focus on the themes of Equity and Inclusion, presenting performance by gender (chapter 5) and socioeconomic status and immigration status (chapter 6)
- chapter 7 focuses on similarities and differences in learner performance across the participating countries in the UK
- chapter 8 concludes Volume 1 and looks forward to Volume 2

Each chapter generally includes information on the distribution of learners' test scores by learner and school characteristics, and an overview of how Wales' performance has changed over time in relation to other participating countries.

Volume 2 comprises chapters on Computational Problem Solving, selected science sub domains and questionnaire responses. Volume 2 will also present a conclusion to both volumes.

³² Of the 38 OECD member countries participating in PISA in 2025, none participated for the first time. Of these 38, only Luxembourg did not participate in each of the PISA cycles as it was absent in 2022. It is therefore not included in the trend average. Spain and Costa Rica are also excluded from the trend average as they did not meet the participation standards across every cycle.

2 Performance in science

2.1 Chapter overview

This chapter reports the performance of learners in Wales in the science domain of PISA 2025. It draws on findings outlined in the international report (OECD, 2026) and places outcomes for Wales' learners in the context of those findings. This performance is considered alongside that of previous cycles: PISA 2022, 2018, and 2015. It outlines how the performance of learners in Wales in 2025 compares with that of learners in other participating countries, as well as how performance has changed over time. Science was assessed using the [science framework developed specifically for PISA 2025](#).

2.2 Key findings

- Learners in Wales achieved an average score of 476 in science in PISA 2025, which was significantly below the OECD average of 482.
- Learners in Wales' average science score of 476 in PISA 2025 was not significantly different from the score of 473 in PISA 2022 or the score of 485 in PISA 2015 but was significantly below the score of 488 in PISA 2018.
- On average across OECD trend countries³³ the average science score of 484 in PISA 2025 was not significantly different from the scores of 487 in 2022 or 489 in 2018 but was significantly below the score of 491 in PISA 2015.
- The average science score of learners in 54 countries was significantly below the average achieved by learners in Wales, and in a further 11 countries the average science score was not significantly different from that in Wales. In each of the remaining 25 countries, the average science score for learners was significantly above the average score for learners in Wales.
- The range between Wales' highest- and lowest-performing learners was 261 points, which was not significantly different from the range in PISA 2022 of 255 points. This was also not significantly different from the OECD average range in PISA 2025 of 258 points.
- In Wales, 6% of learners performed at the highest proficiency levels (Levels 5 or 6), which was significantly smaller than the OECD average of 7%. Wales had 27% of learners working at the lower proficiency levels (below Level 2), which was not significantly different from the OECD average of 26%.

³³ The 35 OECD trend countries are those OECD countries in PISA 2025 that have participated in every cycle since PISA 2015, excluding Costa Rica and Spain.

2.3 Introduction to science in PISA

In Chapter 1, section 1.3.1, an overview is given of the PISA 2025 science framework, including some of the changes to previous PISA science frameworks.

2.4 The performance of learners in Wales in science

Learners in Wales who participated in PISA 2025 achieved an average score of 476 in science. This was significantly below the OECD average of 482.

Learners in 54 out of the other 90 participating countries achieved an average science score significantly below that in Wales, and in a further 11 countries learners' average science scores were not significantly different from that in Wales. In each of the remaining 25 countries, the average science score for learners was significantly above that in Wales. Table 2.1 shows the average science score for learners in Wales relative to learners in other higher-performing countries³⁴ and on average across OECD countries.

Among the other 37 OECD countries that participated in 2025, learners in 7 countries had an average score significantly below that in Wales. Learners in 10 countries had an average score not significantly different from that in Wales, and in 20 countries learners had an average score that was significantly above that in Wales.

In relation to the comparator countries, there was no significant difference between the average science score for learners in Wales (476) and that for learners in Denmark (478). The average scores for learners in Belgium (490), New Zealand (509) and the Republic of Ireland (500) were significantly above the average score for learners in Wales.

³⁴ Higher-performing countries in the science domain are those countries whose learners had an average score over 440 points.

Table 2.1 Average science scores of learners in higher-performing countries in PISA 2025 relative to the average score of learners in Wales

Science performance relative to learners in Wales	Country and average science score
Countries whose learners had an average science score significantly above that in Wales in PISA 2025	The Beijing, Shanghai, Jiangsu, and Zhejiang regions in China (B-S-J-Z, China) (597), Singapore (560), Macao (541), Taiwan (540), Japan (538), Estonia (527), South Korea (526), Canada (510), New Zealand (509), Australia (509), Finland (504), United States (502), Switzerland (501), the Republic of Ireland (500), Austria (497), Hong Kong (496), Poland (495), Türkiye (494), Czech Republic (490), Belgium (490), Lithuania (488), Germany (486), the Netherlands (485), Sweden (485), Slovenia (484), and OECD average (482)
Countries whose learners had an average science score not significantly different from that in Wales in PISA 2025	France (483), Italy (483), Portugal (482), Hungary (480), Denmark (478), Spain (477), Croatia (476), Wales (476) , Slovak Republic (475), Luxembourg (474), Norway (470), and Latvia (468)
Countries whose learners had an average science score significantly below that in Wales in PISA 2025	United Arab Emirates (458), Vietnam (457), Malta (453), Ukrainian regions (17 of 27) (448), Uruguay (445), Chile (442), Israel (442), and Iceland (441), as well as the remaining 46 countries whose learners had average scores below 440 points.

Base: All participating countries with average scores over 440 in science in PISA 2025.

Two countries with the same score may have different outcomes from significance testing due to the different sample sizes and rounding.

Source: OECD PISA database for 2025

In 2025, of a total of 91 participating countries³⁵, including Wales, the average science score for learners in 21 countries was significantly above the OECD average, while in 9 countries the average score was not significantly different from the OECD average. The average science score for learners in the remaining 61 countries was significantly below the OECD average.

2.5 Science performance over time

Learners in Wales achieved an average score of 476 in science in PISA 2025, which was not significantly different from the score of 473 in PISA 2022, nor the average score of 485

³⁵ This includes 1 country with performance estimates for learners in science but not reading or mathematics.

in PISA 2015. The average score in PISA 2025 was significantly below the average score of 488 in PISA 2018.

The OECD trend average science score in 2025 was 484 points. This was not significantly different from the OECD trend averages of 487 in PISA 2022 and 489 in PISA 2018. In PISA 2015, the OECD trend average science score of 491 was significantly above the average score in PISA 2025. Table 2.22 shows the changes in the average science score of learners in higher-performing countries, including Wales, and the OECD trend average between PISA 2022 and PISA 2025.

Table 2.2 Changes in learners' average science score between PISA 2022 and PISA 2025 in higher-performing countries

Trend in science performance	Country and change in average science score
Countries whose learners had an average science score in PISA 2025 significantly above the average science score in PISA 2022	United Arab Emirates (+26), Türkiye (+18), Slovak Republic (+13), and Uruguay (+9)
Countries whose learners had an average science score in PISA 2025 not significantly different from the average science score in PISA 2022	Austria (+6), Italy (+6), New Zealand (+5), Lithuania (+3), Wales (+3) , Taiwan (+2), United States (+2), Australia (+2), Estonia (+1), Belgium (–1), Chile (–1), Switzerland (–1), Singapore (–2), South Korea (–2), Macao (–2), Portugal (–3), OECD trend average (–3) , the Netherlands (–3), France (–4), Poland (–4), the Republic of Ireland (–4), Canada (–5), Iceland (–6), Hungary (–6), Croatia (–6), Finland (–7), Germany (–7), Spain (–7), Czech Republic (–7), Norway (–8), Sweden (–8), and Japan (–9)
Countries whose learners had an average science score in PISA 2025 significantly below their average science score in PISA 2022	Malta (–13), Vietnam (–15), Slovenia (–16), Denmark (–16), Israel (–23), Hong Kong (–25), and Latvia (–25)

Base: All higher-performing countries in PISA 2025 that also participated in PISA 2022.

OECD trend averages were calculated using OECD countries that participated in all cycles since PISA 2015, excluding Costa Rica and Spain.

Caution is required when interpreting estimated changes in score because one or more PISA sampling standards were not met in PISA 2022 in some of the included countries.

Two countries with a similar change in score may have different outcomes from significance testing due to the different sample sizes and rounding.

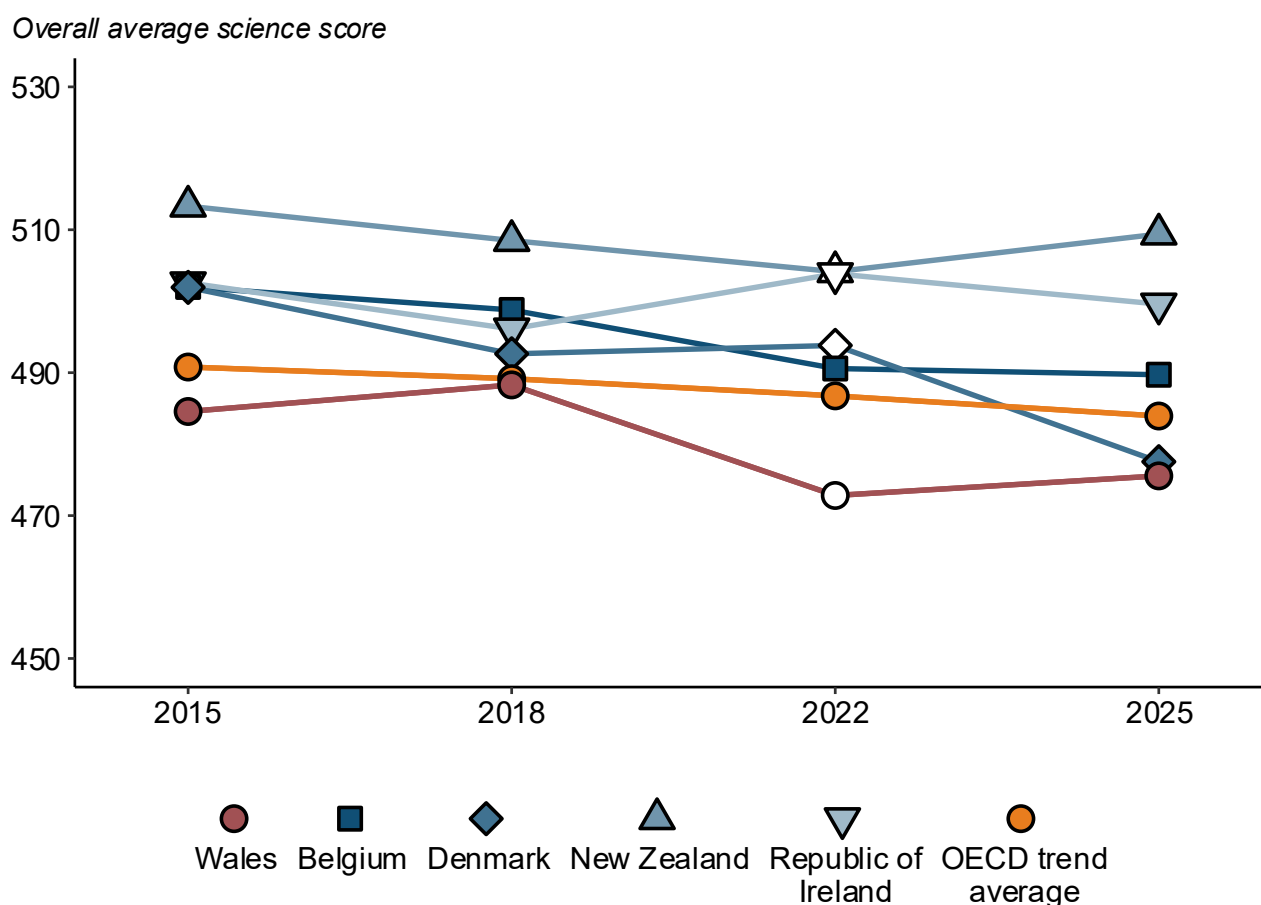
Changes in score may appear inconsistent with scores due to rounding.

Source: OECD PISA databases for 2025 and 2022

In total, of the 75 countries, including Wales, that participated in both PISA 2022 and 2025, 15 countries saw a significant increase in their learners' average science score in 2025 compared with 2022. A further 12 countries saw a significant decrease in their learners' average science score, and the remaining 48 countries saw no significant change in their learners' average science scores.

Figure 2.1 shows the trends over time in learners' average science scores in Wales, Belgium, Denmark, New Zealand and the Republic of Ireland, as well as OECD trend average. There was no significance between learners' average score in Belgium in PISA 2025 (490) and that in PISA 2022 (491) and 2018 (499), but this score was significantly below the score in PISA 2015 (502). In Denmark, learners' average score in PISA 2025 (478) was significantly below the average scores in PISA 2022 (494), 2018 (493) and 2015 (502). In New Zealand and the Republic of Ireland learners' average score in PISA 2025 (509 and 500, respectively) was not significantly different from the average score in PISA 2022 (504 and 504), 2018 (508 and 496) and 2015 (513 and 503).

Figure 2.1 Trends in science performance in Wales, comparator countries and on average across the OECD trend countries



Country	2015	2018	2022	2025
Wales	485	* 488	473	476
Belgium	* 502	499	491	490
Denmark	* 502	* 493	* 494	478
New Zealand	513	508	504	509
Republic of Ireland	503	496	504	500
OECD trend average	* 491	489	487	484

Asterisks (*) indicate that the score shown was significantly different from the average score in that country for PISA 2025.

PISA cycles in which PISA sampling standards were not all met are indicated by a white point in the figure. OECD trend averages were calculated using PISA 2025 data for OECD countries that participated in all cycles, excluding Costa Rica and Spain.

Source: OECD PISA databases for 2025, 2022, 2018 and 2015

2.6 Differences between the highest- and lowest-performing learners in science

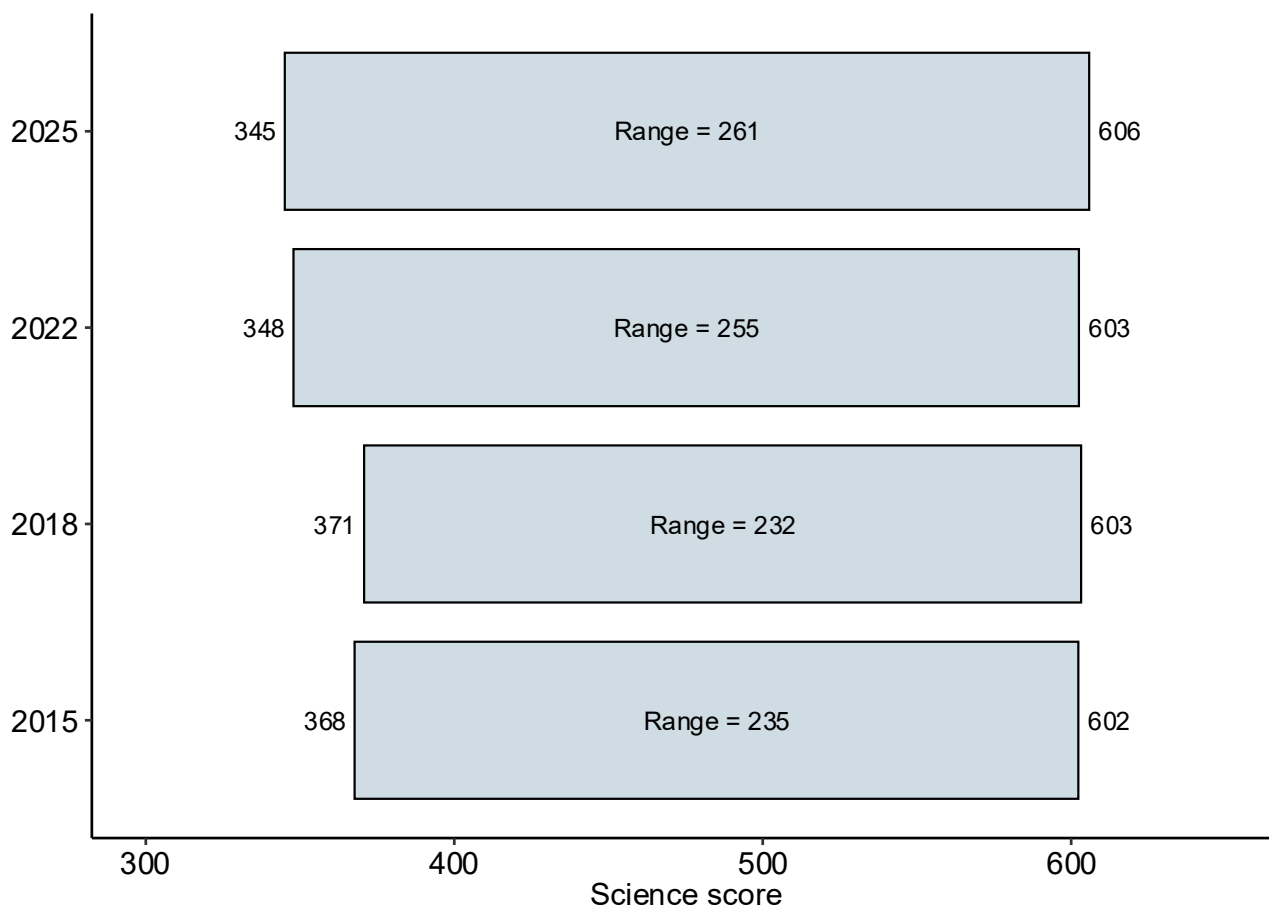
It is important to examine the difference in performance between the highest- and lowest-performing learners in science. This is because even where learners in 2 countries have similar average scores in science, there may be significant differences in how they are performing across the attainment range. For example, a country with a wide spread of attainment may have a relatively high percentage of learners who are performing at the lowest levels and a high percentage of learners performing at the highest levels – they will have greater disparity across their population of learners. On the other hand, a country with a lower spread of attainment may have fewer very high-performing learners but may also have fewer lower-performing learners – they will have less disparity across their learners. Despite these differences, it would be possible for learners in these 2 countries to attain the same average score, masking important differences between them.

The first way in which the spread of performance in each country can be examined is by looking at the distribution of scores. The 90th percentile is the score above which the highest-performing 10% of learners attain, while the 10th percentile is the score below which the lowest-performing 10% of learners attain. The difference between the highest- and lowest-performing learners at the 90th and 10th percentiles, the interdecile range, is a better measure of the spread of scores for comparing countries than using the very highest- and lowest-performing learners, as the latter comparison may be affected by a small number of learners with unusually high or low scores.

In PISA 2025, the interdecile range between Wales' highest- and lowest-performing learners was 261 points. This range was not significantly different from the range in PISA 2022 of 255 points. This range was also not significantly different from the OECD average

in PISA 2025 of 258 points. Figure 2.2 shows the trend in the distribution of PISA science scores in Wales since PISA 2015.

Figure 2.2 Trends in the range in science performance between the highest- and lowest-performing learners in Wales



PISA cycle	Score at the 10th percentile	Score at the 90th percentile	Interdecile range
2025	345	606	261
2022	348	603	255
2018	* 371	603	* 232
2015	* 368	602	* 235

Base: All participating learners in Wales.

Asterisks () indicate that the score shown was significantly different from the respective score for PISA 2025.*

Interdecile ranges were calculated as 90th percentile – 10th percentile.

Interdecile ranges may appear inconsistent with percentile scores due to rounding.

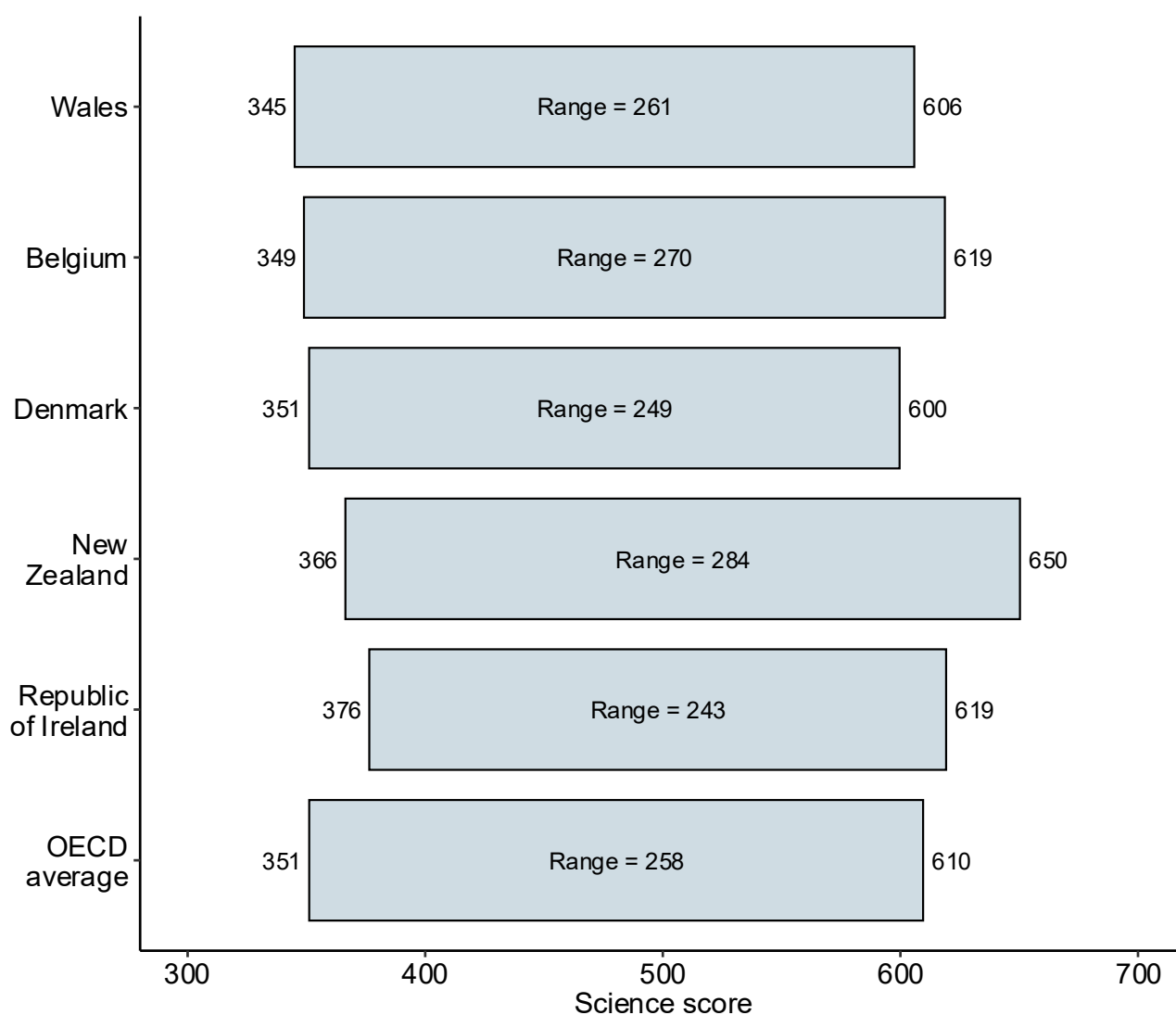
Source: OECD PISA databases for 2025, 2022, 2018 and 2015

In PISA 2025 the score at the 90th percentile in science in Wales was 606 points, and the score at the 10th percentile was 345 points. These scores were not significantly different from the OECD averages of 610 and 351 points, respectively.

The interdecile range in New Zealand (284) was significantly larger than the range in Wales, while the range in the Republic of Ireland (243) was significantly smaller than in Wales. There were no significant differences between the range in Wales and the range in Belgium (270) and Denmark (249).

Figure 2.3 shows the differences between the score at the 90th and the 10th percentiles in Wales, Belgium, Denmark, New Zealand, and the Republic of Ireland, as well as on average across OECD countries.

Figure 2.3 Range in science performance between the highest-and lowest-performing learners in Wales, comparator countries and on average across OECD countries



Country	Score at the 10th percentile	Score at the 90th percentile	Interdecile range
Wales	345	606	261
Belgium	349	* 619	270
Denmark	351	600	249
New Zealand	* 366	* 650	* 284
Republic of Ireland	* 376	* 619	* 243
OECD average	351	610	258

Base: All participating learners in the included countries.

Asterisks () indicate that the score shown was significantly different from the respective score in Wales.*

Interdecile ranges were calculated as 90th percentile – 10th percentile.

Interdecile ranges may appear inconsistent with percentile scores due to rounding.

Source: OECD PISA database for 2025

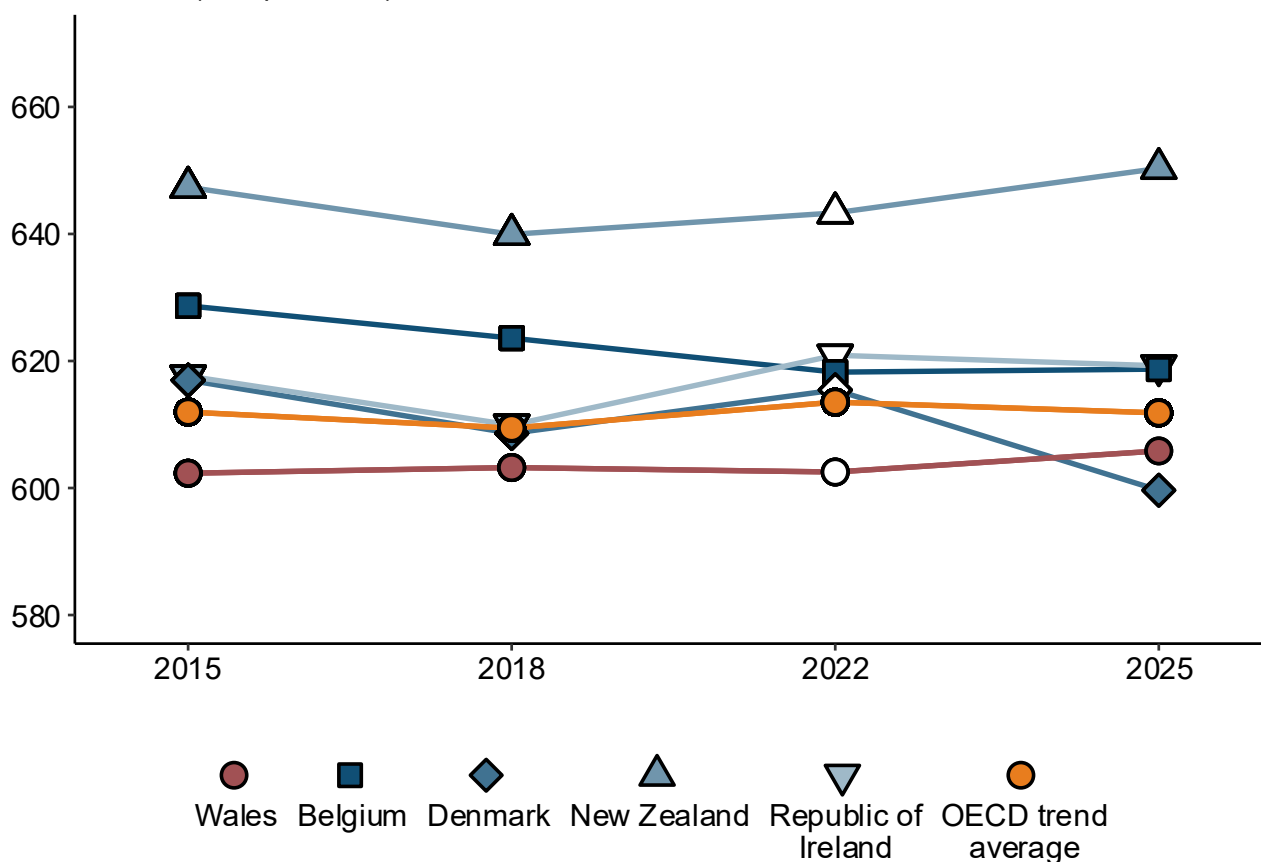
To further consider these differences between the highest- and the lowest-performing learners in science in Wales, scores at the 90th and 10th percentiles can be compared with those of other countries. The score at the 90th percentile in Wales (606) was not significantly different from the score at the 90th percentile in Denmark (600) or the average across OECD countries (610). It was significantly below the respective scores in Belgium (619), New Zealand (650) and the Republic of Ireland (619).

Figure 2.4 shows the trends in performance at the 90th percentile since PISA 2015 for Wales, Belgium, Denmark, New Zealand and the Republic of Ireland, and the OECD trend average. There was no significant difference in the scores at the 90th percentile in Wales in PISA 2025 (606) compared to 2022 (603), 2018 (603) and 2015 (602). This was also the case in the Republic of Ireland and on average across OECD countries.

In Belgium there was no significant difference between the score at the 90th percentile in PISA 2025 (619) and the respective scores in 2022 (618) and 2018 (624), but this score was significantly below the respective score in 2015 (629). In Denmark the score at the 90th percentile in PISA 2025 (600) was significantly below the respective scores in 2022 (615) and 2015 (617) but was not significantly different from the score in PISA 2018 (609). In New Zealand the score at the 90th percentile in PISA 2025 (650) was not significantly different from the respective scores in PISA 2022 (643) or PISA 2015 (647) but was significantly above the respective score in PISA 2018 (640).

Figure 2.4 Trends in science performance at the 90th percentile in Wales, comparator countries and on average across OECD trend countries

Science score (90th percentile)



Country	2015	2018	2022	2025
Wales	602	603	603	606
Belgium	* 629	624	618	619
Denmark	* 617	609	* 615	600
New Zealand	647	* 640	643	650
Republic of Ireland	618	610	621	619
OECD trend average	612	609	614	612

Asterisks (*) indicate that the score shown was significantly different from the score in that country for PISA 2025.

PISA cycles in which PISA sampling standards were not all met are indicated by a white point in the figure. OECD trend averages were calculated using PISA 2025 OECD countries that participated in all cycles, excluding Costa Rica and Spain.

Source: OECD PISA databases for 2025, 2022, 2018 and 2015

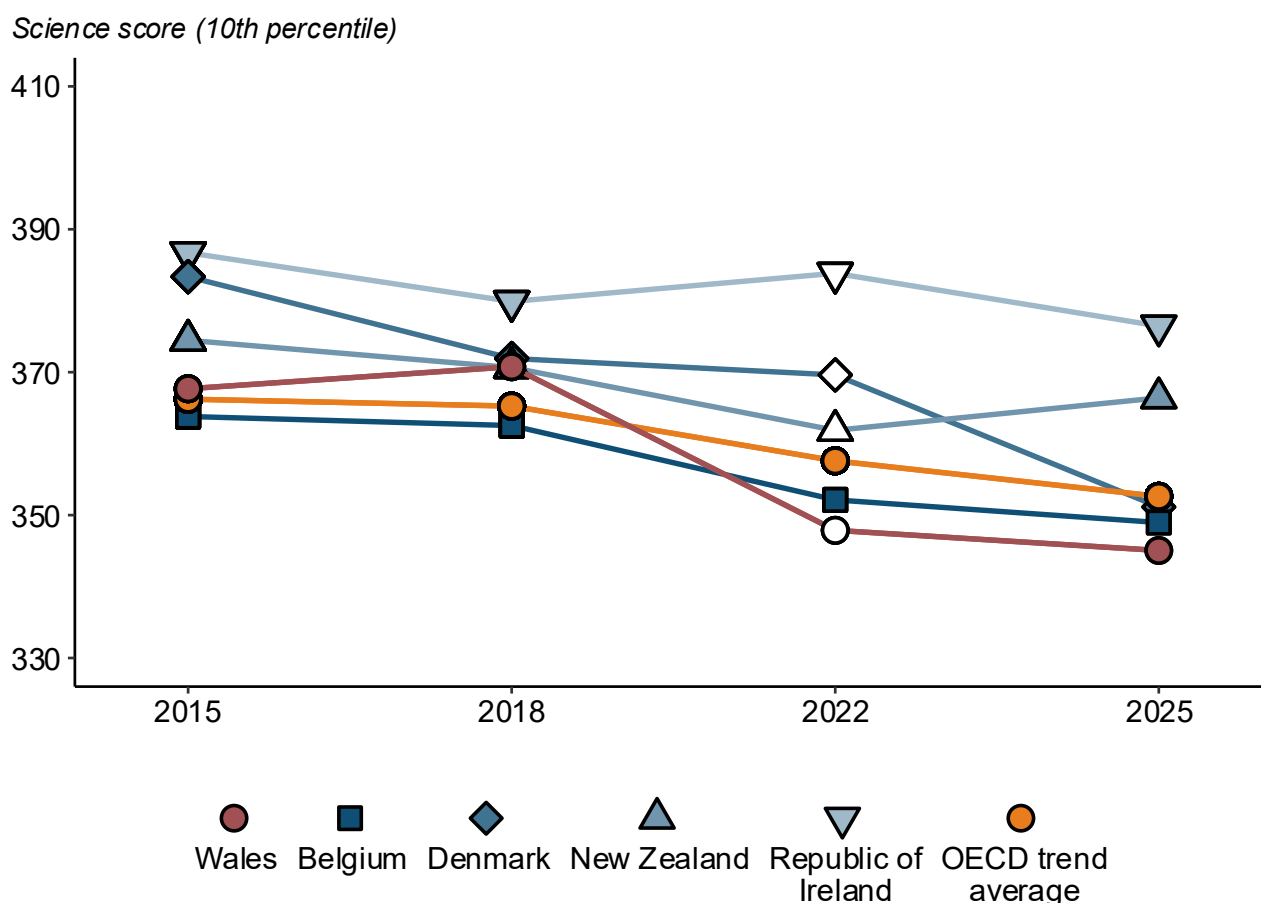
The score at the 10th percentile in Wales (345) in PISA 2025 was not significantly different from the score at the 10th percentile in Belgium (349) and Denmark (351) or the respective score on average across OECD trend countries (353). It was significantly below the respective scores in New Zealand (366) and the Republic of Ireland (376).

In Wales the score at the 10th percentile in PISA 2025 (345) was not significantly different from the respective score in PISA 2022 (348) but was significantly below the scores at the 10th percentile in PISA 2018 (371) and PISA 2015 (368). Similarly, the OECD trend average score at the 10th percentile in PISA 2025 (353) was not significantly different from the respective score in PISA 2022 (258), but it was significantly below the respective scores in PISA 2018 (365) and PISA 2015 (366).

Figure 2.5 shows the trends in the performance at the 10th percentile across the 4 most recent cycles of PISA for Wales, Belgium, Denmark, New Zealand, and the Republic of Ireland and the OECD trend average.

In Belgium, there were no significant differences between the score at the 10th percentile in PISA 2025 (349) and the respective scores in PISA 2022 (352) and PISA 2018 (363). This score was significantly below the respective score in PISA 2015 (364). In Denmark the score at the 10th percentile in PISA 2025 (351) was significantly below the respective scores in PISA 2022 (370), PISA 2018 (372) and PISA 2015 (383). In New Zealand and the Republic of Ireland there were no significant differences between the scores at the 10th percentile in PISA 2025 (366 and 376 respectively) and the respective scores in PISA 2022, 2018 and 2015.

Figure 2.5 Trends in science performance at the 10th percentile in Wales, comparator countries and on average across OECD trend countries



Country	2015	2018	2022	2025
Wales	* 368	* 371	348	345
Belgium	* 364	363	352	349
Denmark	* 383	* 372	* 370	351
New Zealand	374	371	362	366
Republic of Ireland	387	380	384	376
OECD trend average	* 366	* 365	358	353

Asterisks (*) indicate that the score shown was significantly different from the score in that country for PISA 2025.

PISA cycles in which PISA sampling standards were not all met are indicated by a white point in the figure. OECD trend averages were calculated using OECD countries that have participated in all PISA cycles since 2015, excluding Costa Rica and Spain.

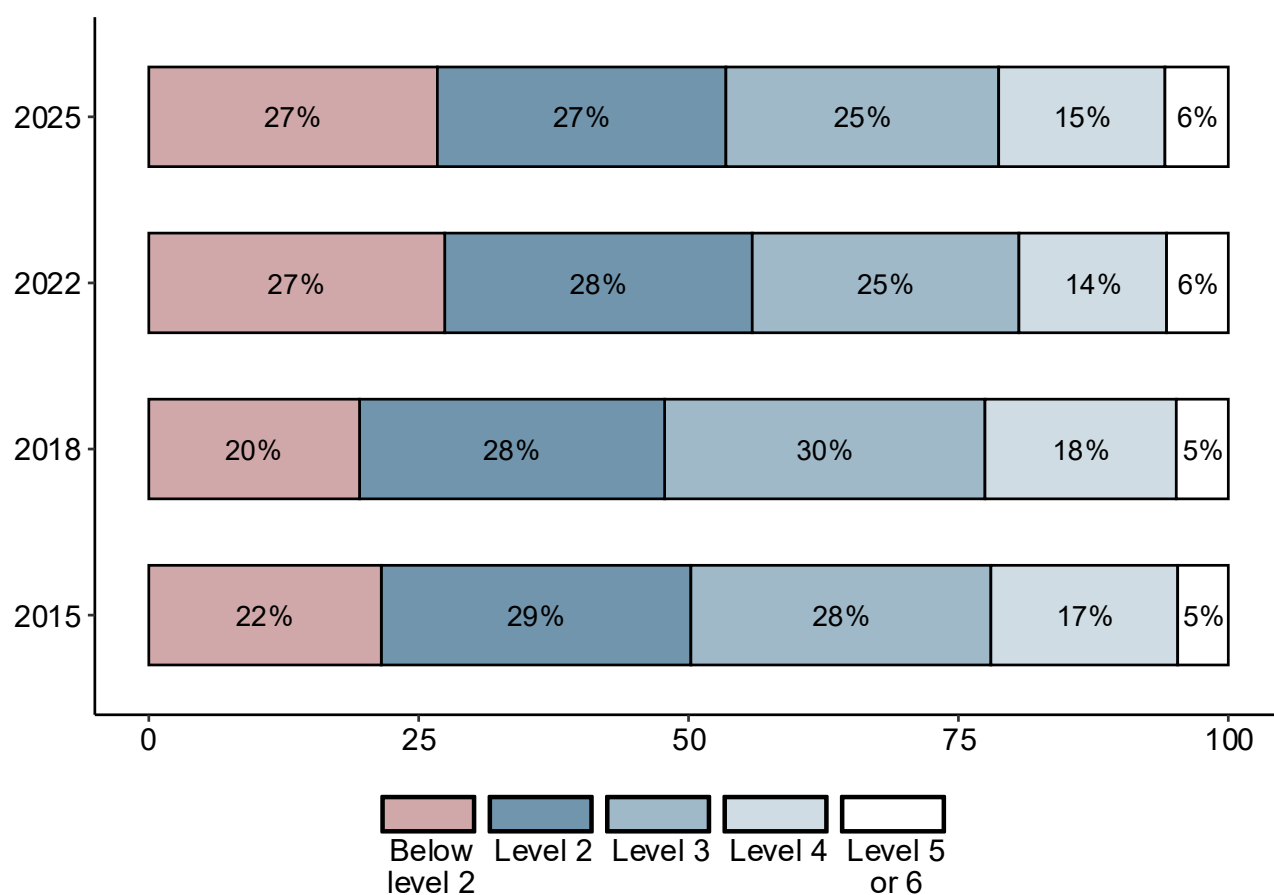
Source: OECD PISA databases for 2025, 2022, 2018 and 2015

2.7 Performance across science proficiency levels

Another way to examine the spread of performance is to look at performance in Wales at each of the PISA science proficiency levels. The PISA proficiency levels describe the tasks that learners performing at each level can do. They are devised internationally and are illustrated in the international report (OECD, 2026). Science performance in PISA is described in terms of 6 proficiency levels (Levels 1–6, with Level 1 subdivided into 1b and 1a). These proficiency levels are outlined in the [PISA 2025 Assessment and Analytical Framework](#). Level 2 is considered the baseline level of proficiency in science where learners can begin to use science in simple real-life situations, which is needed to participate fully in society.

In total, 6% of learners in Wales performed at the highest science proficiency levels (Levels 5 or 6), which was significantly smaller than the OECD average of 7%. Wales had 27% of learners working at the lower proficiency levels (below Level 2), which was not significantly different from the OECD average of 26%. Figure 2.6 shows the percentage of learners in Wales performing at each science proficiency level over the 4 most recent cycles of PISA.

Figure 2.6 Percentage of learners performing at each science proficiency level in Wales in PISA 2025, 2022, 2018 and 2015



PISA Cycle	Below Level 2	Level 2	Level 3	Level 4	Level 5 or 6
2025	27%	27%	25%	15%	6%
2022	27%	28%	25%	14%	6%
2018	20%	28%	30%	18%	5%
2015	22%	29%	28%	17%	5%

Base: All participating learners in Wales.

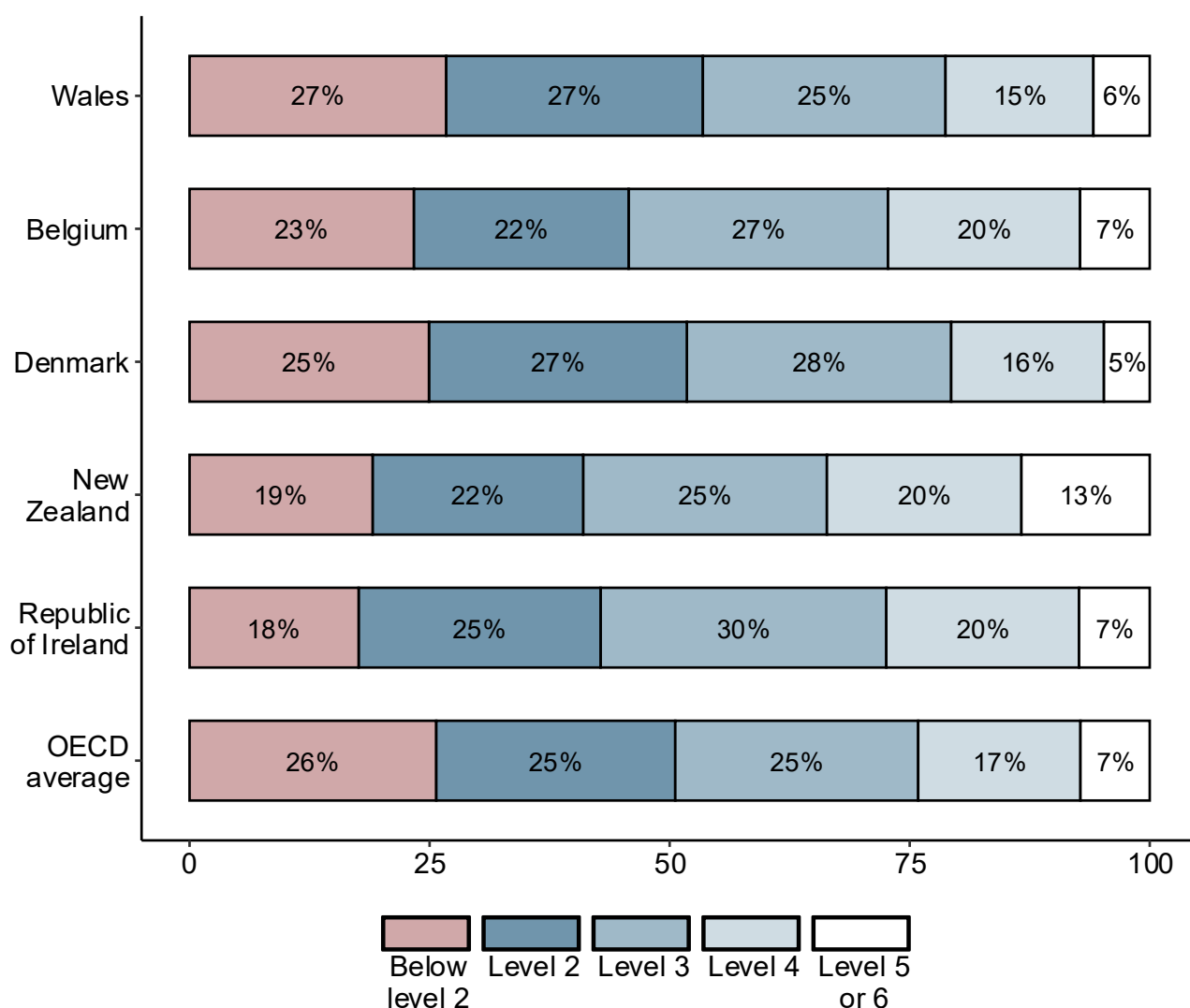
Individual percentages may not total 100% due to rounding.

It was not possible at the point of writing to calculate whether there were significant differences between percentages across the PISA cycles.

Source: OECD PISA databases for 2025, 2022, 2018 and 2015

Figure 2.7 shows the percentage of learners in Wales, Belgium, Denmark, New Zealand, and the Republic of Ireland and on average across OECD countries, achieving each of the proficiency levels for science in PISA 2025.

Figure 2.7 Percentage of learners performing at each science proficiency level in Wales, comparator countries, and on average across OECD countries in 2025



Country	Below Level 2	Level 2	Level 3	Level 4	Level 5 or 6
Wales	27%	27%	25%	15%	6%
Belgium	23%	* 22%	27%	* 20%	7%
Denmark	25%	27%	28%	16%	5%
New Zealand	* 19%	* 22%	25%	* 20%	* 13%
Republic of Ireland	* 18%	25%	* 30%	* 20%	7%
OECD average	26%	25%	25%	17%	* 7%

Base: All participating learners in the countries included

Asterisks (*) indicate that the score shown was significantly different from the respective score in Wales.

Individual percentages for a country may not total 100% due to rounding.

Source: OECD PISA database for 2025

At the highest proficiency levels (Levels 5 or 6), the percentage of learners in Wales (6%) was not significantly different from the percentage in Belgium (7%), Denmark (5%), or the

Republic of Ireland (7%) but was significantly smaller than the percentage of learners in New Zealand (13%).

At the lowest proficiency levels (below Level 2), the percentage of learners in Wales (27%) was not significantly different from the percentage of learners in Belgium (23%) and Denmark (25%). This percentage was significantly larger than the respective percentages in New Zealand (19%) and the Republic of Ireland (18%).

3 Performance in reading

3.1 Chapter overview

This chapter reports the performance of learners in Wales in the reading domain of PISA 2025. It draws on findings outlined in the international report (OECD, 2026) and places outcomes for Wales' learners in the context of those findings. This performance is considered alongside that of previous cycles: PISA 2022, 2018, and 2015. It outlines how the performance of learners in Wales in 2025 compares with that of learners in other participating countries, as well as how performance has changed over time. Reading was assessed using the [reading framework](#) developed for PISA 2018.

3.2 Key findings

- Learners in Wales achieved an average score of 459 in reading in PISA 2025, which was not significantly different from the OECD average score of 461 points.
- Learners in Wales' average reading score of 459 in PISA 2025 was not significantly different from the score of 466 in PISA 2022 but was significantly below the score of 483 in PISA 2018 and the score of 477 in PISA 2015.
- In contrast to Wales, most higher-performing countries³⁶ experienced significant declines in their learners' average reading scores between PISA 2022 and 2025. The average across OECD trend countries³⁷ also declined significantly over this period, from 477 in PISA 2022 to 463 in PISA 2025.
- The average reading score of learners in 58 countries was significantly below the average achieved by learners in Wales, and in a further 11 countries the average reading score was not significantly different from that in Wales. In each of the remaining 20 countries, the average reading score for learners was significantly above the average score for learners in Wales.
- The range between Wales' highest- and lowest-performing learners was 258 points, which was not significantly different from the range in PISA 2022 of 263 points. This was also not significantly different from the OECD average range in PISA 2025 of 264 points.
- In Wales, 4% of learners performed at the highest reading proficiency levels (Levels 5 or 6), which was significantly smaller than the OECD average of 6%. Wales had 31% of learners working at the lower proficiency levels (below Level 2), which was not significantly different from the OECD average of 31%.

³⁶ Higher-performing countries in the reading domain are those countries whose learners had an average score over 440 points.

³⁷ The 35 OECD trend countries are those OECD countries in PISA 2025 that have participated in every cycle since PISA 2015, excluding Costa Rica and Spain.

3.3 Introduction to reading in PISA

Reading literacy in PISA is defined as learners' '...capacity to understand, use, evaluate, reflect on and engage with texts in order to achieve one's goals, develop one's knowledge and potential, and participate in society' (OECD, 2023). The framework for assessing learners' reading literacy was most recently revised in PISA 2018, when reading was the major domain of assessment.

The PISA reading literacy framework identifies 4 reading skills that readers use and rely on when engaging with texts. It also provides brief descriptors of the types of tasks that participating learners may encounter, each designed to assess these different comprehension processes. These are:

1. **locating information** – learners are required to search for and select appropriate texts to help address questions, and/or identify relevant information within those texts
2. **understanding** – learners are required to identify both the explicit meanings of texts as well as generate inferences - learners will also need to integrate information within those texts
3. **evaluating and reflecting** – learners are required to assess the quality and credibility of text, reflect on the content and form of texts, and detect and resolve conflicts within and across texts
4. **reading fluency** – how well learners accurately and automatically process words and texts to comprehend explicit meaning - in PISA, this is only measured by lower-level tasks on simpler texts

More information on the current PISA reading literacy framework and example reading test items from previous PISA cycles can be found in the OECD's [PISA 2025 Reading Framework](#).

3.4 The performance of learners in Wales in reading

Learners in Wales who participated in PISA 2025 achieved an average score of 459 in reading. This was not significantly different from the OECD average of 461.

Learners in 58 out of the other 89 participating countries achieved an average reading score significantly below that in Wales, and in a further 11 countries learners' average reading scores were not significantly different from that in Wales. In each of the remaining 20 countries, the average reading score for learners was significantly above that in Wales. Table 3.1 shows the average reading score for learners in Wales relative to learners in other higher-performing countries and on average across OECD countries.

Table 3.1 Average reading scores of learners in higher-performing countries in PISA 2025 relative to the average score of learners in Wales

Reading performance relative to learners in Wales	Country and average reading score
Countries whose learners had an average reading score significantly above that in Wales in PISA 2025	Singapore (535), the Beijing, Shanghai, Jiangsu, and Zhejiang regions in China (B-S-J-Z, China) (527), Taiwan (508), Japan (503), Macao (501), South Korea (501), the Republic of Ireland (500), Estonia (499), New Zealand (497), Australia (491), Canada (490), United States (490), Poland (482), Hong Kong (480), Finland (474), Italy (474), Türkiye (472), Switzerland (470), Czech Republic (468), and Austria (467)
Countries whose learners had an average reading score not significantly different from that in Wales in PISA 2025	Sweden (466), Belgium (466), Germany (465), Lithuania (464), Portugal (462), OECD average (461) , Denmark (460), Wales (459) , France (456), Croatia (453), Norway (453), Hungary (452), and Spain (451)
Countries whose learners had an average reading score significantly below that in Wales in PISA 2025	Slovak Republic (448), Slovenia (445), Luxembourg (443), and the Netherlands (441), as well as the remaining 54 countries whose learners had average scores below 440 points.

Base: All participating countries with average scores over 440 in reading in PISA 2025.

Two countries with the same score may have different outcomes from significance testing due to the different sample sizes and rounding.

Source: OECD PISA database for 2025

Among the other 37 OECD countries that participated in 2025, learners in 12 countries had an average score significantly below that in Wales. Learners in 10 countries had an average score not significantly different from that in Wales, and in 15 countries learners had an average score significantly above that in Wales.

Among the 90 participating countries, including Wales, the average reading score for learners in 20 countries was significantly above the OECD average, while in 8 countries, including Wales, the average score was not significantly different from the OECD average. The average reading score for learners in the remaining 62 countries was significantly below the OECD average.

In relation to the comparator countries, there was no significant difference between the average reading score for learners in Wales (459) and that for learners in Belgium (466) and Denmark (460). The average scores for learners in New Zealand (497) and the Republic of Ireland (500) were significantly above the average score for learners in Wales.

3.5 Reading performance over time

Learners in Wales achieved an average score of 459 in reading in PISA 2025, which was not significantly different from the score of 466 in PISA 2022. In contrast, learners' average scores in most higher-performing countries declined significantly in PISA 2025 relative to PISA 2022, with an average decline of 14 points across OECD trend countries. Table 3.2 shows the changes in the average reading scores of learners in higher-performing countries, including Wales, and the OECD trend average between PISA 2022 and PISA 2025.

Learners' average reading score in PISA 2025 (459) in Wales was significantly below the scores in PISA 2018 (483) and 2015 (477). Similarly, on average across OECD trend countries, the average reading score in PISA 2025 (463) was also significantly below the scores in PISA 2022 (477), 2018 (488) and 2015 (490).

In total, of the 75 countries, including Wales, that participated in both PISA 2022 and 2025, 9 countries saw a significant increase in their learners' average reading score in 2025 compared with 2022. A further 43 countries saw a significant decrease in their learners' average reading score, and the remaining 23 countries saw no significant change in their learners' average reading scores.

Table 3.2 Changes in learners' average reading score between PISA 2022 and PISA 2025 in higher-performing countries

Trend in reading performance	Country and change in average reading score
Countries whose learners had an average reading score in PISA 2025 significantly above the average reading score in PISA 2022	Türkiye (+16)
Countries whose learners had an average reading score in PISA 2025 not significantly different from the average reading score in PISA 2022	Slovak Republic (+1), New Zealand (–4), Wales (–7) , Poland (–7), Italy (–7), and Taiwan (–7)
Countries whose learners had an average reading score in PISA 2025 significantly below the average reading score in PISA 2022	Australia (–7), Singapore (–8), Lithuania (–8), Macao (–9), Estonia (–12), Belgium (–13), Japan (–13), Austria (–13), Switzerland (–13), OECD trend average (–14) , United States (–14), Germany (–15), Portugal (–15), South Korea (–15), the Republic of Ireland (–16), Finland (–16), Canada (–17), France (–18), the Netherlands (–18), Hong Kong (–20), Czech Republic (–20), Sweden (–21), Hungary (–21), Croatia (–22), Spain (–23), Norway (–24), Slovenia (–24), and Denmark (–29)

Base: All higher-performing countries, i.e. with an average score over 440 in reading, in PISA 2025 that also participated in PISA 2022.

OECD trend averages were calculated using OECD countries that participated in all cycles since PISA 2015, excluding Costa Rica and Spain.

Caution is required when interpreting estimated changes in score because one or more PISA sampling standards were not met in PISA 2022 in some of the included countries.

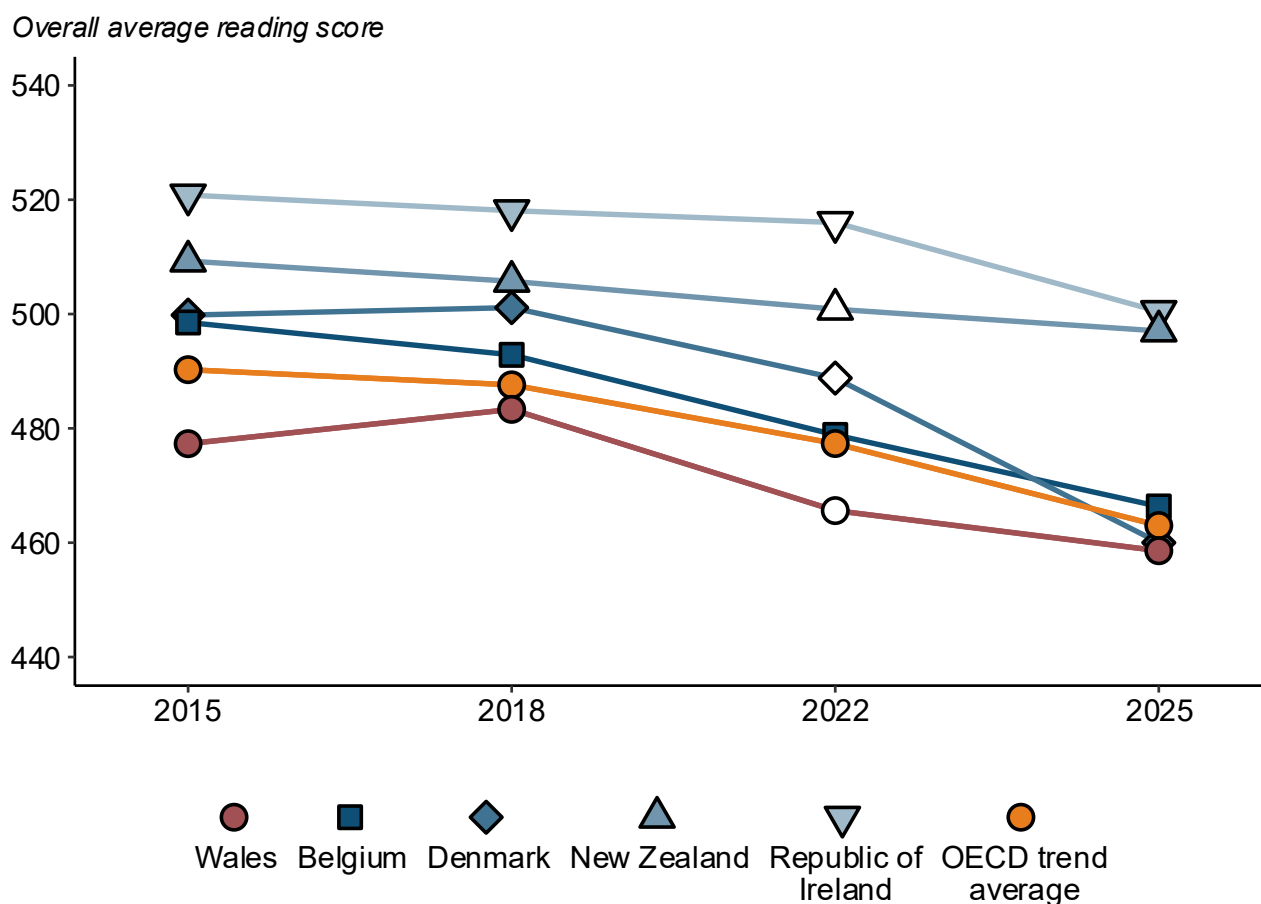
Two countries with a similar change in score may have different outcomes from significance testing due to the different sample sizes and rounding.

Changes in score may appear inconsistent with scores due to rounding.

Source: OECD PISA databases for 2025 and 2022

Figure 3.1 shows the trends over time in learners' average reading scores in Wales, Belgium, Denmark, New Zealand and the Republic of Ireland, as well as the OECD trend average. The learners' average reading score in PISA 2025 in Belgium, Denmark and the Republic of Ireland were all significantly below the respective scores in all 3 previous PISA cycles. This was consistent with the wider trend among OECD trend countries, as shown by the steady decline in the OECD trend average since 2015. In New Zealand, learners' average reading score in PISA 2025 (497) was not significantly different from the score in 2022 (501) but was significantly below the score in 2018 (506) and 2015 (509).

Figure 3.1 Trends in reading performance in Wales, comparator countries, and on average across the OECD trend countries



Country	2015	2018	2022	2025
Wales	* 477	* 483	466	459
Belgium	* 499	* 493	* 479	466
Denmark	* 500	* 501	* 489	460
New Zealand	* 509	* 506	501	497
Republic of Ireland	* 521	* 518	* 516	500
OECD trend average	* 490	* 488	* 477	463

Base: All participating pupils in countries included.

Asterisks (*) indicate that the score shown was significantly different from the average score in that country for PISA 2025.

PISA cycles in which PISA sampling standards were not all met are indicated by a white point in the figure. OECD trend averages were calculated using PISA 2025 data for OECD countries that participated in all cycles, excluding Costa Rica and Spain.

Source: OECD PISA databases for 2025, 2022, 2018 and 2015

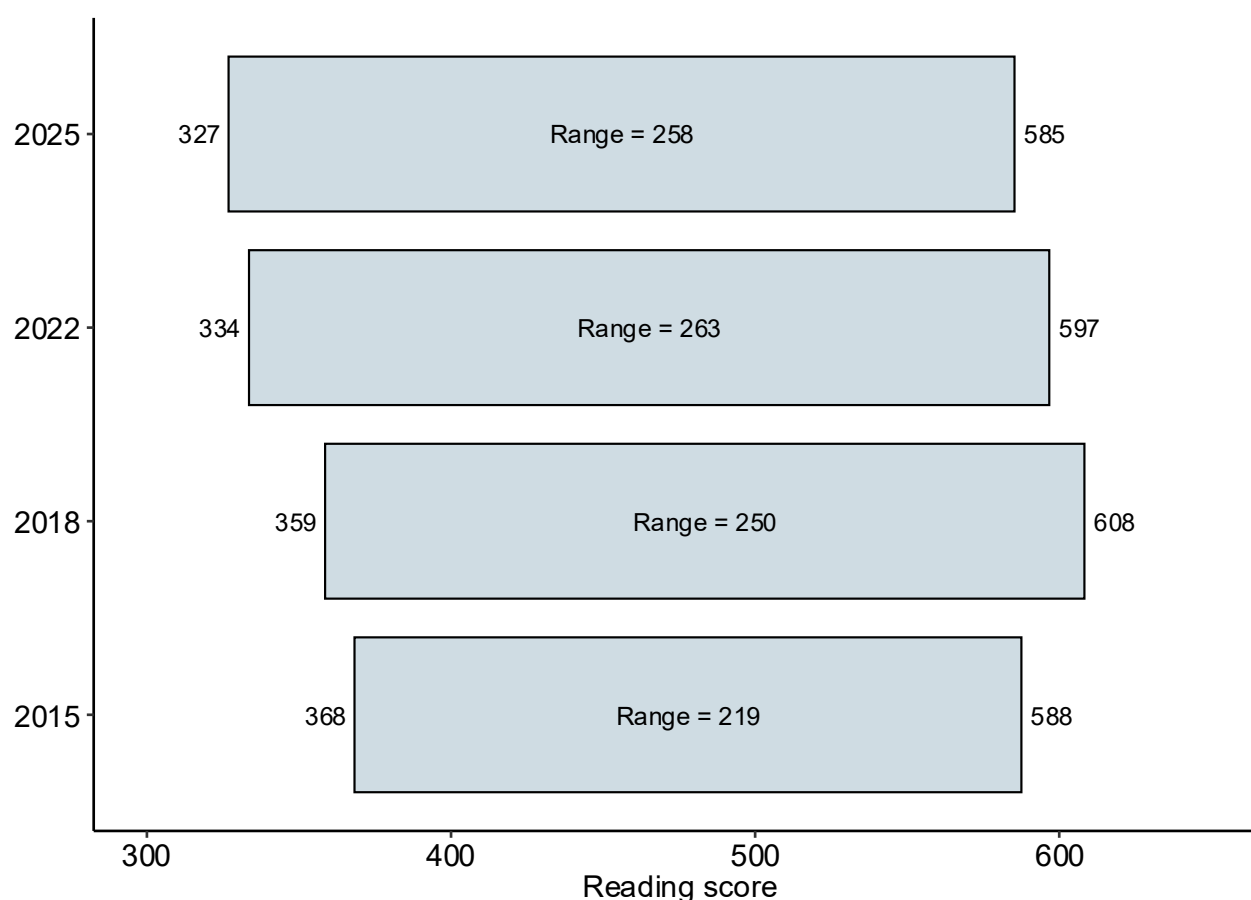
3.6 Differences between the highest- and lowest-performing learners in reading

It is important to examine the difference in performance between the highest- and lowest-performing learners in reading. This is because even where learners in 2 countries have similar average scores in reading, there may be significant differences in how their learners are performing across the attainment range. For example, a country with a wide spread of attainment may have a relatively high percentage of learners who are performing at the lowest levels and a high percentage of learners performing at the highest levels – they will have greater disparity across their population of learners. On the other hand, a country with a lower spread of attainment may have fewer very high-performing learners but may also have fewer lower-performing learners – they will have less disparity across their learners. Despite these differences, it would be possible for learners in these 2 countries to attain the same average score, masking important differences between them.

The first way in which the spread of performance in each country can be examined is by looking at the distribution of scores. The 90th percentile is the score above which the highest-performing 10% of learners attain, while the 10th percentile is the score below which the lowest-performing 10% of learners attain. The difference between the highest- and lowest-performing learners at the 90th and 10th percentiles, the interdecile range, is a better measure of the spread of scores for comparing countries than using the very highest- and lowest-performing learners, as the latter comparison may be affected by a small number of learners with unusually high or low scores.

In PISA 2025, the interdecile range between Wales' highest- and lowest-performing learners was 258 points. This range was not significantly different from the range in PISA 2022 of 263 points, or from the OECD average in PISA 2025 of 264 points. Figure 3.2 shows the trend in the distribution of PISA reading scores in Wales since PISA 2015.

Figure 3.2 Trends in the range in reading performance between the highest- and lowest-performing learners in Wales



PISA cycle	Score at the 10th percentile	Score at the 90th percentile	Interdecile range
2025	327	585	258
2022	334	597	263
2018	* 359	* 608	250
2015	* 368	588	* 219

Base: All participating learners in Wales.

Asterisks () indicate that the score shown was significantly different from the respective score for PISA 2025.*

Interdecile ranges were calculated as 90th percentile – 10th percentile.

Interdecile ranges may appear inconsistent with percentile scores due to rounding.

Source: OECD PISA databases for 2025, 2022, 2018 and 2015

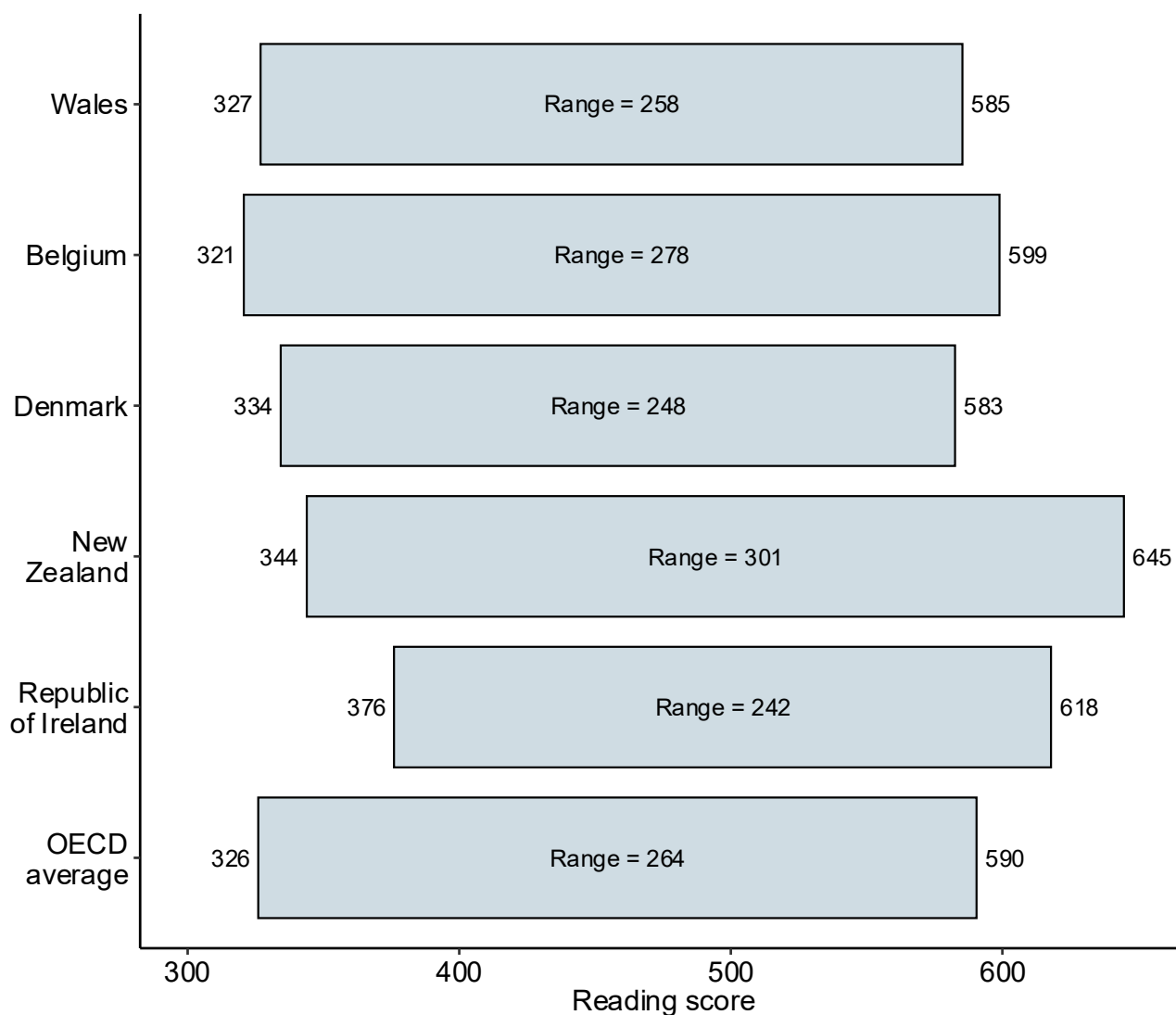
In PISA 2025 the score at the 90th percentile in reading in Wales was 585 points, and the score at the 10th percentile was 327 points. These scores were not significantly different from the OECD averages of 590 and 326 points, respectively.

The interdecile range in Belgium (278) and New Zealand (301) was significantly larger than the range in Wales, while the range in the Republic of Ireland (242) was significantly smaller than in Wales. There was no significant difference between the range in Wales

and that in Denmark (248). Figure 3.3 shows the differences between the score at the 90th and the 10th percentiles in Wales, Belgium, Denmark, New Zealand, and the Republic of Ireland, as well as on average across OECD countries.

To further consider these differences between the highest- and lowest-performing learners in reading in Wales, scores at the 90th and 10th percentiles can be compared with those of other countries. The score at the 90th percentile in Wales (585) was not significantly different from the score at the 90th percentile in Denmark (583) or the average across OECD countries (590). It was significantly below the respective scores in Belgium (599), New Zealand (645) and the Republic of Ireland (618).

Figure 3.3 Range in reading performance between the highest- and lowest-performing learners in Wales, comparator countries and on average across OECD countries



Country	Score at the 10th percentile	Score at the 90th percentile	Interdecile range
Wales	327	585	258
Belgium	321	* 599	* 278
Denmark	334	583	248
New Zealand	* 344	* 645	* 301
Republic of Ireland	* 376	* 618	* 242
OECD average	326	590	264

Base: All participating learners in the included countries.

Asterisks () indicate that the score shown was significantly different from the respective score in Wales.*

Interdecile ranges were calculated as 90th percentile – 10th percentile.

Interdecile ranges may appear inconsistent with percentile scores due to rounding.

Source: OECD PISA database for 2025

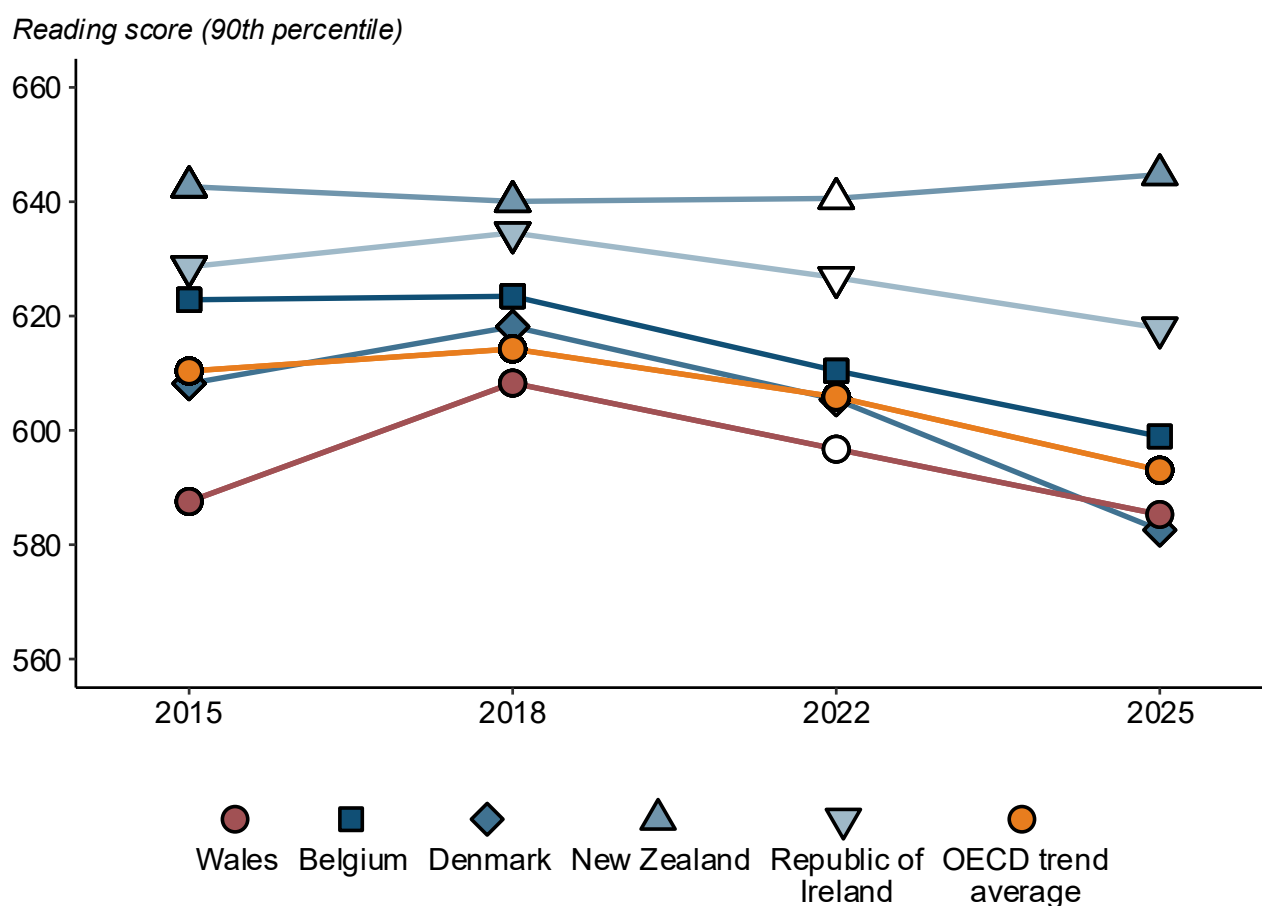
Figure 3.4 shows the trends in performance at the 90th percentile since PISA 2015 for Wales, Belgium, Denmark, New Zealand and the Republic of Ireland, and the OECD trend average. There was no significant difference in the scores at the 90th percentile in Wales in PISA 2025 (585) compared to 2022 (597), and 2015 (588), though this score was significantly below the score in 2018 (608).

The score at the 90th percentile in Belgium, Denmark, the Republic of Ireland and the OECD trend average were significantly below the respective score in PISA 2022, 2018 and 2015. In New Zealand the score at the 90th percentile in PISA 2025 (645) was not significantly different from the score in PISA 2022 (641), 2018 (640) and 2015 (643).

The score at the 10th percentile in Wales (327) in PISA 2025 was not significantly different from the score at the 10th percentile in Belgium (321) and Denmark (334) or the respective score on average across OECD countries (326). It was significantly below the respective scores in New Zealand (344) and the Republic of Ireland (376).

In Wales the score at the 10th percentile in PISA 2025 (327) was not significantly different from the respective score in PISA 2022 (334) but was significantly below the scores at the 10th percentile in PISA 2018 (359) and PISA 2015 (368). The OECD trend average score at the 10th percentile in PISA 2025 (327) was significantly below the respective scores in PISA 2022 (343), PISA 2018 (355) and PISA 2015 (362).

Figure 3.4 Trends in reading performance at the 90th percentile in Wales, comparator countries, and on average across OECD trend countries



Country	2015	2018	2022	2025
Wales	588	* 608	597	585
Belgium	* 623	* 623	* 610	599
Denmark	* 608	* 618	* 605	583
New Zealand	643	640	641	645
Republic of Ireland	* 629	* 635	* 627	618
OECD trend average	* 610	* 614	* 606	593

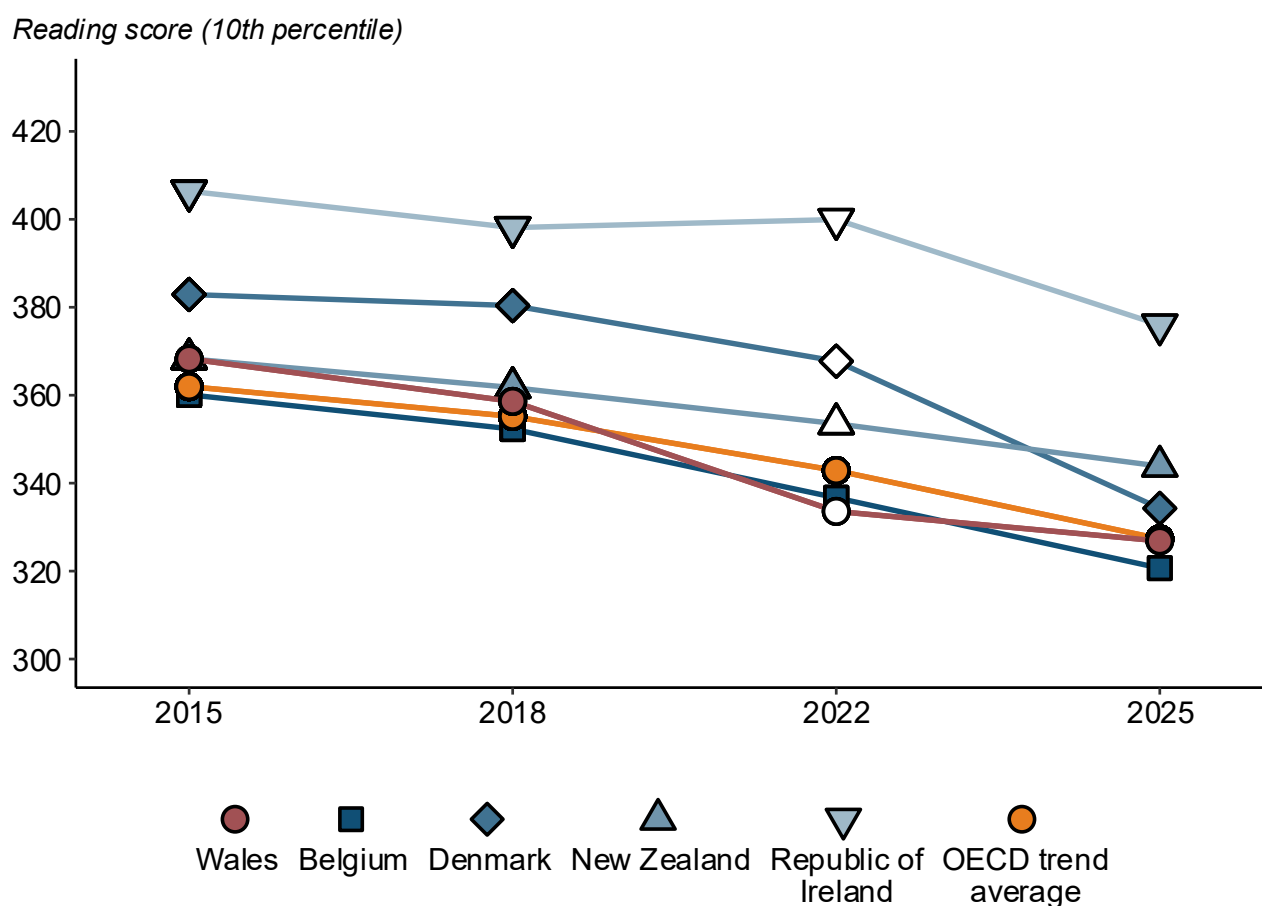
Asterisks (*) indicate that the score shown was significantly different from the score in that country for PISA 2025.

PISA cycles in which PISA sampling standards were not all met are indicated by a white point in the figure. OECD trend averages were calculated using PISA 2025 OECD countries that participated in all cycles, excluding Costa Rica and Spain.

Source: OECD PISA databases for 2025, 2022, 2018 and 2015

Figure 3.5 shows the trends in performance at the 10th percentile across the 4 most recent cycles of PISA for Wales, Belgium, Denmark, New Zealand, and the Republic of Ireland and the OECD trend average.

Figure 3.5 Trends in reading performance at the 10th percentile in Wales, comparator countries, and on average across OECD trend countries



Country	2015	2018	2022	2025
Wales	* 368	* 359	334	327
Belgium	* 360	* 352	* 337	321
Denmark	* 383	* 380	* 368	334
New Zealand	* 368	* 362	354	344
Republic of Ireland	* 406	* 398	* 400	376
OECD trend average	* 362	* 355	* 343	327

Asterisks (*) indicate that the score shown was significantly different from the score in that country for PISA 2025.

PISA cycles in which PISA sampling standards were not all met are indicated by a white point in the figure. OECD trend averages were calculated using OECD countries that have participated in all PISA cycles since 2015, excluding Costa Rica and Spain.

Source: OECD PISA databases for 2025, 2022, 2018 and 2015

Similarly to the OECD trend average, in Belgium, Denmark and the Republic of Ireland the score at the 10th percentile in PISA 2025 was significantly below the score for that country in PISA 2022, 2018 and 2015. In New Zealand, the score at the 10th percentile in PISA

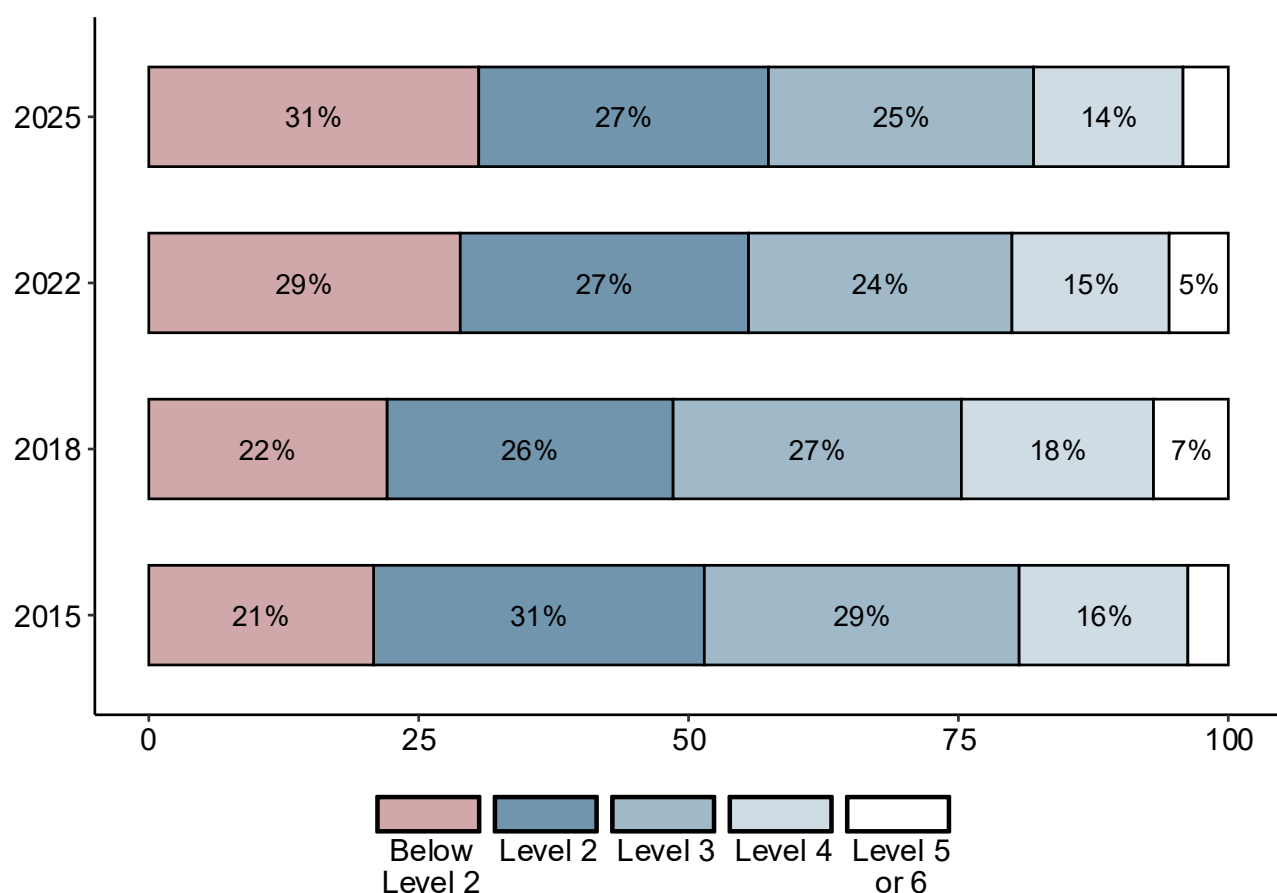
2025 (344) was not significantly different from the score in PISA 2022 (354) but was significantly below the score in PISA 2018 (362) and 2015 (368).

3.7 Performance across reading proficiency levels

Another way of examining the spread of performance is by looking at performance at each of the PISA proficiency levels. The PISA proficiency levels describe the tasks that learners performing at each level can do. They are devised internationally and are illustrated in the international report (OECD, 2026). Reading performance in PISA is described in terms of 6 proficiency levels (Levels 1-6, with Level 1 subdivided into 1a, 1b and 1c). These performance levels are outlined in the [PISA 2025 Assessment and Analytical Framework](#). Level 2 is considered the baseline level of proficiency in reading where learners have sufficient skill in reading that they are able to participate fully in society.

In total, 4% of learners in Wales performed at the highest reading proficiency levels (Levels 5 or 6) which was significantly smaller than the OECD average of 6%. Wales had 31% of learners working at the lower proficiency levels (below Level 2), which was not significantly different from the OECD average of 31%. Figure 3.6 shows the percentage of learners in Wales performing at each reading proficiency level over the 4 most recent cycles of PISA.

Figure 3.6 Percentage of learners performing at each reading proficiency level in Wales in PISA 2025, 2022, 2018 and 2015



PISA Cycle	Below Level 2	Level 2	Level 3	Level 4	Level 5 or 6
2025	31%	27%	25%	14%	4%
2022	29%	27%	24%	15%	5%
2018	22%	26%	27%	18%	7%
2015	21%	31%	29%	16%	4%

Base: All participating learners in Wales.

Individual percentages may not total 100% due to rounding.

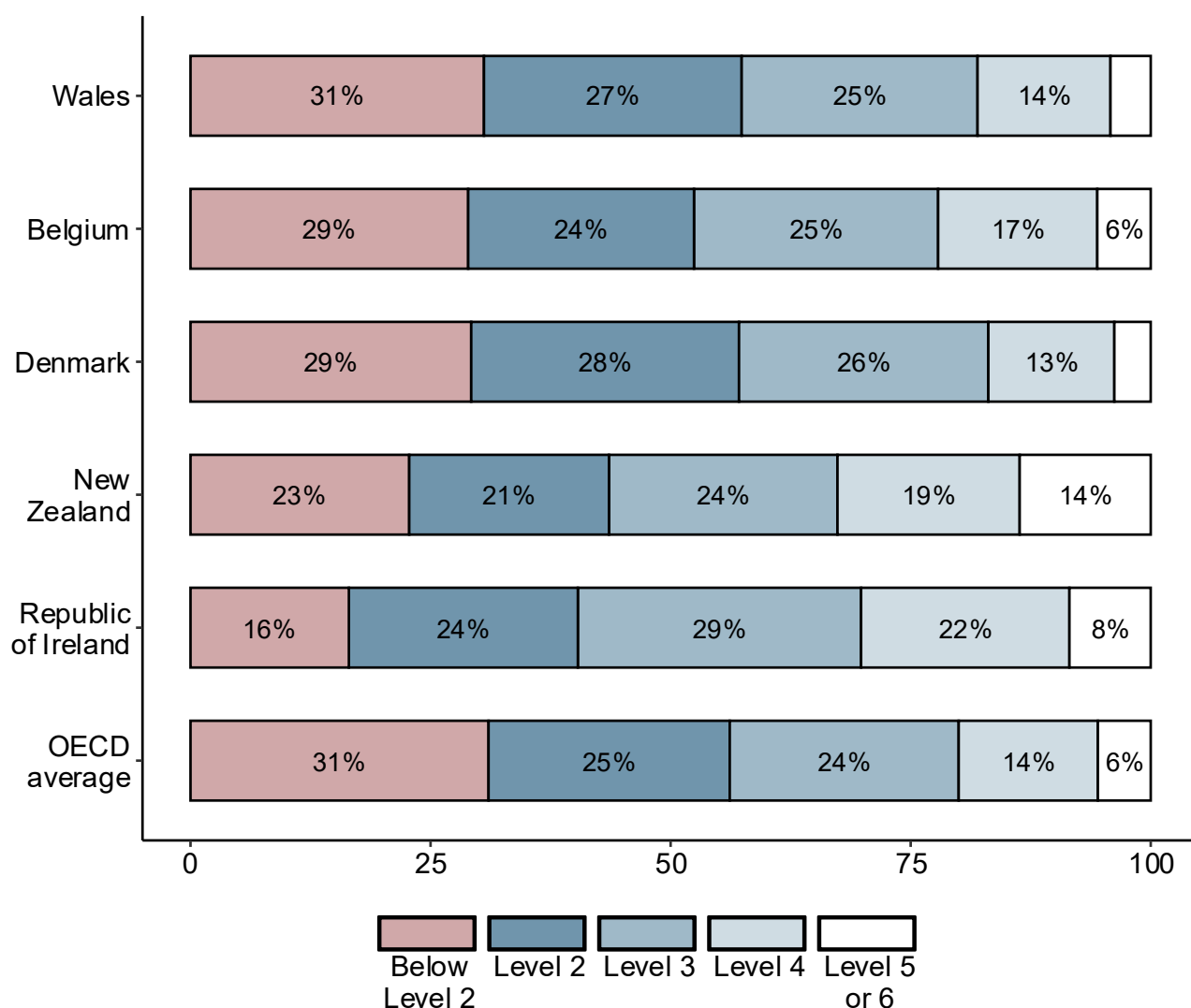
It was not possible at the point of writing to calculate whether there were significant differences between percentages across the PISA cycles.

Percentages below 4.5% are not displayed on the chart for visual clarity.

Source: OECD PISA databases for 2025, 2022, 2018 and 2015

Figure 3.7 shows the percentage of learners in Wales, Belgium, Denmark, New Zealand and the Republic of Ireland and on average across OECD countries, achieving each of the proficiency levels for reading in PISA 2025.

Figure 3.7 Percentage of learners performing at each reading proficiency level in Wales, comparator countries, and on average across OECD countries in 2025



Country	Below Level 2	Level 2	Level 3	Level 4	Level 5 or 6
Wales	31%	27%	25%	14%	4%
Belgium	29%	* 24%	25%	* 17%	* 6%
Denmark	29%	28%	26%	13%	4%
New Zealand	* 23%	* 21%	24%	* 19%	* 14%
Republic of Ireland	* 16%	* 24%	* 29%	* 22%	* 8%
OECD average	31%	25%	24%	14%	* 6%

Base: All participating learners in countries reported.

Individual percentages for a country may not total 100% due to rounding.

Asterisks () indicate that the score shown was significantly different from the respective score in Wales.*

Percentages below 4.5% are not displayed on the chart for visual clarity.

Source: OECD PISA database for 2025

At the highest proficiency levels (Levels 5 or 6) the percentage of learners in Wales (4%) was not significantly different from the percentage in Denmark (4%) but was significantly smaller than the percentage of learners in Belgium (6%), New Zealand (14%) and the Republic of Ireland (8%).

At the lowest proficiency levels (below Level 2), the percentage of learners in Wales (31%) was not significantly different from the percentage in Belgium (29%) or Denmark (29%), but was significantly larger than the percentage in New Zealand (23%) and the Republic of Ireland (16%).

4 Performance in mathematics

4.1 Chapter overview

This chapter reports on the performance of learners in Wales in the mathematics domain of PISA 2025. It draws on findings outlined in the international report (OECD, 2026) and places outcomes for Wales' learners in the context of those findings. This performance is considered alongside that of previous cycles: PISA 2022, 2018, and 2015. It outlines how the performance of learners in Wales in 2025 compares with that of learners in other participating countries, as well as how performance has changed over time. Mathematics was assessed using the [mathematics framework](#) developed for PISA 2022 when mathematics was most recently the major domain.

4.2 Key findings

- Learners in Wales achieved an average mathematics score of 456 in PISA 2025, which was significantly below the OECD average of 463.
- Learners in Wales' average mathematics score of 456 in PISA 2025 was significantly below the average scores in PISA 2022 (466), 2018 (487), and 2015 (478).
- Similarly, the OECD trend average³⁸ in 2025 was 465, significantly below the OECD trend averages in PISA 2022 (475), PISA 2018 (490) and PISA 2015 (487).
- The average mathematics score of learners in 51 countries was significantly below the average achieved by learners in Wales, and in a further 14 countries the average mathematics score was not significantly different from that for learners in Wales. In each of the remaining 24 countries, the average mathematics score for learners was significantly above the average score for learners in Wales.
- The range between Wales' highest- and lowest-performing learners in PISA 2025 was 249 points. This was not significantly different from the OECD average of 244 points. However, the ranges in PISA 2022 (233), 2018 (211) and 2015 (201) were all significantly smaller than the range in PISA 2025 (249). The OECD trend average ranges in PISA 2022 (237), 2018 (234) and 2015 (231) were also significantly smaller than in PISA 2025 (246).
- In Wales, 6% of learners performed at the highest proficiency levels (Levels 5 or 6), which was significantly smaller than the OECD average of 8%. Wales had 36% of learners working at the lower proficiency levels (below Level 2), which was not significantly different from the OECD average of 35%.

³⁸ The 35 OECD trend countries are those OECD countries in PISA 2025 that have participated in every cycle since PISA 2015, excluding Costa Rica and Spain.

4.3 Introduction to mathematics in PISA

Mathematical literacy in PISA is a learner's 'capacity to reason mathematically and to formulate, employ, and interpret mathematics to solve problems in a variety of real-world contexts' (OECD, 2023). The framework for assessing learners' mathematical literacy was most recently revised in PISA 2022, when mathematics was the major domain of assessment.

The PISA mathematics framework relates mathematical reasoning and three processes of the problem-solving (mathematical modelling) cycle: formulate, employ, and interpret and evaluate. It also describes how mathematical content knowledge is organised into four content subdomains: quantity, uncertainty and data, change and relationships, space and shape.

More information on the current PISA mathematics framework and example mathematics test-items can be found in the OECD's [mathematics framework](#).

4.4 The performance of learners in Wales in mathematics

Learners in Wales who participated in PISA 2025 achieved an average score of 456 in mathematics. This was significantly below the OECD average of 463.

Learners in 51 out of the other 89 participating countries achieved an average score that was significantly below that in Wales, and in a further 14 countries learners' average mathematics scores were not significantly different from that in Wales. In each of the remaining 24 countries, the average mathematics score for learners was significantly above that in Wales. Table 4.1 shows the average mathematics score for learners in Wales relative to learners in other higher-performing countries³⁹ and on average across OECD countries.

Among the other 37 OECD countries that participated in 2025, learners in 6 countries had an average score significantly below that in Wales. Learners in 12 countries had an average score not significantly different from that in Wales, and in 19 countries learners had an average score above that in Wales.

³⁹ Higher-performing countries in the mathematics domain are those countries whose learners had an average score over 440 points.

Table 4.1: Average mathematics scores of learners in higher-performing countries in PISA 2025 relative to the average score of learners in Wales

Mathematics performance relative to learners in Wales	Country and average mathematics score
Countries whose learners had an average mathematics score significantly above that in Wales in PISA 2025	The Beijing, Shanghai, Jiangsu, and Zhejiang regions in China (B-S-J-Z China) (612), Singapore (563), Macao (549), Taiwan (546), Japan (525), South Korea (522), Hong Kong (522), Estonia (508), Switzerland (499), Canada (485), Poland (484), the Netherlands (483), the Republic of Ireland (480), Belgium (480), New Zealand (480), Australia (478), Austria (477), Czech Republic (477), Denmark (471), Lithuania (470), Slovak Republic (469), Finland (469), Italy (468), Sweden (464), and the OECD average (463)
Countries whose learners had an average mathematics score not significantly different from that in Wales in PISA 2025	Germany (464), United States (463), Türkiye (462), Latvia (460), Portugal (460), Slovenia (460), Hungary (459), Luxembourg (458), France (458), Spain (457), Wales (456) , Croatia (455), United Arab Emirates (453), Norway (452), and Iceland (450)
Countries whose learners had an average mathematics score significantly below that in Wales in PISA 2025	Vietnam (443) and the remaining 50 countries whose learners had average scores below 440 points.

Base: All participating countries with average scores over 440 in mathematics in PISA 2025.

Two countries with the same score may have different outcomes from significance testing due to the different sample sizes and rounding.

Source: OECD PISA database for 2025

In PISA 2025, among the 90 participating countries, including Wales, learners in 22 countries had an average mathematics score that was significantly above the OECD average, while learners in 9 countries had an average score that was not significantly different from the OECD average. Learners in the remaining 59 countries had an average score significantly below the OECD average.

In relation to the comparator countries, the average scores for learners in Belgium (480), Denmark (471), New Zealand (480) and the Republic of Ireland (480) were significantly above the average score for learners in Wales (456).

4.5 Mathematics performance over time

Learners in Wales achieved an average score of 456 in mathematics in PISA 2025, which was significantly below the average score of 466 in PISA 2022. The average score in PISA

2025 was also significantly below the average score of 487 in PISA 2018 and the average score of 478 in 2015.

Similarly, the OECD trend average in mathematics in PISA 2025 (465) was significantly below the OECD trend averages in PISA 2022 (475), 2018 (490) and 2015 (487). Table 4.2 shows the changes in the average mathematics scores of learners in higher-performing countries, including Wales, and the OECD trend average between PISA 2022 and PISA 2025.

In total, of the 75 countries, including Wales, that participated in both PISA 2022 and PISA 2025, 9 countries saw a significant increase in their learners' average mathematics score in 2025 compared with 2022. A further 40 countries saw a significant decrease in their learners' average mathematics score, and the remaining 26 countries saw no significant change in their learners' average mathematics scores.

Table 4.2 Changes in learners' average mathematics score between PISA 2022 and PISA 2025 in higher-performing countries

Trend in mathematics performance	Country and change in learners' average mathematics score
Countries whose learners had an average mathematics score in PISA 2025 significantly above the average mathematics score in PISA 2022	United Arab Emirates (+21) and Türkiye (+8)
Countries whose learners had an average mathematics score in PISA 2025 not significantly different from the average mathematics score in PISA 2022	Slovak Republic (+5), New Zealand (+1), Taiwan (–1), United States (–2), Estonia (–2), Macao (–3), Italy (–3), Lithuania (–5), Poland (–5), South Korea (–5), the Netherlands (–9), and Japan (–10)
Countries whose learners had an average mathematics score in PISA 2025 significantly below the average mathematics score in PISA 2022	Croatia (–8), Switzerland (–9), Iceland (–9), OECD trend average (–9) , Australia (–10), Wales (–10) , Belgium (–10), Czech Republic (–10), Austria (–10), Germany (–11), Canada (–12), Singapore (–12), the Republic of Ireland (–12), Portugal (–12), Hungary (–13), Finland (–15), Spain (–16), France (–16), Norway (–17), Sweden (–18), Hong Kong (–19), Denmark (–19), Latvia (–23), Slovenia (–25), and Vietnam (–26)

Base: All higher-performing countries in PISA 2025 that also participated in PISA 2022.

OECD trend averages were calculated using OECD countries that participated in all cycles since PISA 2015, excluding Costa Rica and Spain.

Caution is required when interpreting estimated changes in score because one or more PISA sampling standards were not met in PISA 2022 in some of the included countries.

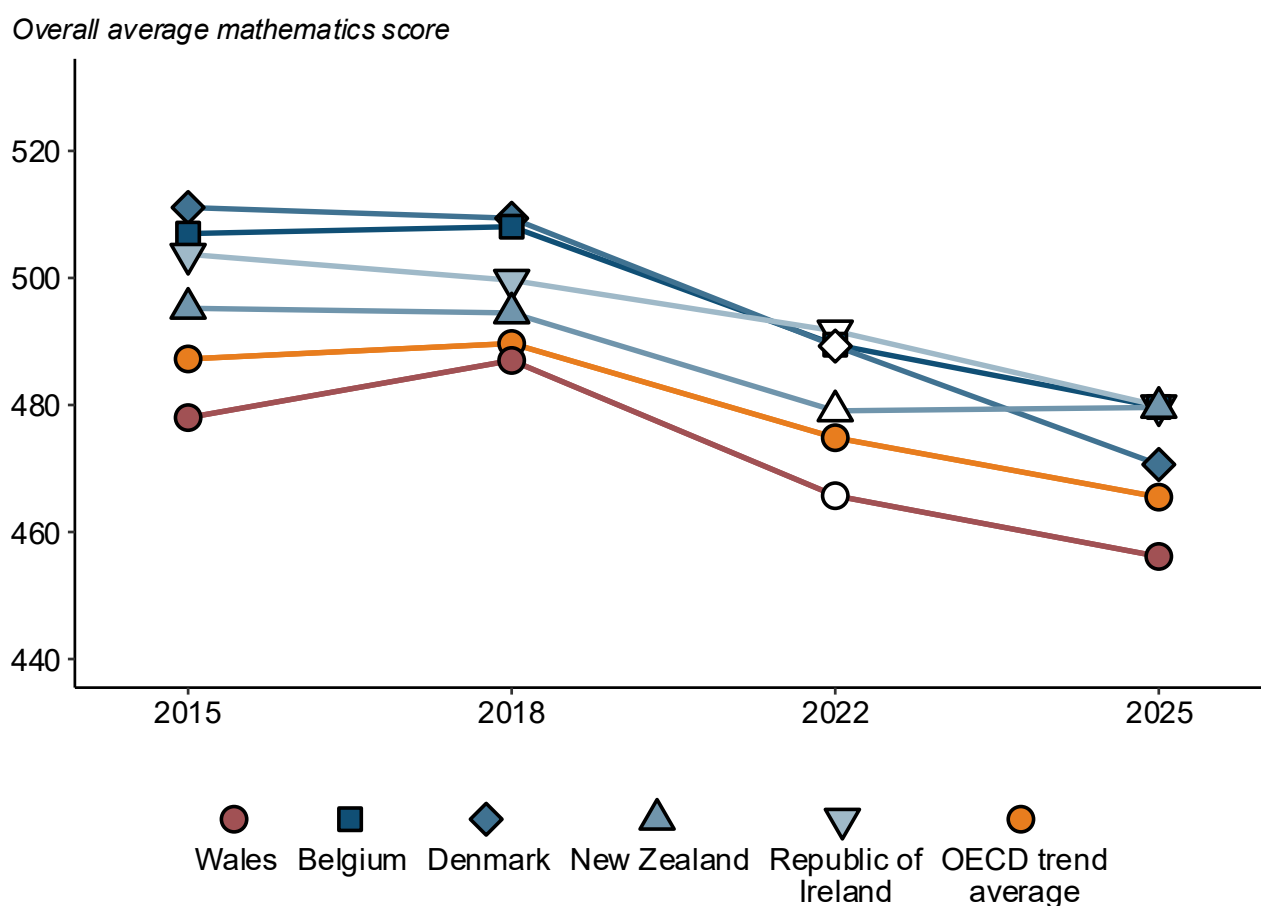
Two countries with a similar change in score may have different outcomes from significance testing due to the different sample sizes and rounding.

Changes in score may appear inconsistent with scores due to rounding.

Source: OECD PISA databases for 2025 and 2022

Figure 4.1 shows the trends over time in learners' average mathematics scores in Wales, Belgium, Denmark, New Zealand, the Republic of Ireland, as well as the OECD trend average. Similar to Wales, the average score for learners in Belgium (480), Denmark (471) and the Republic of Ireland (480) in PISA 2025 was significantly below the corresponding average score in the respective country in PISA 2022 (489, 489 and 492, respectively), 2018 (508, 509, and 500, respectively), and 2015 (507, 511, and 504, respectively). In New Zealand there was no significant difference between learners' average score in PISA 2025 (480) and that in 2022 (479), but this score was significantly below the scores in PISA 2018 (494) and 2015 (495).

Figure 4.1: Trends in mathematics performance in Wales, comparator countries and on average across the OECD trend countries



Country	2015	2018	2022	2025
Wales	* 478	* 487	* 466	456
Belgium	* 507	* 508	* 489	480
Denmark	* 511	* 509	* 489	471
New Zealand	* 495	* 494	479	480
Republic of Ireland	* 504	* 500	* 492	480
OECD trend average	* 487	* 490	* 475	465

Asterisks (*) indicate that the score shown was significantly different from the average score in that country for PISA 2025.

PISA cycles in which PISA sampling standards were not all met are indicated by a white point in the figure. OECD trend averages were calculated using PISA 2025 data for OECD countries that participated in all cycles, excluding Costa Rica and Spain.

Source: OECD PISA databases for 2025, 2022, 2018 and 2015

4.6 Differences between the highest- and lowest-performing learners in mathematics

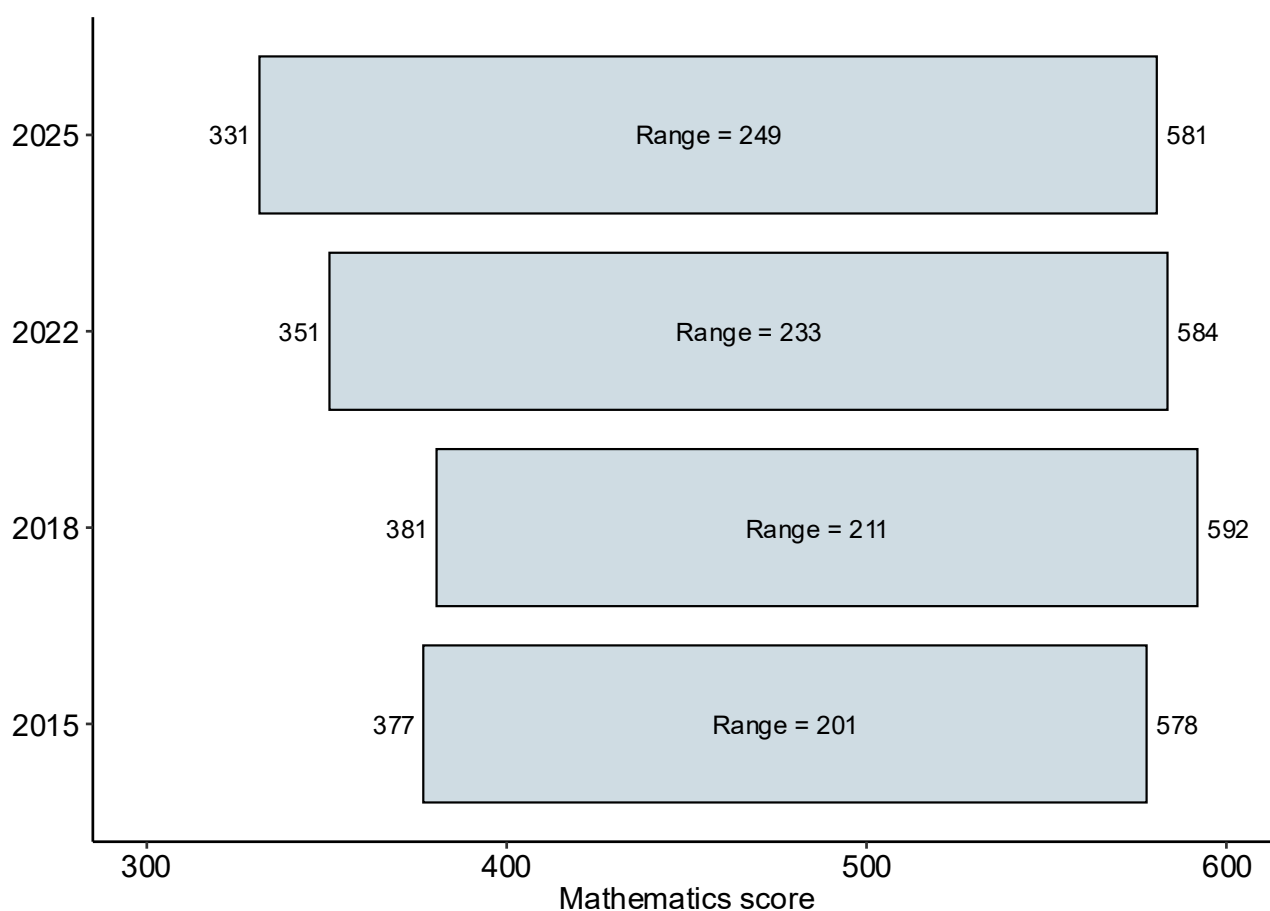
It is important to examine the difference in performance between the highest- and lowest-performing learners in mathematics. This is because even where learners in 2 countries have similar average scores in mathematics, there may be significant differences in how their learners are performing across the attainment range. For example, a country with a wide spread of attainment may have a relatively high percentage of learners who are performing at the lowest levels and a high percentage of learners performing at the highest levels – they will have greater disparity across their population of learners. On the other hand, a country with a lower spread of attainment may have fewer very high-performing learners but may also have fewer lower-performing learners – they will have less disparity across their learners. Despite these differences, it would be possible for learners in these 2 countries to attain the same average score, masking important differences between them.

The first way in which the spread of performance in each country can be examined is by looking at the distribution of scores. The 90th percentile is the score above which the highest-performing 10% of learners attain, while the 10th percentile is the score below which the lowest-performing 10% of learners attain. The difference between the highest- and lowest-performing learners at the 90th and 10th percentiles, the interdecile range, is a better measure of the spread of scores for comparing countries than using the very highest- and lowest-performing learners, as the latter comparison may be affected by a small number of learners with unusually high or low scores.

In PISA 2025, the interdecile range between Wales' highest- and lowest-performing learners was 249 points. This range was significantly larger than the range in PISA 2022 of 233 points, but was not significantly different from the OECD average interdecile range in PISA 2025 of 244 points. Figure 4.2 shows the trend in the distribution of PISA mathematics scores in Wales since PISA 2015. The increase in the interdecile range in Wales was largely due to the score at the 10th percentile falling significantly since, while the score at the 90th percentile has remained relatively stable.

In PISA 2025, the score at the 90th percentile in mathematics in Wales was 581 points. This was not significantly different from the average across OECD countries of 585 points. At the 10th percentile, the average score in Wales was 331 points, which was significantly below the average score across OECD countries of 341 points.

Figure 4.2 Trends in the range of mathematics performance between the highest- and lowest-performing learners in Wales



PISA cycle	Score at the 10th percentile	Score at the 90th percentile	Interdecile range
2025	331	581	249
2022	* 351	584	* 233
2018	* 381	592	* 211
2015	* 377	578	* 201

Base: All participating learners in Wales.

Asterisks (*) indicate that the score shown was significantly different from the respective score for PISA 2025.

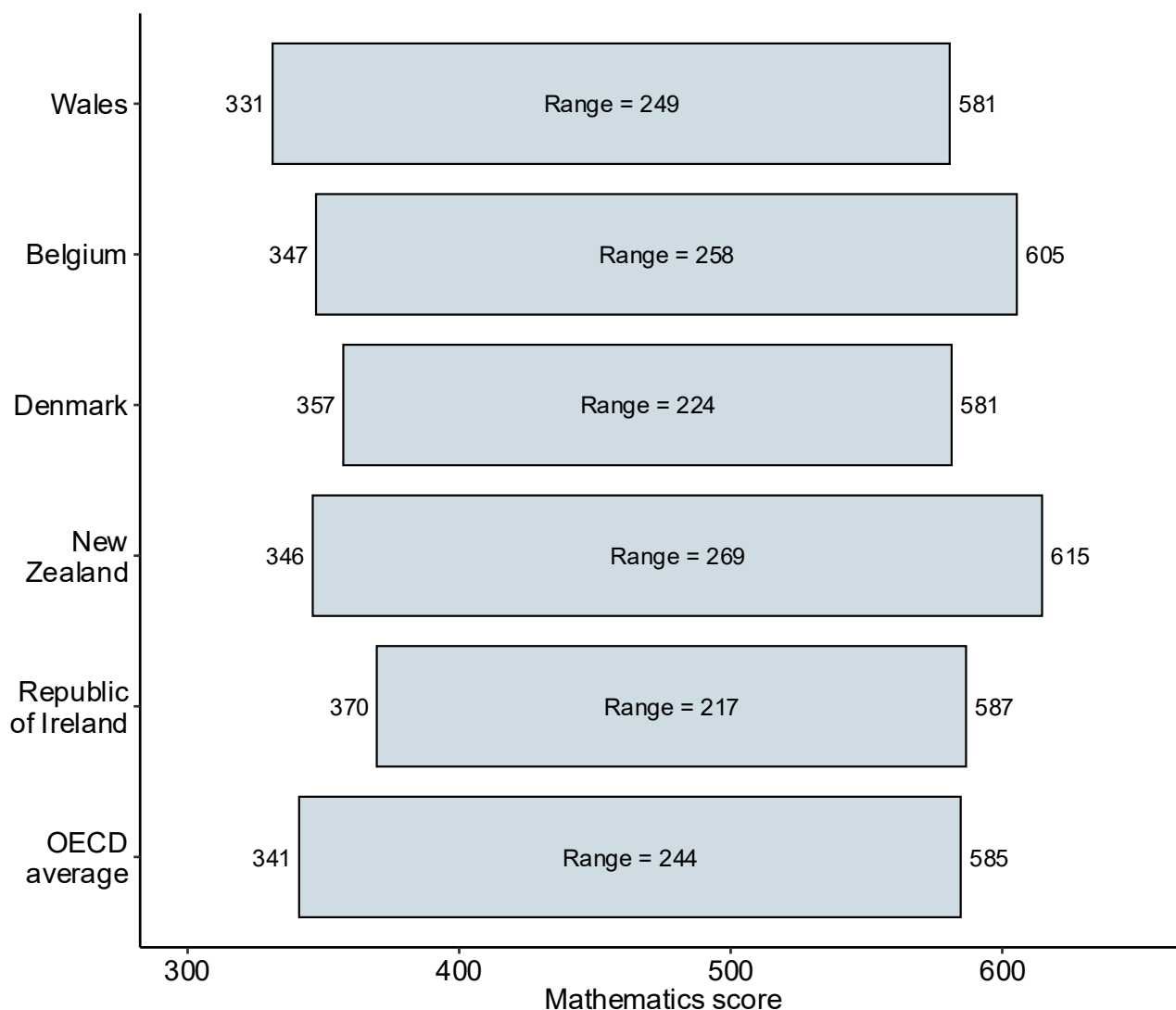
Interdecile ranges were calculated as 90th percentile – 10th percentile.

Interdecile ranges may appear inconsistent with percentile scores due to rounding.

Source: OECD PISA databases for 2025, 2022, 2018 and 2015

The range in New Zealand (269) was significantly larger than the range in Wales, while the range in the Republic of Ireland (217) and Denmark (224) were significantly smaller than in Wales. There was no significant difference between the range in Wales and the range in Belgium (258). Figure 4.3 shows the differences between the score at the 90th and 10th percentiles in Wales, Belgium, Denmark, New Zealand and the Republic of Ireland, as well as on average across OECD countries.

Figure 4.3 Range of mathematics performance between the highest-and lowest-performing learners in Wales, comparator countries and on average across OECD countries



Country	Score at the 10th percentile	Score at the 90th percentile	Interdecile range
Wales	331	581	249
Belgium	* 347	* 605	258
Denmark	* 357	581	* 224
New Zealand	* 346	* 615	* 269
Republic of Ireland	* 370	587	* 217
OECD average	* 341	585	244

Base: All participating learners in the included countries.

Asterisks () indicate that the score shown was significantly different from the respective score in Wales.*

Interdecile ranges were calculated as 90th percentile – 10th percentile.

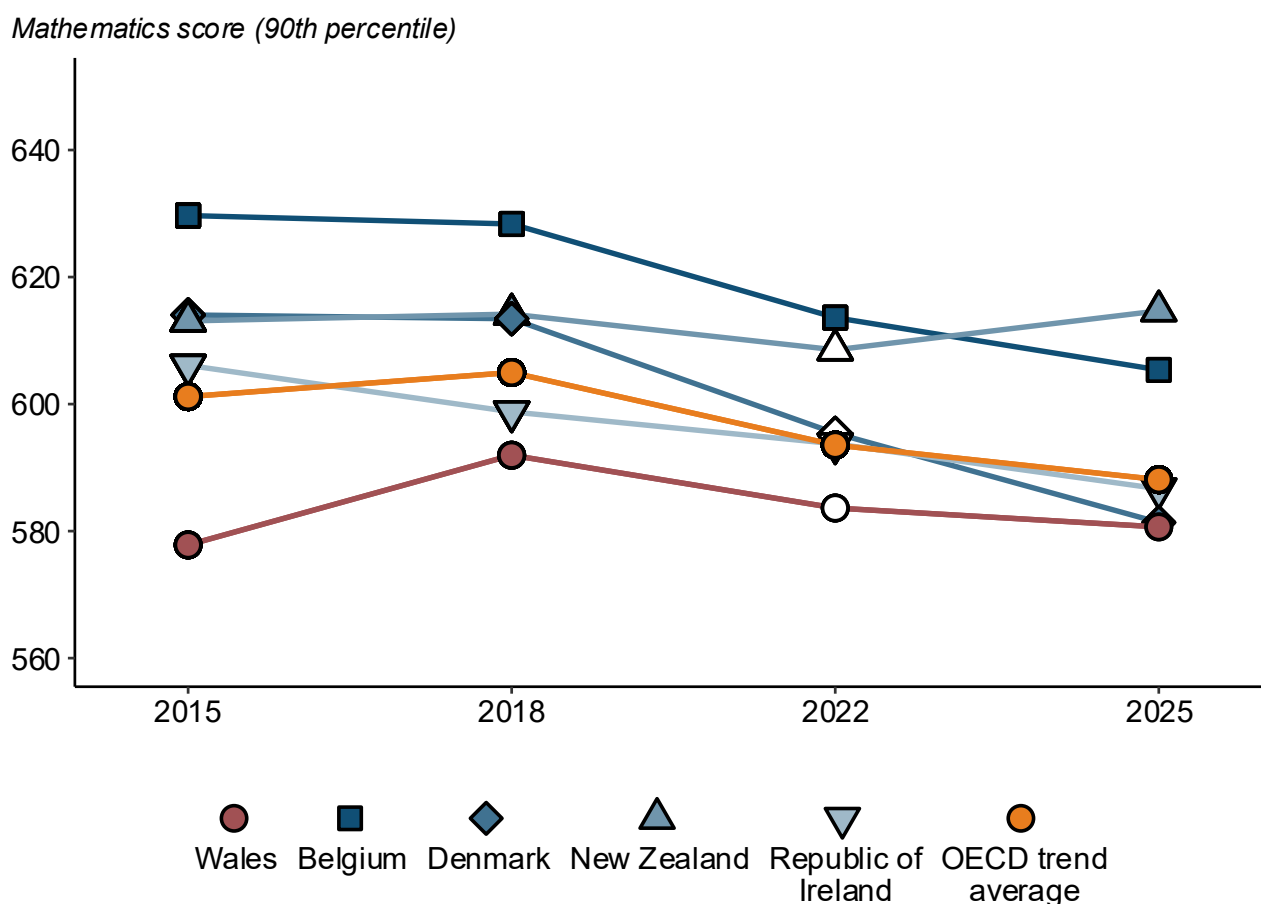
Interdecile ranges may appear inconsistent with percentile scores due to rounding.

Source: OECD PISA database for 2025

To further consider these differences between the highest- and the lowest-performing learners in mathematics in Wales, scores at the 90th and 10th percentiles can be compared with those of other countries. The score at the 90th percentile in Wales (581) was not significantly different from the score at the 90th percentile in Denmark (581), the Republic of Ireland (587), or on average across OECD countries (585). It was significantly below the respective scores in Belgium (605) and New Zealand (615).

Figure 4.4 shows the trends in the performance at the 90th percentile across the 4 most recent cycles of PISA for Wales, Belgium, Denmark, New Zealand, the Republic of Ireland, and the OECD trend average. While there have been no significant differences in the score at the 90th percentile in Wales or New Zealand since PISA 2015, on average across OECD trend countries there has been a decline in the scores at the 90th percentile since PISA 2018. This is also the case in Denmark.

Figure 4.4 Trends in mathematics performance at the 90th percentile in Wales, comparator countries and on average across OECD trend countries



Country	2015	2018	2022	2025
Wales	578	592	584	581
Belgium	* 630	* 628	614	605
Denmark	* 614	* 613	* 595	581
New Zealand	613	614	609	615
Republic of Ireland	* 606	* 599	594	587
OECD trend average	* 601	* 605	* 594	588

Asterisks (*) indicate that the score shown was significantly different from the score in that country for PISA 2025.

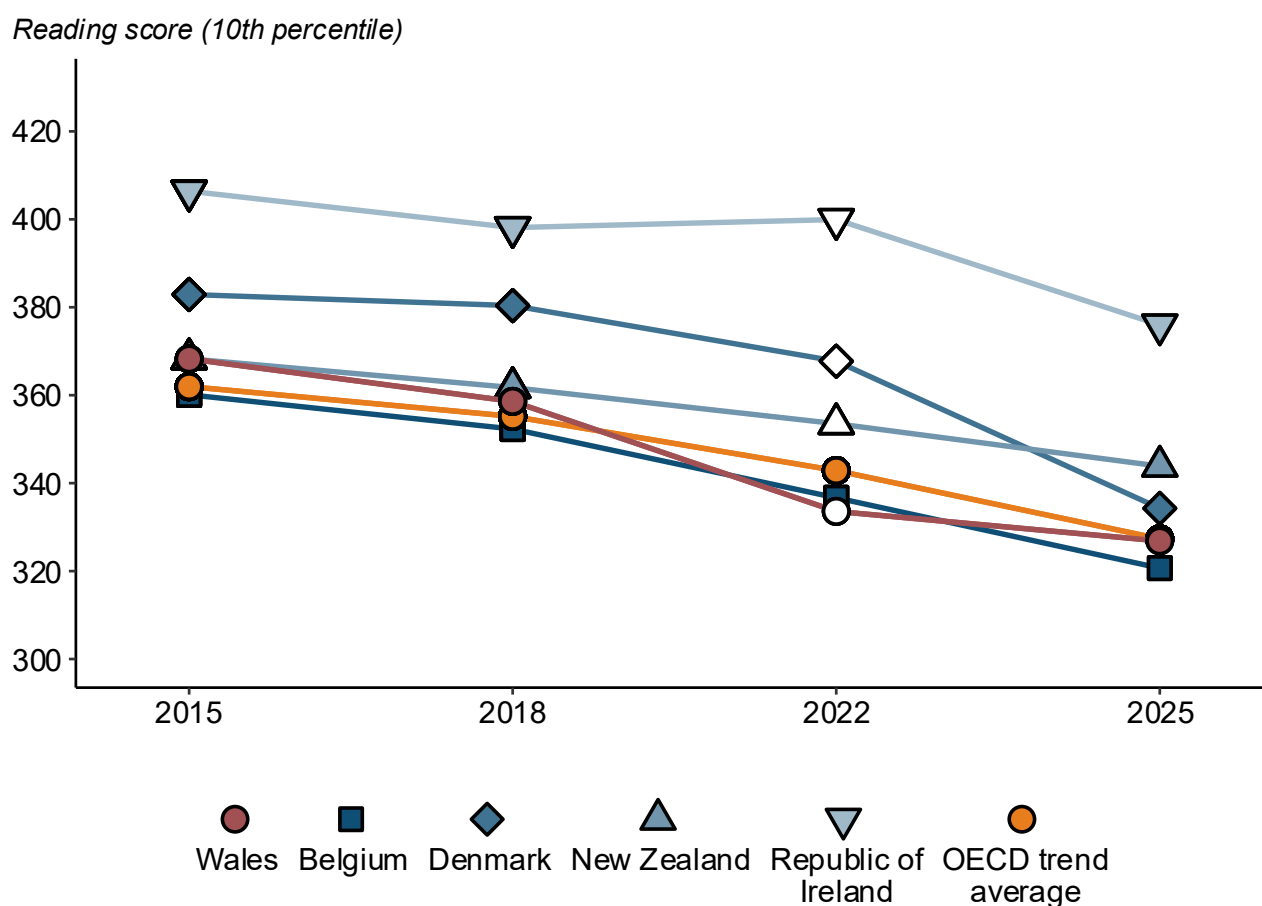
PISA cycles in which PISA sampling standards were not all met are indicated by a white point in the figure. OECD trend averages were calculated using PISA 2025 OECD countries that participated in all cycles, excluding Costa Rica and Spain.

Source: OECD PISA databases for 2025, 2022, 2018 and 2015

The score at the 10th percentile in Wales (331) was significantly below the respective scores in Belgium (347), Denmark (357), New Zealand (346), the Republic of Ireland (370) and on average across OECD countries (342).

Figure 4.5 shows the trend in the performance at the 10th percentile across the 4 most recent cycles of PISA for Wales, Belgium, Denmark, New Zealand, the Republic of Ireland, and the OECD trend average.

Figure 4.5 Trends in mathematics performance at the 10th percentile in Wales, comparator countries and on average across OECD trend countries



Country	2015	2018	2022	2025
Wales	* 377	* 381	* 351	331
Belgium	* 374	* 377	* 359	347
Denmark	* 405	* 401	* 383	357
New Zealand	* 375	* 372	350	346
Republic of Ireland	* 400	* 397	* 387	370
OECD trend average	* 370	* 371	* 356	342

Asterisks (*) indicate that the score shown was significantly different from the score in that country for PISA 2025.

PISA cycles in which PISA sampling standards were not all met are indicated by a white point in the figure. OECD trend averages were calculated using PISA 2025 OECD countries that participated in all cycles, excluding Costa Rica and Spain.

Source: OECD PISA databases for 2025, 2022, 2018 and 2015

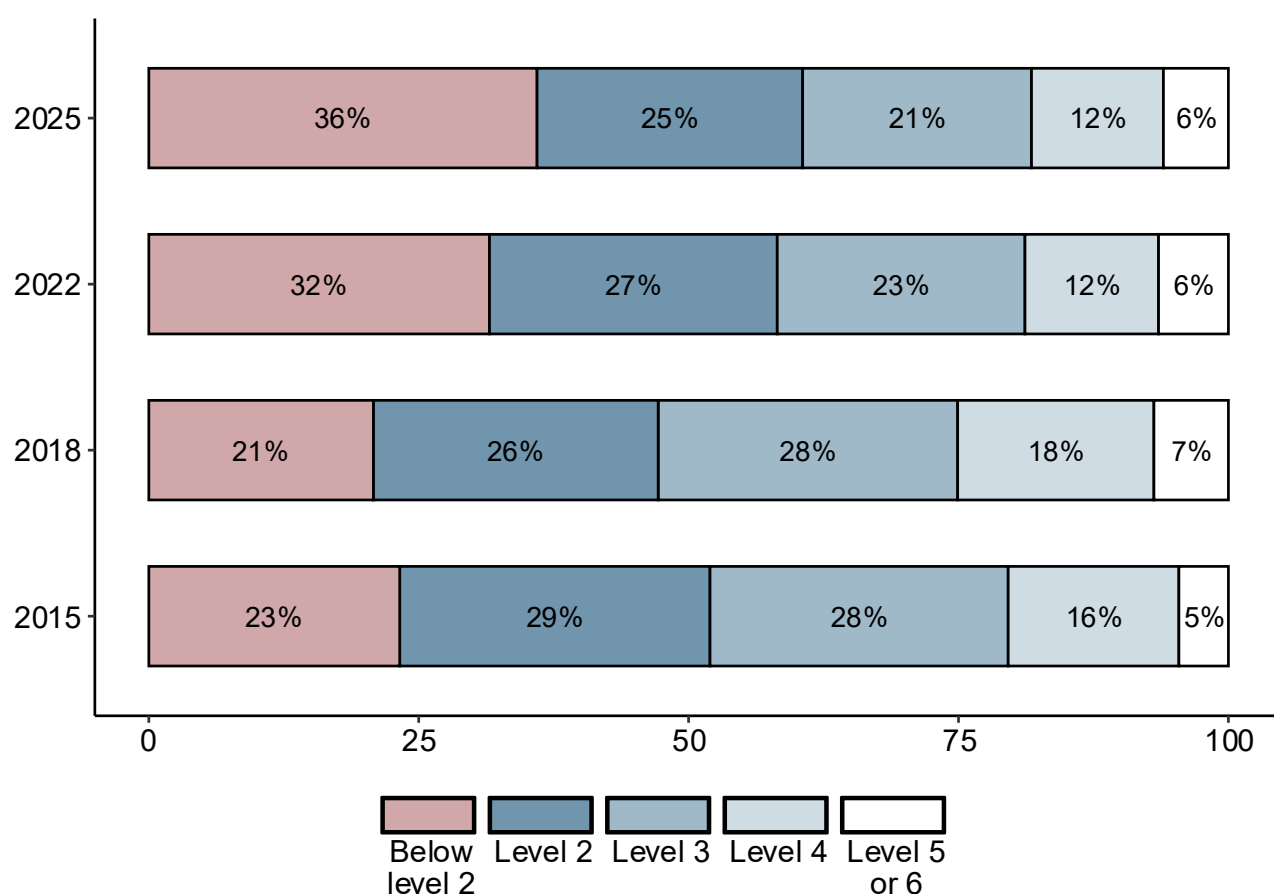
The score at the 10th percentile in Wales (331) in PISA 2025 was significantly below the scores in PISA 2022, PISA 2018 and PISA 2015. This reflects a general trend across OECD trend countries and most of the comparator countries, with a decline in the score at the 10th percentile.

4.7 Performance across mathematics proficiency levels

Another way to examine the spread of performance by looking at performance at each of the PISA mathematics proficiency levels. The PISA proficiency levels describe the tasks that learners performing at each level can do. They are devised internationally and are illustrated in the international report (OECD, 2026). Mathematics performance in PISA is described in terms of 6 proficiency levels (Levels 1–6, with Level 1 subdivided into 1a, 1b, and 1c). These proficiency levels are outlined in the [PISA 2025 Assessment and Analytical Framework](#). Level 2 is considered the baseline level of proficiency in mathematics where learners can begin to use mathematics in simple real-life situations, which is needed to participate fully in society.

In total 6% of learners in Wales performed at the highest proficiency levels (Levels 5 or 6), which was significantly smaller than the OECD average of 8%. Wales had 36% of learners working at the lower proficiency levels (below Level 2), which was not significantly different from the OECD average of 35%. Figure 4.6 shows the percentage of learners in Wales performing at each mathematics proficiency level over the 4 most recent cycles of PISA.

Figure 4.6 Percentage of learners performing at each mathematics proficiency level in Wales in PISA 2025, 2022, 2018 and 2015



PISA Cycle	Below Level 2	Level 2	Level 3	Level 4	Level 5 or 6
2025	36%	25%	21%	12%	6%
2022	32%	27%	23%	12%	6%
2018	21%	26%	28%	18%	7%
2015	23%	29%	28%	16%	5%

Base: All participating learners in Wales.

Individual percentages may not total 100% due to rounding.

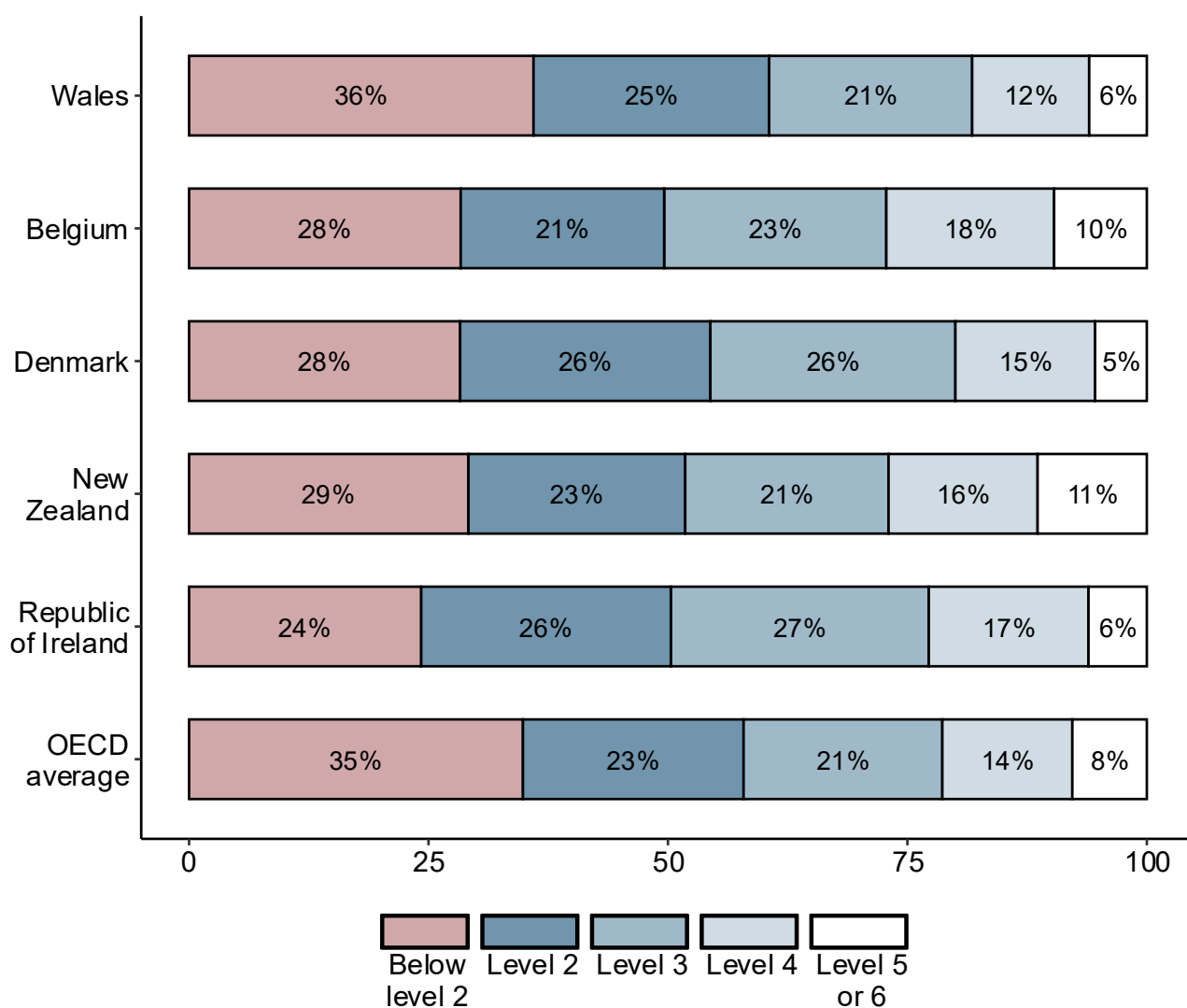
It was not possible at the point of writing to calculate whether there were significant differences between percentages across the PISA cycles.

Source: OECD PISA databases for 2025, 2022, 2018 and 2015

Figure 4.7 shows the distribution of learners in Wales, Belgium, Denmark, New Zealand, the Republic of Ireland, and on average across OECD countries achieving each of the proficiency levels for mathematics in PISA 2025.

At the highest proficiency levels (Levels 5 or 6), the percentage of learners in Wales (6%) was not significantly different from the percentage of learners in Denmark (5%) or the Republic of Ireland (6%) but was significantly smaller than the percentage of learners in Belgium (10%) and New Zealand (11%).

Figure 4.7 Percentage of learners performing at each mathematics proficiency level in Wales, comparator countries and on average across OECD countries in 2025



Country	Below Level 2	Level 2	Level 3	Level 4	Level 5 or 6
Wales	36%	25%	21%	12%	6%
Belgium	* 28%	* 21%	23%	* 18%	* 10%
Denmark	* 28%	26%	* 26%	* 15%	5%
New Zealand	* 29%	23%	21%	* 16%	* 11%
Republic of Ireland	* 24%	26%	* 27%	* 17%	6%
OECD average	35%	23%	21%	14%	* 8%

Base: All participating learners in the countries included.

Asterisks (*) indicate that the score shown was significantly different from the respective score in Wales.

Individual percentages for a country may not total 100% due to rounding.

Source: OECD PISA database for 2025

At the lowest proficiency levels (below Level 2), the percentage of learners in Wales (36%) was significantly larger than the percentage of learners in Belgium (28%), Denmark (28%), New Zealand (29%) and the Republic of Ireland (24%).

5 Equity and Inclusion - Gender

5.1 Chapter Overview

In this chapter we explore differences in learners' PISA scores in science, reading and mathematics according to gender. As described in chapter 1, the OECD average is the average for all the 38 OECD countries participating in 2025. The OECD trend average is the average for the 35 countries that participated in each of the latest 4 PISA cycles (2015, 2018, 2022 and 2025)⁴⁰.

5.2 Key findings

5.2.1 Science

- In 2025, girls and boys in Wales achieved average scores of 476 and 475, respectively, in science. Both scores were not significantly⁴¹ different from the scores achieved in 2022. A similar pattern was observed in the OECD trend average with no significant changes in girls' or boys' scores between 2022 and 2025.
- Over the longer term, girls' science scores were stable between 2015 and 2025 while boys' science scores in 2025 were significantly below the scores achieved in 2015. This was the case for Wales and for the OECD trend average.
- In Wales in 2025, there was no significant gender gap in science, continuing the pattern observed in the previous 3 PISA cycles. Over the same period, the OECD trend average showed significant gender gaps in 2025 and 2018 (favouring girls) and in 2015 (favouring boys).
- There was also no gender gap in Wales in 2025 in science scores at either the 10th percentile or 90th percentile of science scores.
- In Wales, the same percentage of girls and boys (6%) achieved the highest science proficiency levels (Levels 5 or 6) in 2025 while there was also no significant difference in the percentages of girls (26%) and boys (27%) performing below the baseline science proficiency level (Level 2).

5.2.2 Reading

- In 2025, girls and boys in Wales achieved average reading scores of 472 and 446, respectively. Both scores were not significantly different from the scores achieved in

⁴⁰ The 35 OECD trend countries are those OECD countries in PISA 2025 that have participated in every cycle since PISA 2015, excluding Costa Rica and Spain. See chapter 1 for further details.

⁴¹ In this report, findings described as significant are statistically significant. See chapter 1 for further details.

2022. By contrast, the OECD trend average scores for both girls and boys in 2025 were significantly below the scores achieved in 2022.

- Over the longer term, girls' reading scores were stable between 2015 and 2025 while boys recorded a significant decrease in reading scores over the same period. The OECD trend averages for both girls and boys decreased significantly over the same period.
- In 2025, girls in Wales significantly outperformed boys in terms of average reading scores with the gender gap significantly widening from 11 points in 2015 to 26 points in 2025. Over the same period, there were also a significant gender gaps in favour of girls in the OECD trend averages with the gap widening from 27 points in 2015 to 30 points in 2025.
- The gender gap in average reading scores in favour of girls in Wales in 2025 was mirrored at both the 10th percentile and 90th percentile of reading scores and in terms of reading proficiency. In Wales, a significantly larger percentage of girls achieved the highest reading proficiency levels compared with boys (5% and 3% at Levels 5 or 6) in 2025 while a significantly smaller percentage performed below the baseline science proficiency level (25% compared with 35%).

5.2.3 Mathematics

- In 2025, girls and boys in Wales achieved average scores of 450 and 462, respectively, in mathematics. For girls, this was significantly below the score achieved in 2022 while, for boys, the score was not significantly different. The OECD trend averages for boys and girls in 2025 were significantly below the trend averages in 2022.
- Over the longer term, both girls' and boys' mathematics scores in 2025 were significantly below the scores in 2015. This was the case for Wales and for the OECD trend average.
- In 2025, boys significantly outperformed girls in terms of average mathematics scores, mirroring performance in PISA 2022 and 2015. The OECD trend averages show boys significantly outperforming girls in each of the latest 4 cycles. There was no significant widening or narrowing of the mathematics gender gap over this period in Wales. However, the gender gap in favour of boys significantly widened for the OECD trend average.
- The scores for girls and boys in Wales at the 10th percentile and 90th percentile were not significantly different in 2025.
- There were no significant differences recorded in the percentages of girls and boys who achieved the highest mathematics proficiency levels (5% compared with 7% at Levels 5 or 6) or the percentages of girls and boys who performed below the baseline mathematics proficiency level (38% compared with 34% below Level 2).

5.3 Did science performance differ by gender?

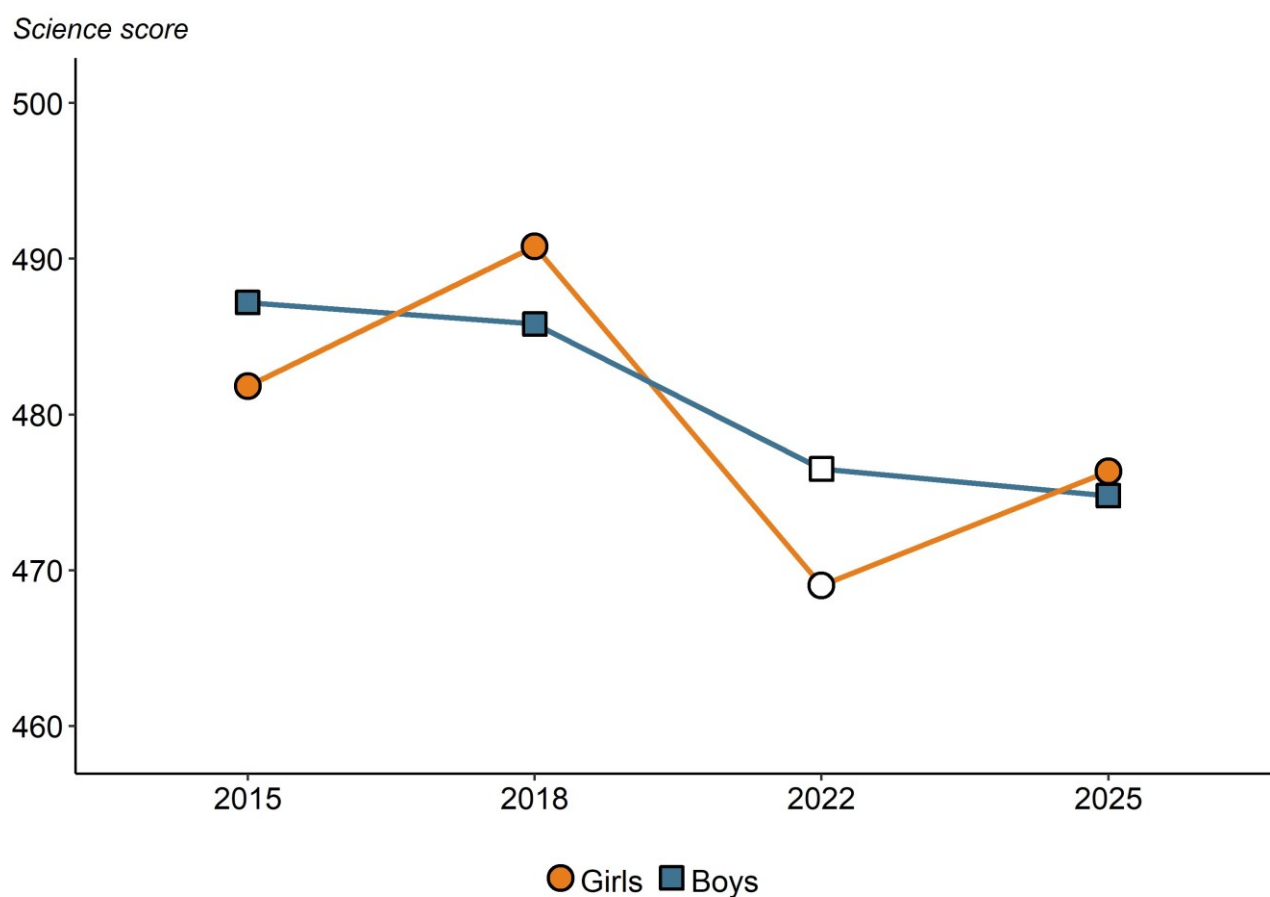
5.3.1 How did girls in Wales perform in science?

- Girls achieved an average score of 476 in science in 2025.
- The 2025 score for girls was not significantly different from the average scores achieved in 2022 or 2015.
- The 2025 score was significantly below the score of 491 achieved in 2018 (see Figure 5.1).

5.3.2 How did boys in Wales perform in science?

- Boys performed at a similar level to girls in science with a score of 475 in 2025 (there was no significant difference between the scores).
- The score in 2025 was not significantly different from the scores achieved in 2022 or 2018 but was significantly below the score of 487 achieved in 2015 (see Figure 5.1).

Figure 5.1 Trend in girls' and boys' science performance in Wales



Gender	2015	2018	2022	2025
Girls	482	* 491	469	476
Boys	* 487	486	477	475

Base: All participating learners in Wales.

Asterisks () indicate that the score shown was significantly different from the average score for PISA 2025.*

PISA cycles in which PISA sampling standards were not all met are indicated by a white point in the figure.

Source: OECD PISA databases for 2025, 2022, 2018 and 2015

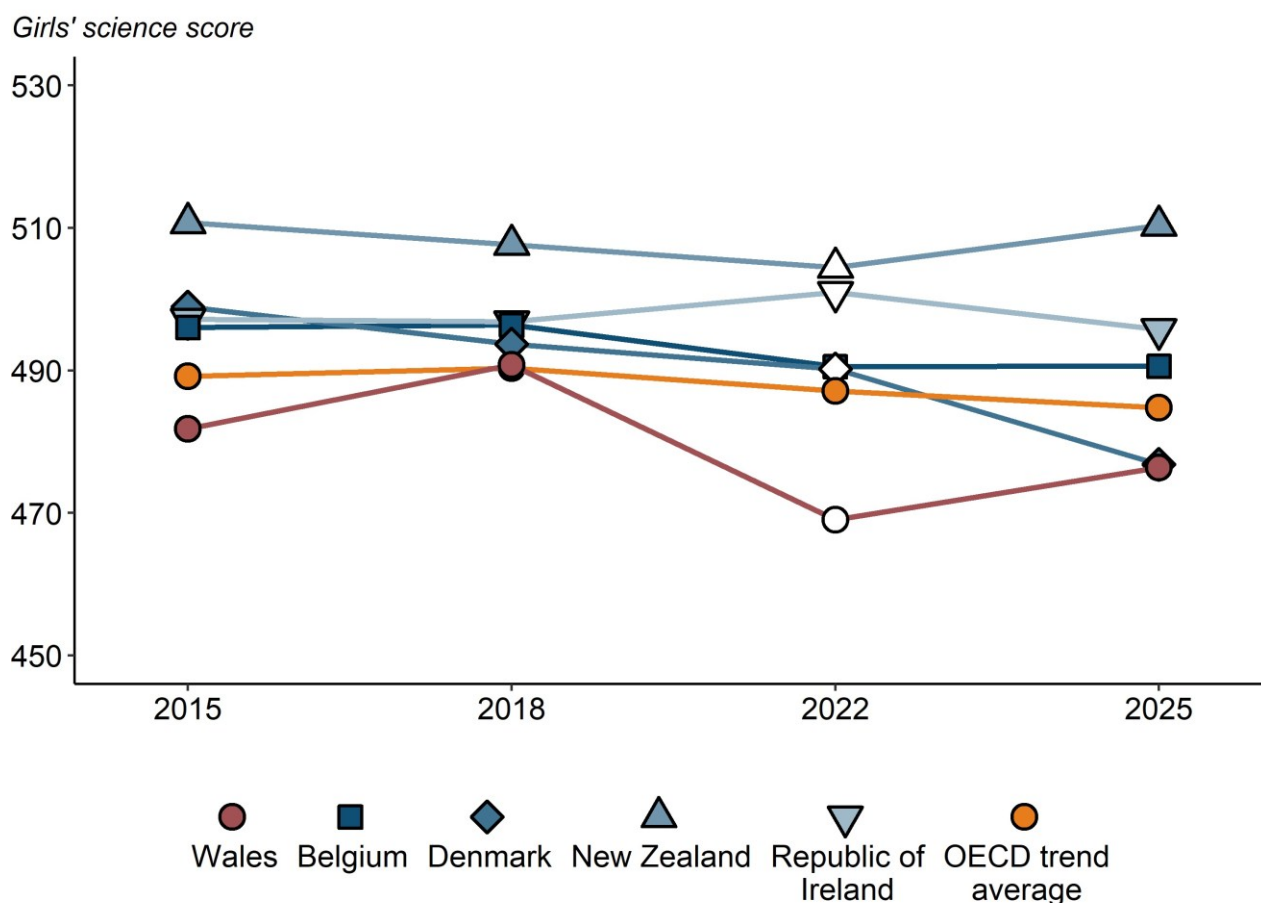
5.3.3 What does PISA tell us about girls' performance in science?

Figure 5.2 shows that there was a stable trend for girls' science performance in Wales between 2015 and 2025 with no significant difference between the scores (482 and 476 respectively). The same trend was observed in each of the comparator countries (except Denmark) and mirrored in the OECD trend average. In Denmark there was a significant downward trend in girls' science scores between 2015 (499) and 2025 (477).

The average score for girls in Wales in 2022 (469) was also not significantly different from the score in 2025 (476). This pattern was also found in each of the comparator countries

(except Denmark) and the OECD trend averages. However, the score for girls in Wales in 2025 (476) was significantly below the 2018 score (491), a pattern found also in Denmark.

Figure 5.2 Trends in girls' science performance in Wales, comparator countries and the OECD trend average



Country	2015	2018	2022	2025
Wales	482	* 491	469	476
Belgium	496	496	491	491
Denmark	* 499	* 494	* 490	477
New Zealand	511	508	504	510
Republic of Ireland	497	497	501	496
OECD trend average	489	490	487	485

Base: All participating learners in the countries included.

Asterisks (*) indicate that the score shown was significantly different from the average score in that country for PISA 2025.

PISA cycles in which PISA sampling standards were not all met are indicated by a white point in the figure. OECD trend averages were calculated using PISA 2025 data for OECD countries that participated in all cycles, excluding Costa Rica and Spain.

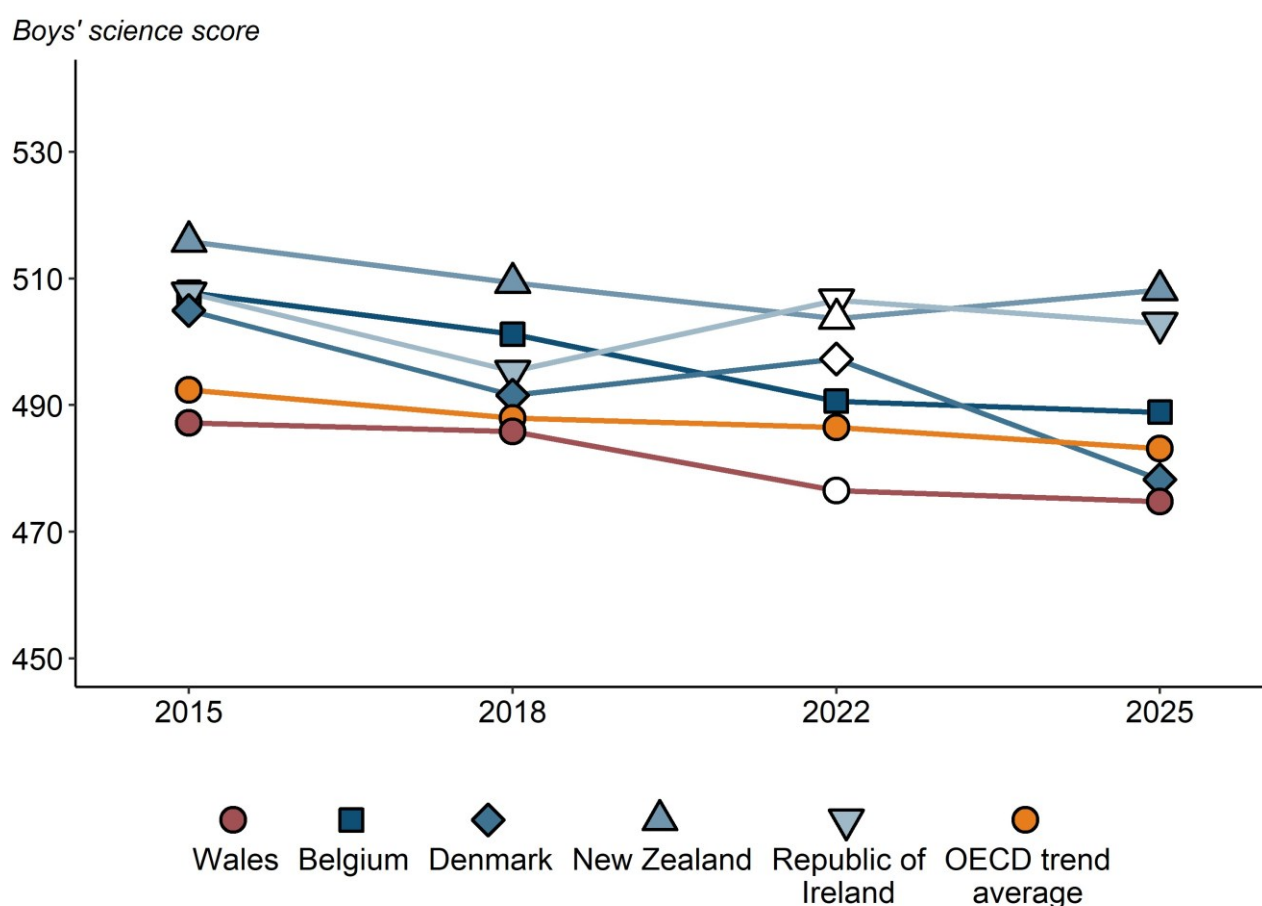
Source: OECD PISA databases for 2025, 2022, 2018 and 2015

5.3.4 What does PISA tell us about boys' performance in science?

Figure 5.3 shows that between 2015 and 2025 there was a downward trend in the average science score for boys in Wales with the score in 2025 (475) significantly below the corresponding score in 2015 (487). This pattern was mirrored in Belgium and Denmark as well as in the OECD trend average. In New Zealand and the Republic of Ireland, there were no significant differences between boys' science scores in 2015 and 2025.

However, the average scores for boys in Wales in both 2018 (486) and 2022 (477) were not significantly different from the score in 2025 (475). This pattern was also observed in New Zealand, the Republic of Ireland and in the OECD trend averages. In Belgium, the average science score for 2025 (489) was significantly below the score for 2018 (501) while in Denmark the average science score for 2025 (478) was significantly below the scores for 2018 (492) and 2022 (497).

Figure 5.3 Trends in boys' science performance in Wales, comparator countries and the OECD trend average



Country	2015	2018	2022	2025
Wales	* 487	486	477	475
Belgium	* 508	* 501	491	489
Denmark	* 505	* 492	* 497	478
New Zealand	516	509	504	508
Republic of Ireland	508	495	507	503
OECD trend average	* 492	488	486	483

Base: All participating learners in the countries included.

Asterisks (*) indicate that the score shown was significantly different from the average score in that country for PISA 2025.

PISA cycles in which PISA sampling standards were not all met are indicated by a white point in the figure. OECD trend averages were calculated using PISA 2025 data for OECD countries that participated in all cycles, excluding Costa Rica and Spain.

Source: OECD PISA databases for 2025, 2022, 2018 and 2015

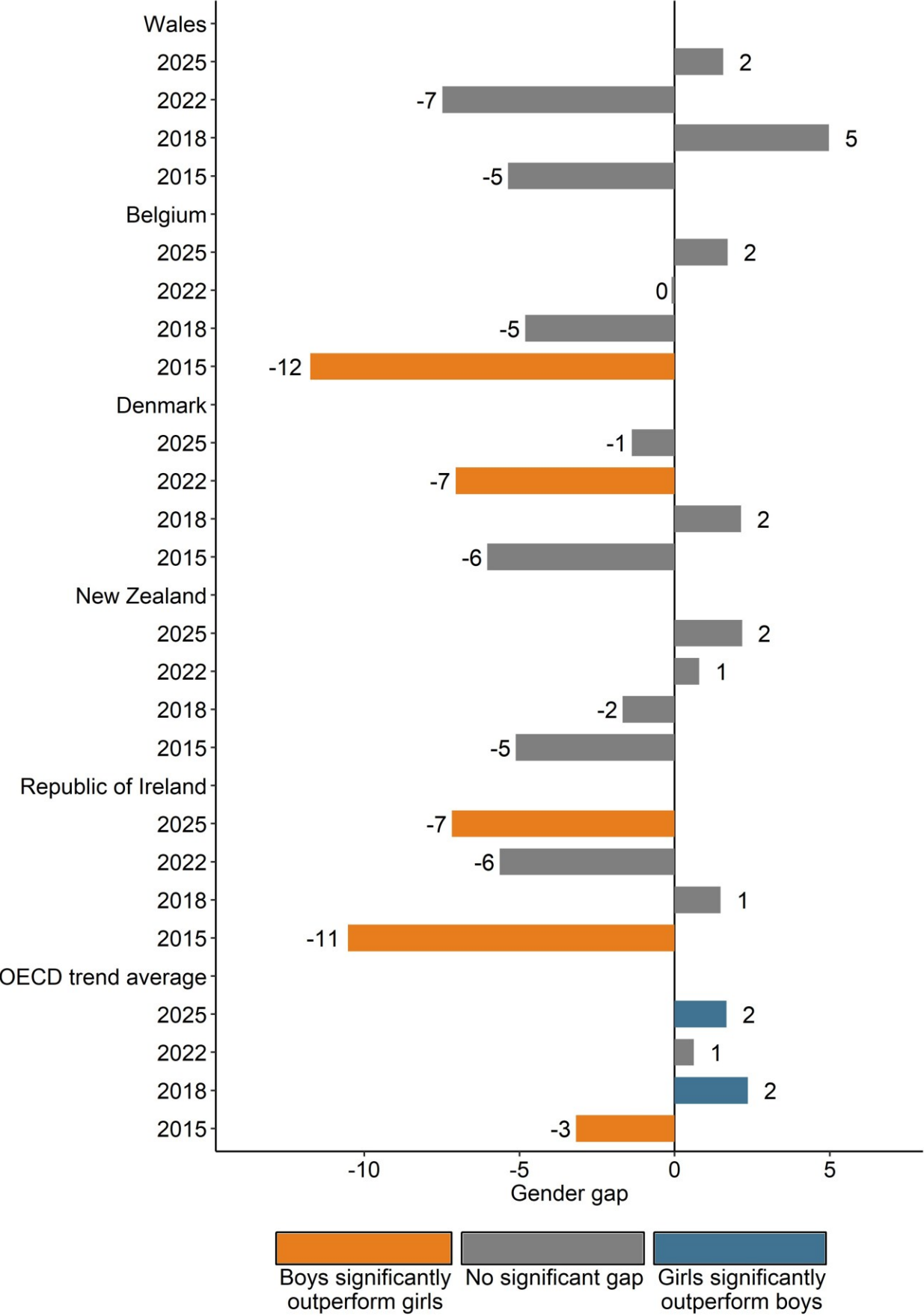
5.3.5 How have gender gaps in science performance changed over time?

As shown in Figure 5.4, there was no significant gap between the average science scores for girls and boys in Wales in PISA 2025 (2 points) or in each of the previous 3 cycles⁴². This pattern was also seen in the performance of girls and boys in New Zealand.

In Belgium, there was a significant gap (–12 points) in girls' and boys' performance in 2015 (in favour of boys) while this was also true in Denmark in 2022 (–7 points) and the Republic of Ireland in both 2015 (–11 points) and 2025 (–7 points). In each case, the gaps favoured boys. The OECD trend averages showed significant gaps in 2025 and 2018 (both 2 points) favouring girls and in 2015 (–3) favouring boys, with no significant difference in 2022.

⁴² Gaps were calculated as the average score for girls – the average score for boys. A negative number indicates the average score for girls was below the score for boys.

Figure 5.4 Gender gaps in science performance in Wales, comparator countries and the OECD trend average



Country	2015	2018	2022	2025
Wales	–5	5	–7	2
Belgium	* –12	–5	0	2
Denmark	–6	2	* –7	–1
New Zealand	–5	–2	1	2
Republic of Ireland	* –11	1	–6	* –7
OECD trend average	* –3	* 2	1	* 2

Base: All participating learners in the countries included.

Gaps were calculated as girls' scores – boys' scores.

Asterisks () indicate that girls' average scores are significantly different from boys' average scores within individual PISA cycles.*

PISA sampling standards were not all met in PISA 2022.

OECD trend averages were calculated using PISA 2025 data for OECD countries that participated in all cycles, excluding Costa Rica and Spain.

Source: OECD PISA databases for 2025, 2022, 2018 and 2015

As shown in Table 5.1 there was no significant change in the gender gap when comparing the science performance of girls and boys in Wales between 2025 and each of the preceding 3 cycles. These patterns were also observed in Denmark, New Zealand and the Republic of Ireland. By contrast, in Belgium there was a significant difference in the gender gap in 2015 compared with 2025. The OECD trend average also shows a significant difference in the gender gap in 2015 (–3 points) compared with 2025 (2 points).

Table 5.1 Trends in gender gaps in science performance in Wales, comparator countries and the OECD trend average

Country	2015	2018	2022	2025
Wales	–5	5	–7	2
Belgium	* –12	–5	0	2
Denmark	–6	2	–7	–1
New Zealand	–5	–2	1	2
Republic of Ireland	–11	1	–6	–7
OECD trend average	* –3	2	1	2

Base: All participating learners in the countries included.

Gaps were calculated as girls' scores – boys' scores.

Asterisks () indicate a significant difference in the gender gap compared with the gender gap in that country in 2025.*

PISA sampling standards were not all met in PISA 2022.

The science gender gap for learners in Wales was examined in the context of all higher-performing countries in PISA 2025 (where learners achieved an average science score above 440)⁴³. In 6 countries the average score for girls was significantly below the score for boys. In 28 countries (including Wales), there was no significant difference between girls' and boys' average scores. In 11 countries, the average score for girls was significantly above the score for boys, as was the case for the OECD average.

5.3.6 How did girls and boys in Wales perform at the 10th and 90th percentiles in science?

This section compares the performance of the highest- and lowest-achieving girls and boys using the 10th (lowest) and 90th (highest) percentile scores for science and provides the difference (the interdecile range, shortened to range) between these two scores⁴⁴.

Figure 5.5 shows the average scores at the 10th and 90th percentiles and interdecile ranges for learners in Wales, its comparator countries and the OECD average while Table 5.2 shows the significance of differences between girls' and boys' average scores and gender gaps.

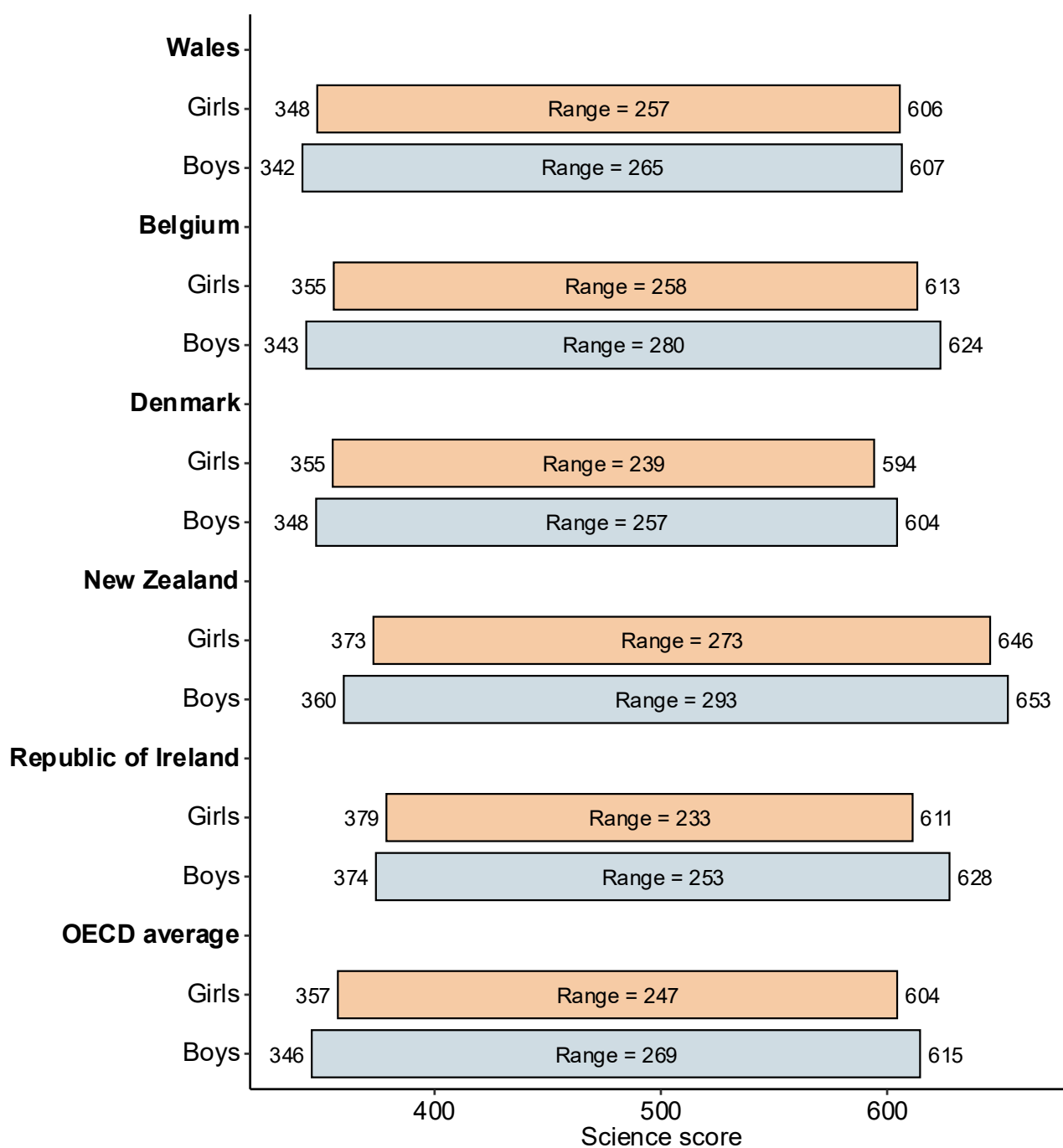
In Wales, there was no significant difference between girls' and boys' science scores at either the 10th or 90th percentiles. Therefore, in Wales, the range in girls' science scores (257) was not significantly different from the range of boys' scores (265).

By contrast, the range of girls' scores was significantly narrower than for boys in each of the comparator countries. The same pattern was observed in the OECD average where there was a range of 247 in girls' scores compared with a range of 269 in boys' scores.

⁴³ Gaps were calculated as girls' scores – boys' scores. A negative number indicates the average score for girls is below the average score for boys.

⁴⁴ See Chapter 1 (1.4.5) for definitions of percentiles and interdecile range.

Figure 5.5 Performance of girls and boys at the 10th and 90th percentiles in science in Wales, comparator countries and the OECD average



Country	Group	Score at the 10th percentile	Score at the 90th percentile	Interdecile range
Wales	Girls	348	606	257
Wales	Boys	342	607	265
Belgium	Girls	355	613	258

Country	Group	Score at the 10th percentile	Score at the 90th percentile	Interdecile range
Belgium	Boys	343	624	280
Denmark	Girls	355	594	239
Denmark	Boys	348	604	257
New Zealand	Girls	373	646	273
New Zealand	Boys	360	653	293
Republic of Ireland	Girls	379	611	233
Republic of Ireland	Boys	374	628	253
OECD average	Girls	357	604	247
OECD average	Boys	346	615	269

Base: All participating learners in the countries included.

Interdecile ranges were calculated as 90th percentile – 10th percentile.

Interdecile ranges may appear inconsistent due to rounding.

Source: OECD PISA database for 2025

Table 5.2: Gender gap at the 10th and 90th percentiles in science in Wales and the OECD average

Country	Gender gap at the 10th percentile	Gender gap at the 90th percentile	Gender gap in the interdecile range
Wales	7	–1	–7
Belgium	12	* –10	* –22
Denmark	7	–10	* –17
New Zealand	13	–8	* –21
Republic of Ireland	5	* –16	* –21
OECD average	* 12	* –10	* –22

Base: All participating learners in the countries included.

Gaps were calculated as girls' scores – boys' scores and range of girls' scores – range of boys' scores.

Asterisks () indicate a significant gender gap (significant difference between girls' and boys' scores and significant difference in ranges of scores).*

Two countries with the same or similar gap may have different outcomes from significance testing due to the different sample sizes and rounding.

Source: OECD PISA database for 2025

5.3.7 To what extent did girls and boys in Wales reach the highest and lowest PISA proficiency levels in science compared with the OECD averages and comparator countries?

This section compares girls' and boys' performance in terms of the percentages attaining each of the PISA proficiency levels for science (levels range between 1 and 6). In this section the proportion of higher-performing girls and boys (those attaining Level 5 or Level 6) and lower-performing girls and boys (those attaining below Level 2) are compared⁴⁵.

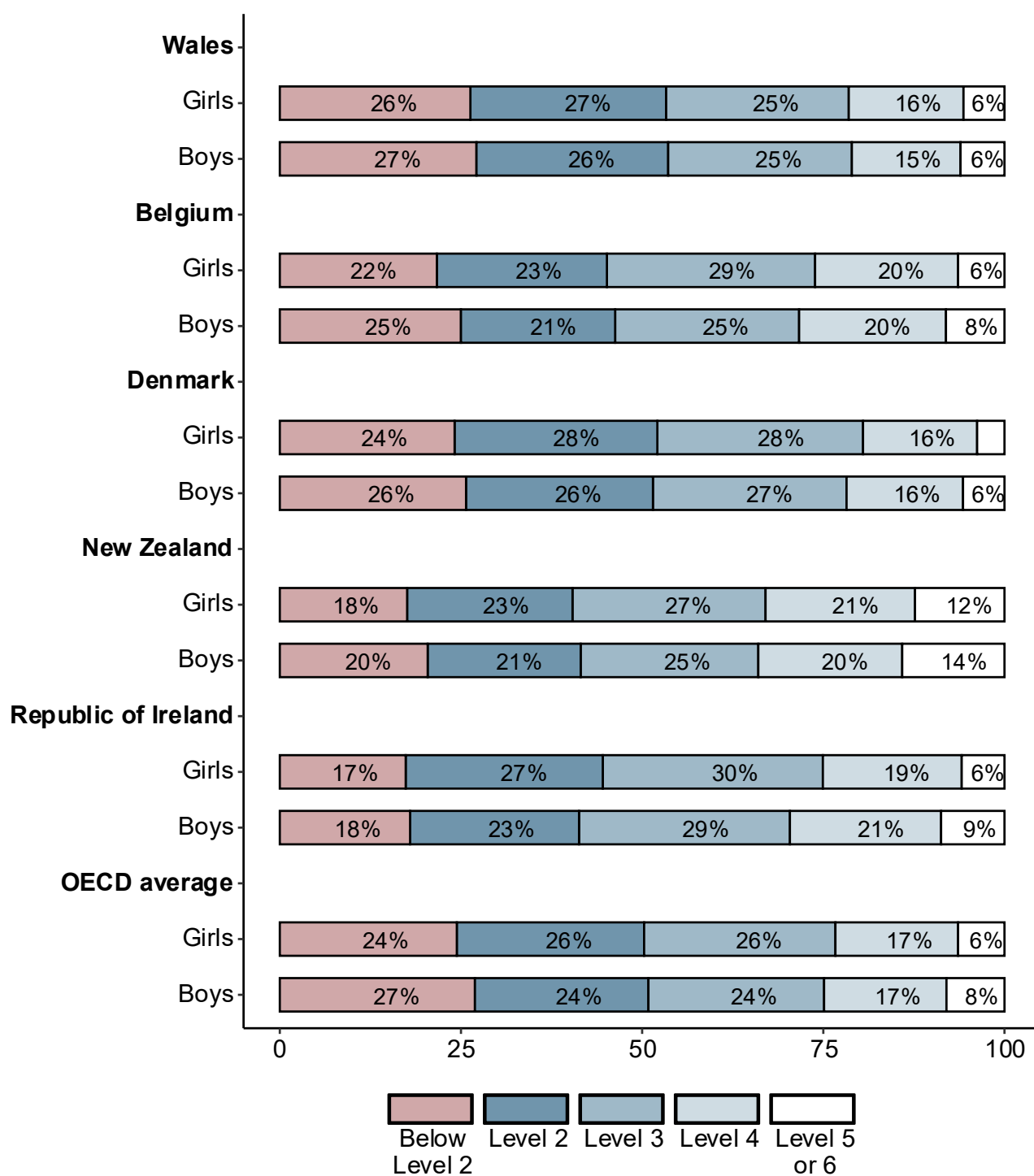
Figure 5.6 shows the percentage of girls and boys achieving each science proficiency level in Wales, its comparator countries and the OECD average while Table 5.3 shows the significance of differences between girls' and boys' achievement at these levels.

- In Wales, in 2025, equal percentages of girls and boys performed at the highest proficiency levels in science (6% of girls and 6% of boys at Levels 5 or 6)
- In Belgium and the Republic of Ireland, 6% of girls also performed at the highest proficiency level in science but in both countries, boys performed significantly above girls (with 8% and 9% achieving this level respectively).
- In Denmark, boys also significantly outperformed girls (4% and 6% respectively).

⁴⁵ This section's analysis focuses on below Level 2 and Levels 5 or 6 only. The chart and table present data for all levels.

- In New Zealand, there were no significant differences between girls' and boys' performance.
- The OECD average for the percentage of girls achieving Levels 5 or 6 in science was the same as in Wales (6%) while the percentage of boys achieving at these levels in the OECD average was 8%, significantly larger than the girls' percentage.
- In Wales, in 2025, the percentages of girls (26%) and boys (27%) performing below the baseline science proficiency level (Level 2) were not significantly different.
- For each of the comparator countries, apart from Belgium, there was no significant difference between the percentages of girls and boys scoring below Level 2 in science proficiency.
- As in Belgium, the OECD averages show a significantly smaller percentage of girls performing below the baseline science proficiency level compared with boys.

Figure 5.6 Percentage of girls and boys performing at each science proficiency level in Wales, comparator countries and the OECD average



Country	Group	Below Level 2	Level 2	Level 3	Level 4	Level 5 or Level 6
Wales	Girls	26%	27%	25%	16%	6%

Country	Group	Below Level 2	Level 2	Level 3	Level 4	Level 5 or Level 6
Wales	Boys	27%	26%	25%	15%	6%
Belgium	Girls	22%	23%	29%	20%	6%
Belgium	Boys	25%	21%	25%	20%	8%
Denmark	Girls	24%	28%	28%	16%	4%
Denmark	Boys	26%	26%	27%	16%	6%
New Zealand	Girls	18%	23%	27%	21%	12%
New Zealand	Boys	20%	21%	25%	20%	14%
Republic of Ireland	Girls	17%	27%	30%	19%	6%
Republic of Ireland	Boys	18%	23%	29%	21%	9%
OECD average	Girls	24%	26%	27%	17%	6%
OECD average	Boys	27%	24%	24%	17%	8%

Base: All participating learners in the countries included.

Individual percentages may not total 100% due to rounding.

Percentages below 4.5% are not displayed on the chart for visual clarity.

Source: OECD PISA database for 2025

Table 5.3: Gender gap in the percentage of learners at each proficiency level in science in Wales, comparator countries and the OECD average

Country	Below Level 2	Level 2	Level 3	Level 4	Level 5 or 6
Wales	-1%	1%	0%	1%	0%
Belgium	* -3%	2%	* 3%	-1%	* -2%
Denmark	-2%	2%	2%	0%	* -2%
New Zealand	-3%	2%	2%	1%	-2%
Republic of Ireland	-1%	* 4%	1%	-2%	* -3%
OECD average	* -2%	* 2%	* 2%	0%	* -2%

Base: All participating learners in the countries included.

Gaps were calculated as girls' scores – boys' scores.

Asterisks (*) indicate significant gender gaps.

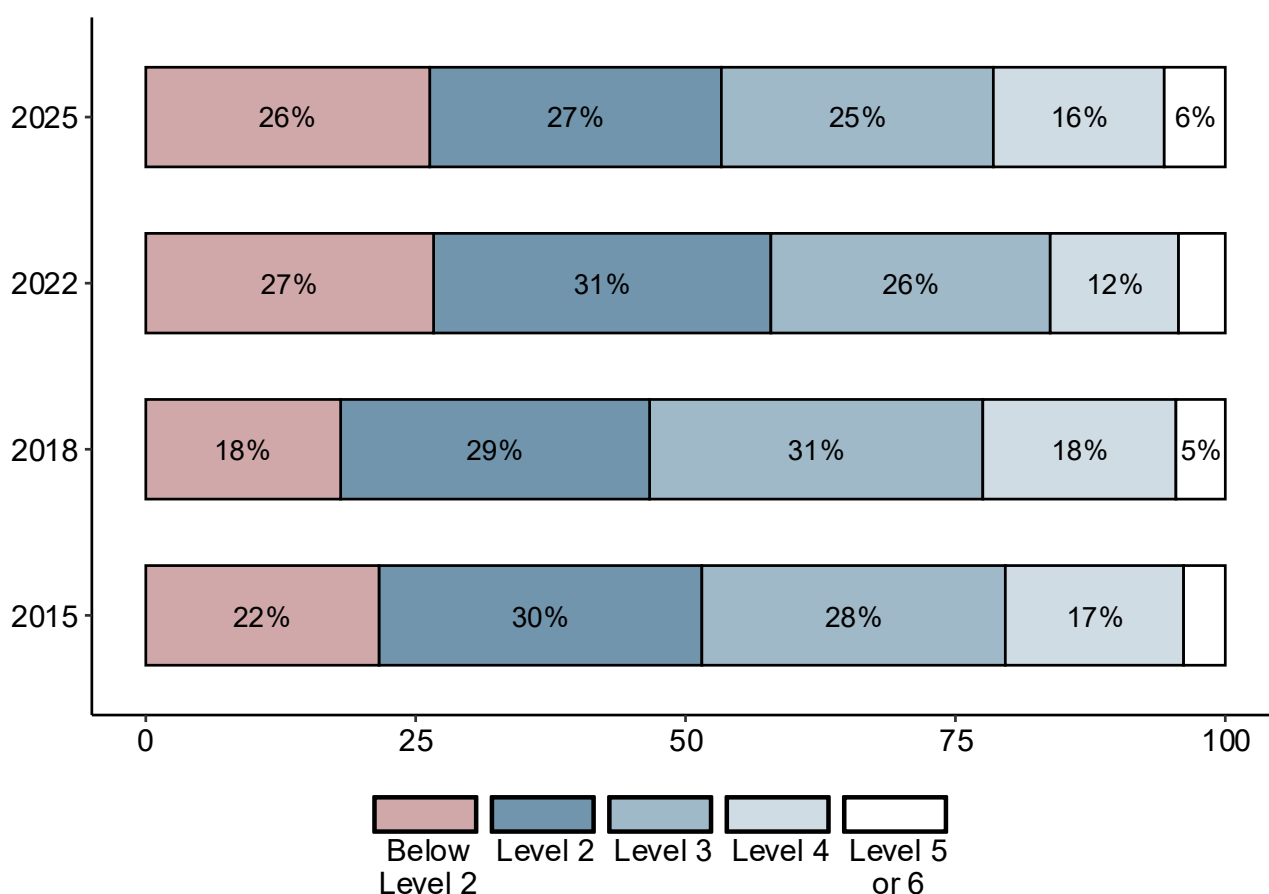
Two countries with the same or similar percentages may have different outcomes from significance testing due to the different sample sizes and rounding.

Source: OECD PISA database for 2025

5.3.8 To what extent did girls and boys in Wales reach the highest and lowest PISA proficiency levels in science in the latest 4 cycles⁴⁶?

- Figure 5.7 shows that in PISA 2025, 6% of girls in Wales achieved Level 5 or 6 which was higher than the percentages in the previous 3 cycles (2022: 4%, 2018: 5%, 2015: 4%)⁴⁷.
- The percentage of girls in Wales performing below the baseline science proficiency level (Level 2) was 26% in PISA 2025. This was similar to the percentage in PISA 2022 (27%) and higher than the percentages in 2018 (18%) and 2015 (22%).

Figure 5.7 Percentage of girls in Wales performing at each science proficiency level in the 4 latest PISA cycles



Year	Below Level 2	Level 2	Level 3	Level 4	Level 5 or Level 6
2025	26%	27%	25%	16%	6%
2022	27%	31%	26%	12%	4%

⁴⁶ Although the figures in this chapter present data for all proficiency levels, the analysis focuses on proficiency Levels 5, 6 and Below Level 2.

⁴⁷ No significance testing was carried out with the data presented in Figure 5.7.

Year	Below Level 2	Level 2	Level 3	Level 4	Level 5 or Level 6
2018	18%	29%	31%	18%	5%
2015	22%	30%	28%	17%	4%

Base: All participating learners in Wales.

No significance testing was undertaken.

Individual percentages may not total 100% due to rounding.

Percentages below 4.5% are not displayed on the chart for visual clarity.

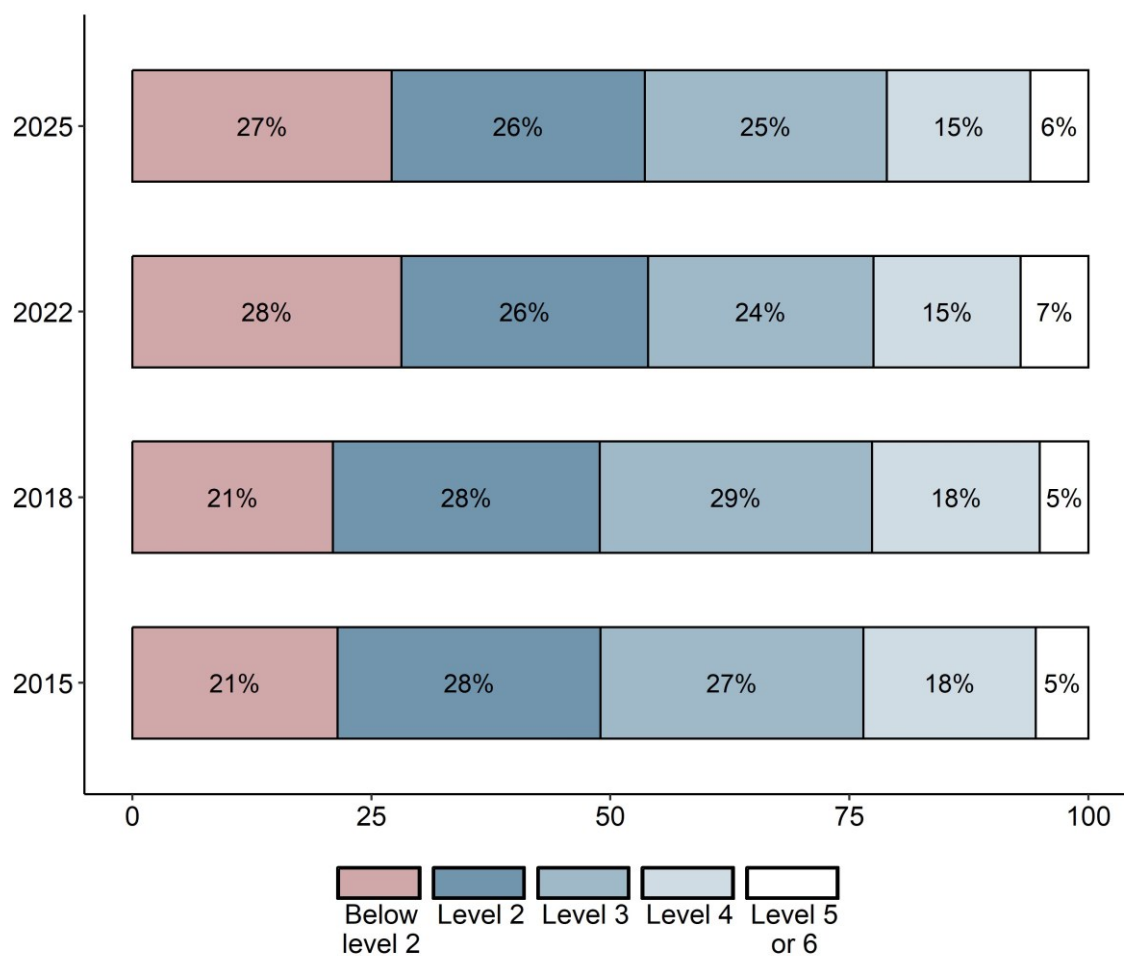
Source: OECD PISA databases for 2015, 2018, 2022, 2025

Figure 5.8 shows that in PISA 2025, 6% of boys in Wales achieved Level 5 or 6 which was similar to the percentages in the previous 3 cycles (2022: 7%, 2018: 5%, 2015: 5%)⁴⁸.

The percentage of boys in Wales performing below the baseline science proficiency level (Level 2) was 27% in PISA 2025. This was similar to the percentage in PISA 2022 (28%) and higher than the percentages in 2018 and 2015 (both 21%).

⁴⁸ No significance testing was carried out with the data presented in Figure 5.8.

Figure 5.8 Percentage of boys in Wales performing at each science proficiency level in the 4 latest PISA cycles



Year	Below Level 2	Level 2	Level 3	Level 4	Level 5 or Level 6
2025	27%	26%	25%	15%	6%
2022	28%	26%	24%	15%	7%
2018	21%	28%	29%	18%	5%
2015	21%	28%	27%	18%	5%

Base: All participating learners in Wales.

No significance testing was undertaken.

Individual percentages may not total 100% due to rounding.

Source: OECD PISA databases for 2015, 2018, 2022, 2025

5.4 Did reading performance differ by gender?

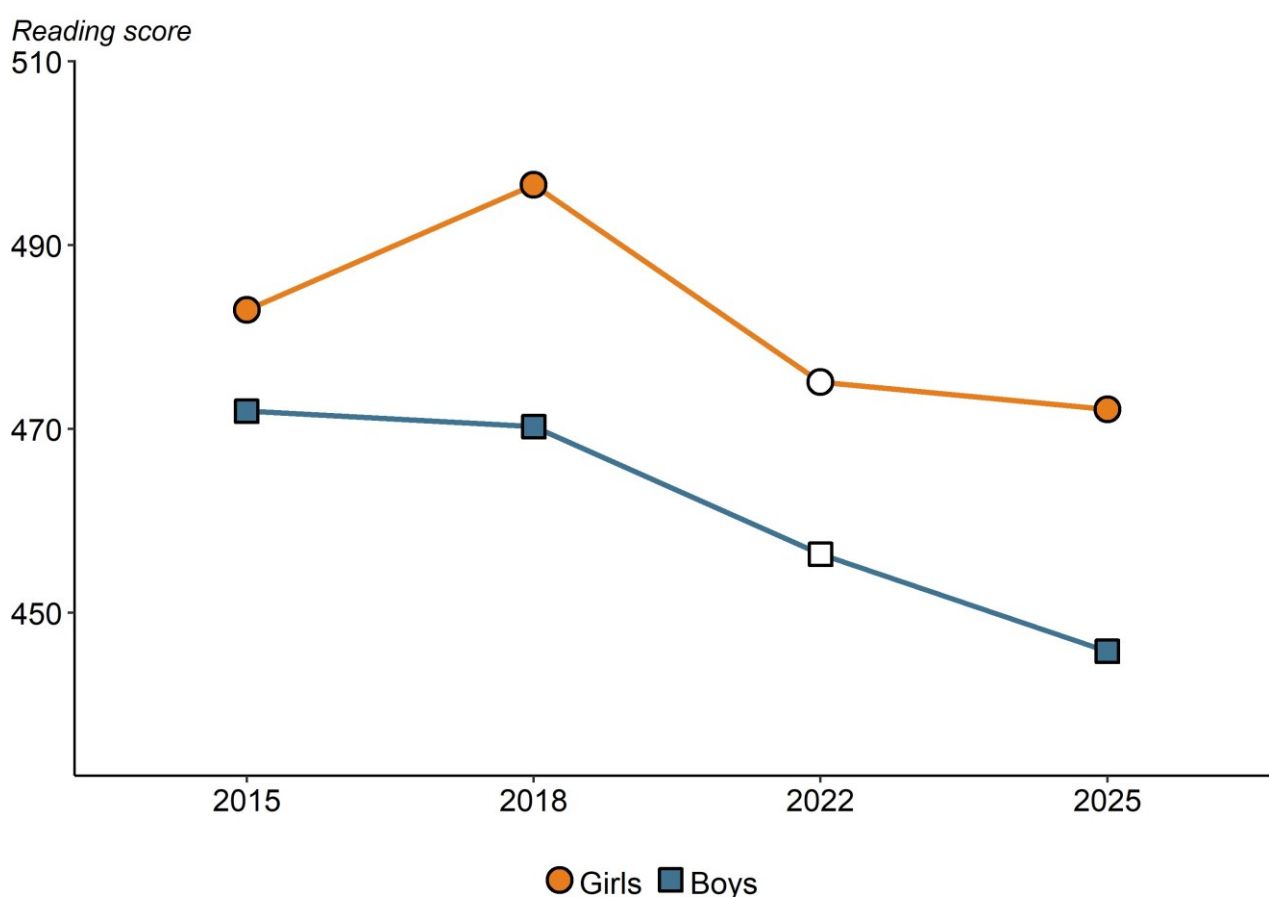
5.4.1 How did girls in Wales perform in reading?

- In 2025, girls achieved an average score of 472 in reading, which was not significantly different from the average scores in 2022 or 2015.
- Girls' 2025 score (472) was significantly below the score of 497 achieved in 2018 (see Figure 5.9).

5.4.2 How did boys in Wales perform in reading?

- Boys performed significantly below girls in reading with a score of 446 in PISA 2025 (26 points below the girls' score).
- Boys' 2025 score was not significantly different from the 2022 score but was significantly below the scores achieved in 2018 and 2015 (see Figure 5.9).

Figure 5.9 Trend in girls' and boys' reading performance in Wales



Gender	2015	2018	2022	2025
Girls	483	* 497	475	472
Boys	* 472	* 470	456	446

Base: All participating learners in Wales.

Asterisks () indicate that the score shown was significantly different from the average score for PISA 2025.*

PISA cycles in which PISA sampling standards were not all met are indicated by a white point in the figure.

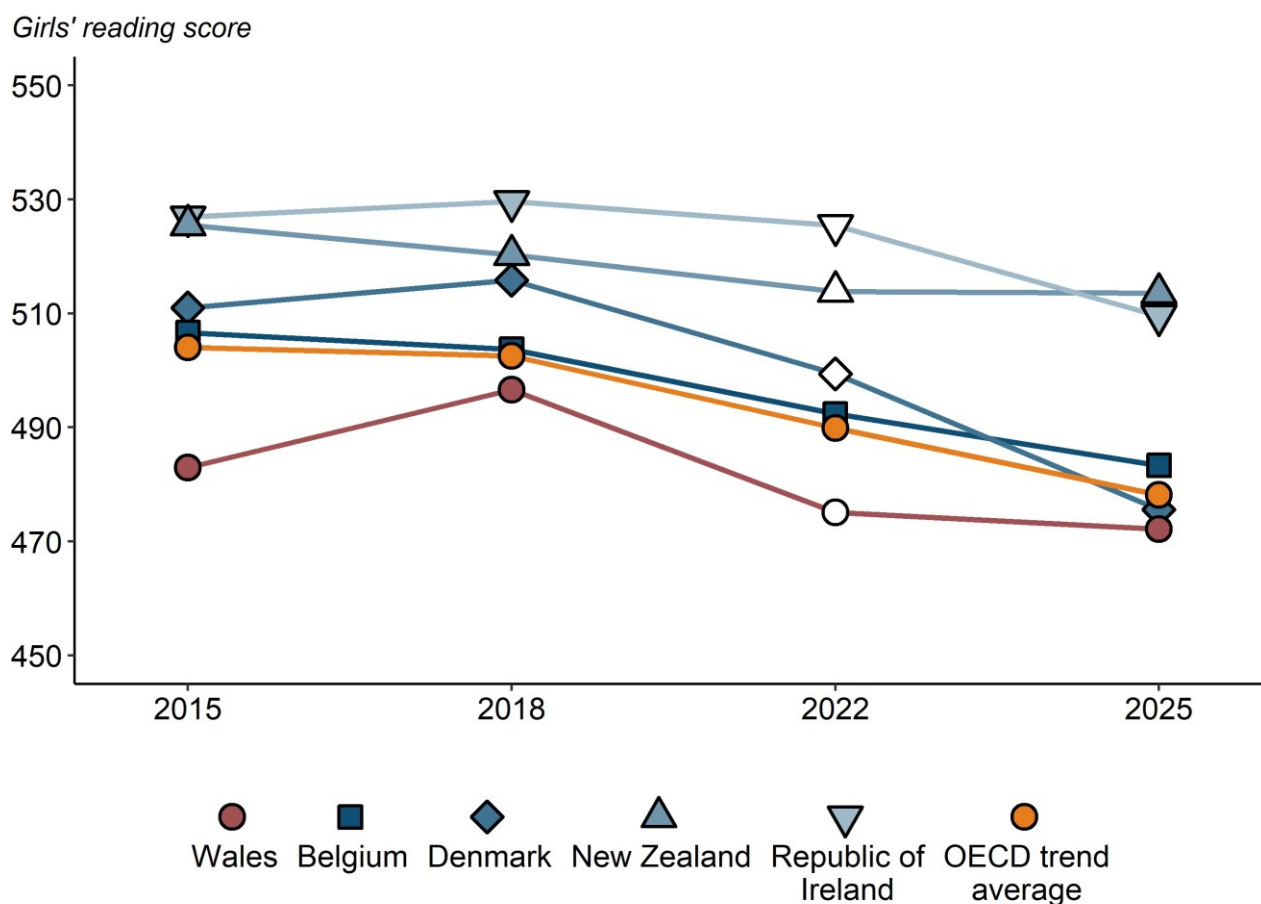
Source: OECD PISA databases for 2025, 2022, 2018 and 2015

5.4.3 What does PISA tell us about girls' performance in reading?

The average reading scores for girls in Wales show a stable trend between 2015 and 2025 with no significant difference between the scores (483 and 472 respectively). This contrasted with the trends observed in each of the comparator countries and the OECD trend average where scores in 2025 were significantly below scores in 2015 (see Figure 5.10).

In Wales and each of the comparator countries (except New Zealand), average scores in 2025 were significantly below the corresponding scores in 2018. This was also observed in the OECD trend average. As in Wales, the average scores in Belgium and New Zealand in 2025 were not significantly different from the corresponding scores in 2022. In Denmark and the Republic of Ireland, scores in 2025 were significantly below the scores in 2022, a pattern also observed in the OECD trend average.

Figure 5.10 Trends in girls' reading performance in Wales, comparator countries and the OECD trend average



Country	2015	2018	2022	2025
Wales	483	* 497	475	472
Belgium	* 507	* 504	492	483
Denmark	* 511	* 516	* 499	476
New Zealand	* 526	520	514	514
Republic of Ireland	* 527	* 530	* 525	510
OECD trend average	* 504	* 503	* 490	478

Base: All participating learners in the countries included.

Asterisks (*) indicate that the score shown was significantly different from the average score in that country for PISA 2025.

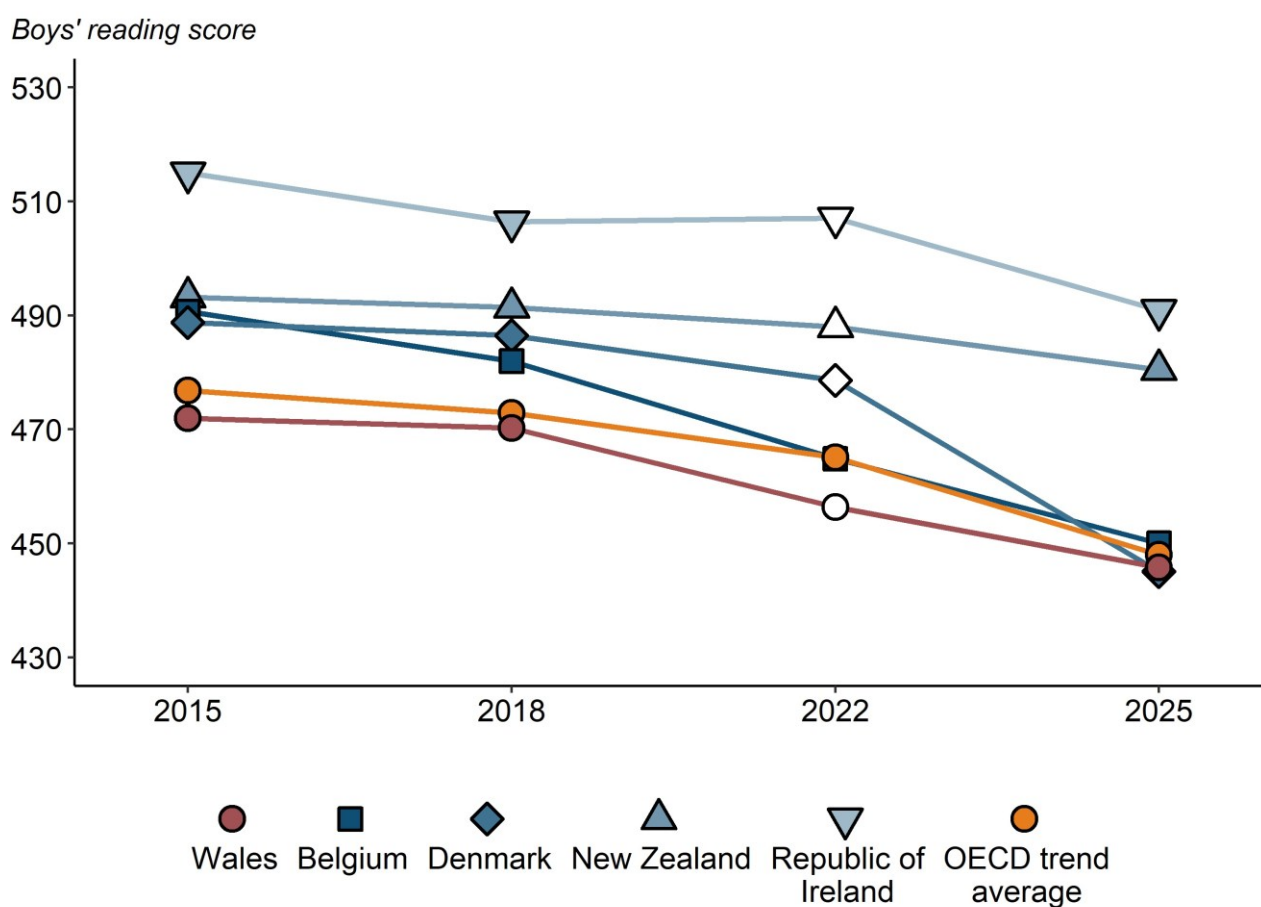
PISA cycles in which PISA sampling standards were not all met are indicated by a white point in the figure. OECD trend averages were calculated using PISA 2025 data for OECD countries that participated in all cycles, excluding Costa Rica and Spain.

Source: OECD PISA databases for 2025, 2022, 2018 and 2015

5.4.4 What does PISA tell us about boys' performance in reading?

Figure 5.11 shows that in PISA 2025, the average reading score for boys in Wales (446) was significantly below the corresponding score in 2015 (472), reflecting a downward trend. This mirrored the trends observed in each of the comparator countries and the OECD trend average where scores in 2025 were significantly below scores in 2015. Similarly, the average score for boys in Wales, each of the comparator countries and the OECD trend average in 2025 was significantly below the score in 2018.

Figure 5.11 Trends in boys' reading performance in Wales, the comparator countries and the OECD trend average



Country	2015	2018	2022	2025
Wales	* 472	* 470	456	446
Belgium	* 491	* 482	* 465	450
Denmark	* 489	* 486	* 479	445
New Zealand	* 493	* 491	488	480
Republic of Ireland	* 515	* 506	* 507	491

Country	2015	2018	2022	2025
OECD trend average	* 477	* 473	* 465	448

Base: All participating learners in the countries included.

Asterisks () indicate that the score shown was significantly different from the average score in that country for PISA 2025.*

PISA cycles in which PISA sampling standards were not all met are indicated by a white point in the figure. OECD trend averages were calculated using PISA 2025 data for OECD countries that participated in all cycles, excluding Costa Rica and Spain.

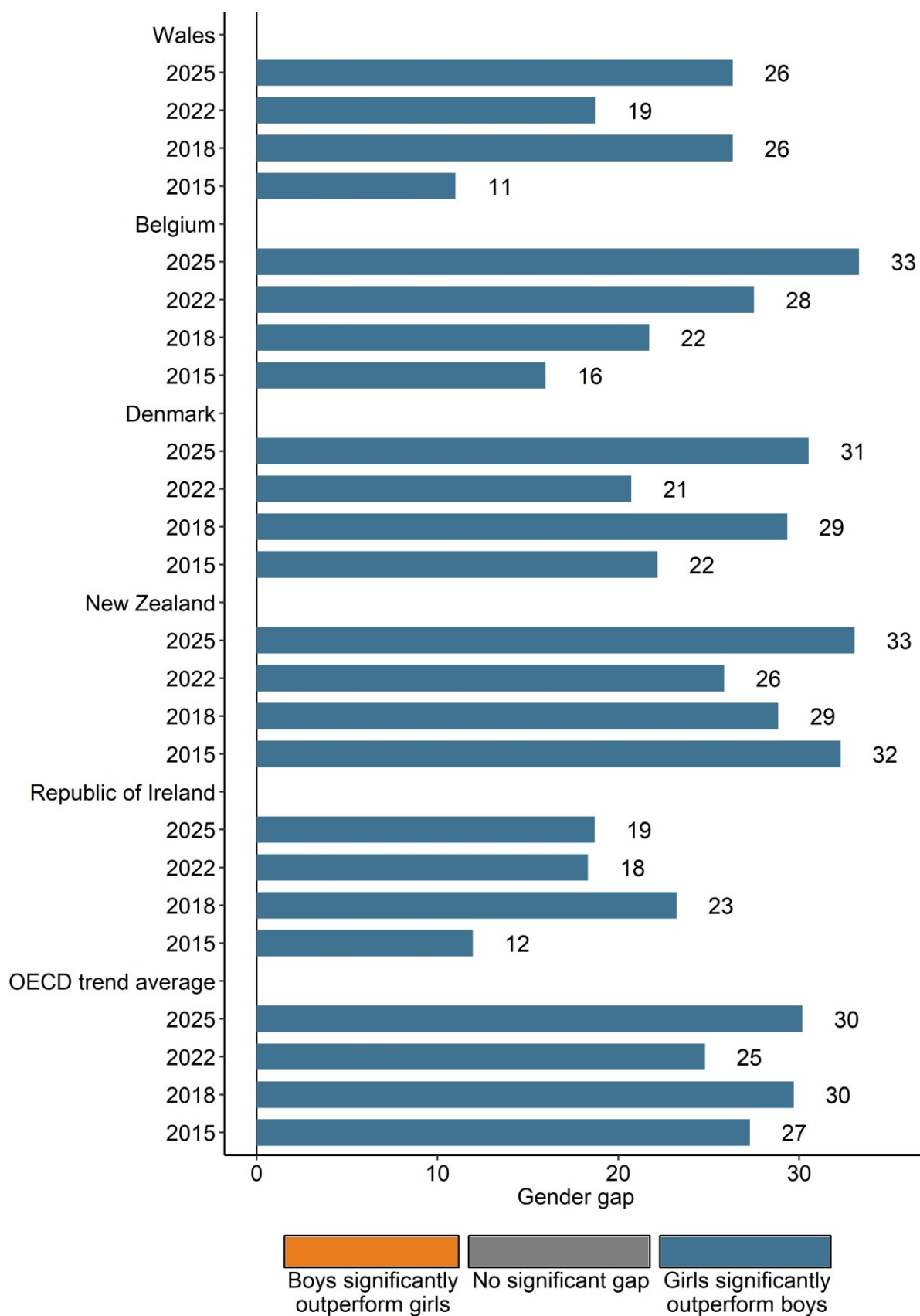
Source: OECD PISA databases for 2025, 2022, 2018 and 2015

5.4.5 How have gender gaps in reading performance changed over time?

As shown in Figure 5.12, girls significantly outperformed boys in reading in Wales, each of the comparator countries and the OECD trend average in each of the latest 4 PISA cycles.

The reading gender gap in Wales in 2025 (26 points) was not significantly different compared with the gender gaps in each of the comparator countries and the OECD trend average.

Figure 5.12 Gender gaps in reading performance in Wales, the comparator countries and the OECD trend average



Country	2015	2018	2022	2025
Wales	* 11	* 26	* 19	* 26
Belgium	* 16	* 22	* 28	* 33
Denmark	* 22	* 29	* 21	* 31
New Zealand	* 32	* 29	* 26	* 33
Republic of Ireland	* 12	* 23	* 18	* 19
OECD trend average	* 27	* 30	* 25	* 30

Base: All participating learners in the countries included.

Gaps calculated as girls' scores – boys' scores.

Asterisks () indicate that girls' average scores are significantly different from boys' average scores within individual PISA cycles.*

PISA sampling standards were not all met in PISA 2022.

OECD trend averages were calculated using PISA 2025 data for OECD countries that participated in all cycles, excluding Costa Rica and Spain.

Source: OECD PISA databases for 2025, 2022, 2018 and 2015

As shown in Table 5.4, in Wales, the gap in reading scores between girls and boys significantly widened between 2015 and 2025, from 11 points to 26 points. A similar trend was recorded in Belgium as the gap between girls and boys widened significantly over the same period from 16 points to 33 points. The gap between the OECD trend average girls' and boys' scores also widened significantly between 2015 and 2025 by 3 score points. There was no significant widening or narrowing of the reading gender gaps between 2015 and 2025 in Denmark, New Zealand or the Republic of Ireland.

Table 5.4 Trends in gender gaps in reading performance in Wales, comparator countries and the OECD trend average

Country	2015	2018	2022	2025
Wales	* 11	26	19	26
Belgium	* 16	* 22	28	33
Denmark	22	29	* 21	31
New Zealand	32	29	26	33
Republic of Ireland	12	23	18	19
OECD trend average	* 27	30	* 25	30

Base: All participating learners in the countries included.

Gaps calculated as girls' scores – boys' scores.

Asterisks () indicate a significant difference in the gender gap compared with the gender gap in that country in 2025.*

PISA sampling standards were not all met in PISA 2022.

OECD trend averages were calculated using PISA 2025 data for OECD countries that participated in all cycles, excluding Costa Rica and Spain.

Source: OECD PISA databases for 2025, 2022, 2018 and 2015

The reading gender gap for learners in Wales (26 points) was examined in the context of all higher-performing countries in PISA 2025 (where learners achieved an average reading score above 440)⁴⁹. In each country the average score for girls was significantly above the score for boys, as was the case for the OECD average.

5.4.6 How did girls and boys in Wales perform at the 10th and 90th percentiles in reading?

This section compares the performance of the highest- and lowest-achieving girls and boys using the 10th (lowest) and 90th (highest) percentile scores for reading and provides the difference (the interdecile range, shortened to range) between these two scores⁵⁰.

Figure 5.13 shows the average scores at the 10th and 90th percentiles and interdecile ranges for learners in Wales, its comparator countries and the OECD average while Table 5.5 shows the significance of differences between girls' and boys' average scores and gender gaps.

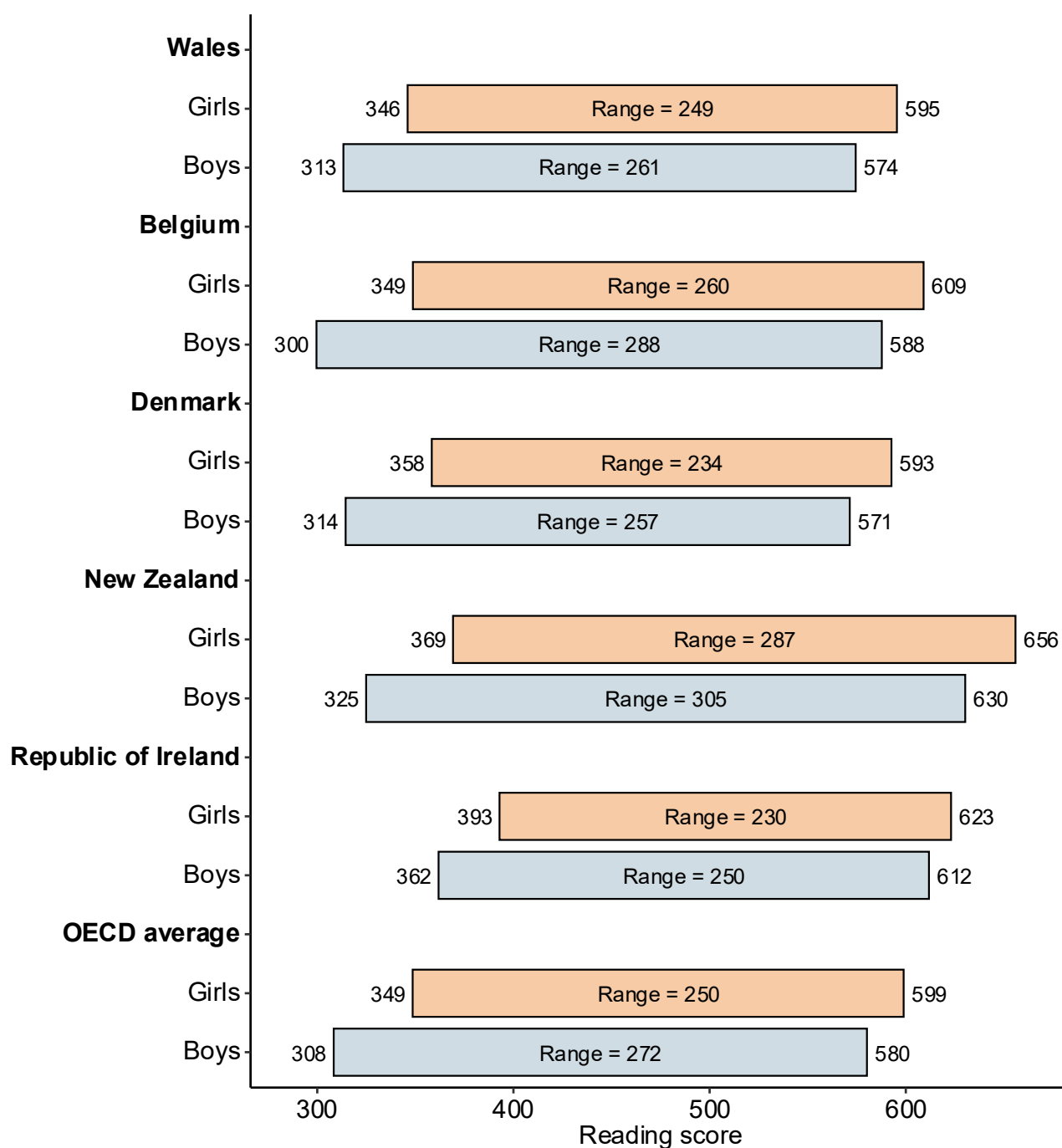
In Wales, in 2025, the average reading score at the 10th percentile for girls (346) was significantly above the average reading score at the 10th percentile for boys (313). The average reading score at the 90th percentile for girls (595) was also significantly above the equivalent score for boys (574).

In Wales, the range in girls' reading scores (249) was not significantly different from the range of boys' scores (261), a pattern also observed in the OECD average (250 compared with 272 respectively). By contrast, the range of girls' scores was significantly narrower than for boys in each of the comparator countries.

⁴⁹ Gaps were calculated as girls' scores – boys' scores. A negative number indicates the average score for girls is below the average score for boys.

⁵⁰ See Chapter 1 (1.4.5) for definitions of percentiles and interdecile range.

Figure 5.13 Performance of girls and boys at the 10th and 90th percentiles in reading in Wales, comparator countries and the OECD average



Country	Gender group	Score at the 10th percentile	Score at the 90th percentile	Interdecile range
Wales	Girls	346	595	249
Wales	Boys	313	574	261
Belgium	Girls	349	609	260

Country	Gender group	Score at the 10th percentile	Score at the 90th percentile	Interdecile range
Belgium	Boys	300	588	288
Denmark	Girls	358	593	234
Denmark	Boys	314	571	257
New Zealand	Girls	369	656	287
New Zealand	Boys	325	630	305
Republic of Ireland	Girls	393	623	230
Republic of Ireland	Boys	362	612	250
OECD average	Girls	349	599	250
OECD average	Boys	308	580	272

Base: All participating learners in the countries included.

Interdecile ranges calculated as 90th percentile – 10th percentile.

Ranges may appear inconsistent due to rounding.

Source: OECD PISA database for 2025

Table 5.5 Gender gap at the 10th and 90th percentiles in reading in Wales, comparator countries and the OECD average

Country	Score at the 10th percentile	Score at the 90th percentile	Interdecile range
Wales	* 33	* 21	–12
Belgium	* 49	* 21	* –28
Denmark	* 44	* 21	* –23
New Zealand	* 44	* 26	* –19
Republic of Ireland	* 31	* 11	* –20
OECD average	* 40	* 19	* –22

Base: All participating learners in the countries included.

Interdecile ranges were calculated as 90th percentile – 10th percentile.

Gaps were calculated as girls' scores – boys' scores and range of girls' scores – range of boys' scores.

Asterisks () indicate a significant gender gap (significant difference between girls' and boys' average score and significant difference in ranges of scores).*

Two countries with the same or similar score or gap may have different outcomes from significance testing due to the different sample sizes and rounding.

Source: OECD PISA database for 2025

5.4.7 To what extent did girls and boys in Wales reach the highest and lowest PISA proficiency levels in reading compared with the OECD averages and comparator countries?

This section compares girls' and boys' performance in terms of the percentages attaining each of the PISA proficiency levels for reading (levels range between 1 and 6). In this section the proportion of higher-performing girls and boys (those attaining Level 5 or Level 6) and lower-performing girls and boys (those attaining below Level 2) are compared⁵¹.

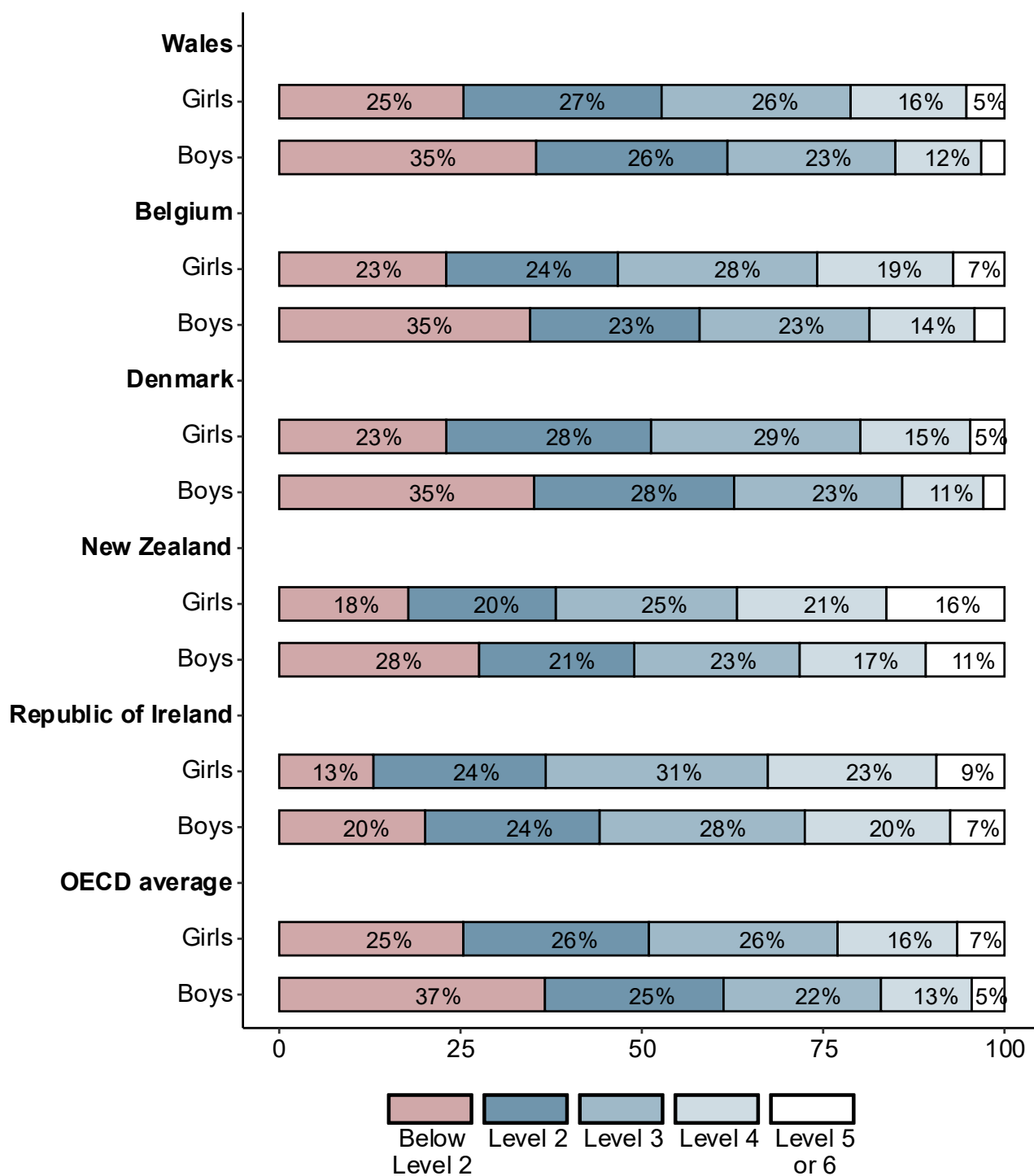
Figure 5.14 shows the average scores at the 10th and 90th percentiles and interdecile ranges for learners in Wales, its comparator countries and the OECD average while Table 5.6 shows the significance of differences between girls' and boys' average scores and gender gaps.

- In Wales, in 2025, a significantly larger percentage of girls performed at the highest proficiency levels in reading (5% at Level 5 or 6) compared with boys (3% at Level 5 or 6).

⁵¹ This section's analysis focuses on below Level 2 and Levels 5 or 6 only. The chart and table present data for all levels.

- The pattern of girls performing significantly above boys at Levels 5 or 6 in Wales was also observed in each of the comparator countries and the OECD average.
- In Wales, in 2025, the percentage of girls performing below the baseline reading proficiency levels (Level 2) was significantly smaller than the percentage of boys (25% compared with 35% respectively).
- In each of the comparator countries and the OECD average significantly smaller percentages of girls did not meet the baseline reading proficiency level compared with boys.
- The percentages of girls and boys in Wales who achieved below the baseline reading Level (25% and 35% respectively) were in line with the OECD averages (25% and 37% respectively), with no significant differences observed.

Figure 5.14 Percentage of girls and boys performing at each reading proficiency level in Wales, comparator countries and the OECD average



Country	Group	Below Level 2	Level 2	Level 3	Level 4	Level 5 or Level 6
Wales	Girls	25%	27%	26%	16%	5%
Wales	Boys	35%	26%	23%	12%	3%
Belgium	Girls	23%	24%	28%	19%	7%
Belgium	Boys	35%	23%	23%	14%	4%
Denmark	Girls	23%	28%	29%	15%	5%
Denmark	Boys	35%	28%	23%	11%	3%
New Zealand	Girls	18%	20%	25%	21%	16%
New Zealand	Boys	28%	21%	23%	17%	11%
Republic of Ireland	Girls	13%	24%	31%	23%	9%
Republic of Ireland	Boys	20%	24%	28%	20%	7%
OECD average	Girls	25%	26%	26%	16%	7%
OECD average	Boys	37%	25%	22%	13%	5%

Base: All participating learners in the countries included.

Gaps calculated as percentage for girls –percentage for boys.

Asterisks () indicate significant gender gaps.*

Individual percentages may not total 100% due to rounding.

Percentages below 4.5% are not displayed on the chart for visual clarity.

Source: OECD PISA database for 2025

Table 5.6 Gender gap in the percentage of learners at each proficiency level in reading in Wales, comparator countries and the OECD average

Country	Below Level 2	Level 2	Level 3	Level 4	Level 5 or 6
Wales	* –10%	1%	3%	* 4%	* 2%
Belgium	* –12%	0%	* 4%	* 4%	* 3%
Denmark	* –12%	1%	* 6%	* 4%	* 2%
New Zealand	* –10%	–1%	2%	* 3%	* 5%
Republic of Ireland	* –7%	0%	2%	* 3%	* 2%
OECD average	* –11%	* 1%	* 4%	* 4%	* 2%

Base: All participating learners in the countries included.

Gaps were calculated as percentage of girls – percentage of boys.

Asterisks () indicate significant gender gaps.*

Two countries with the same or similar percentage may have different outcomes from significance testing due to the different sample sizes and rounding.

Source: OECD PISA database for 2025

5.4.8 To what extent did girls and boys in Wales reach the highest and lowest PISA proficiency levels in reading in the latest 4 cycles⁵²?

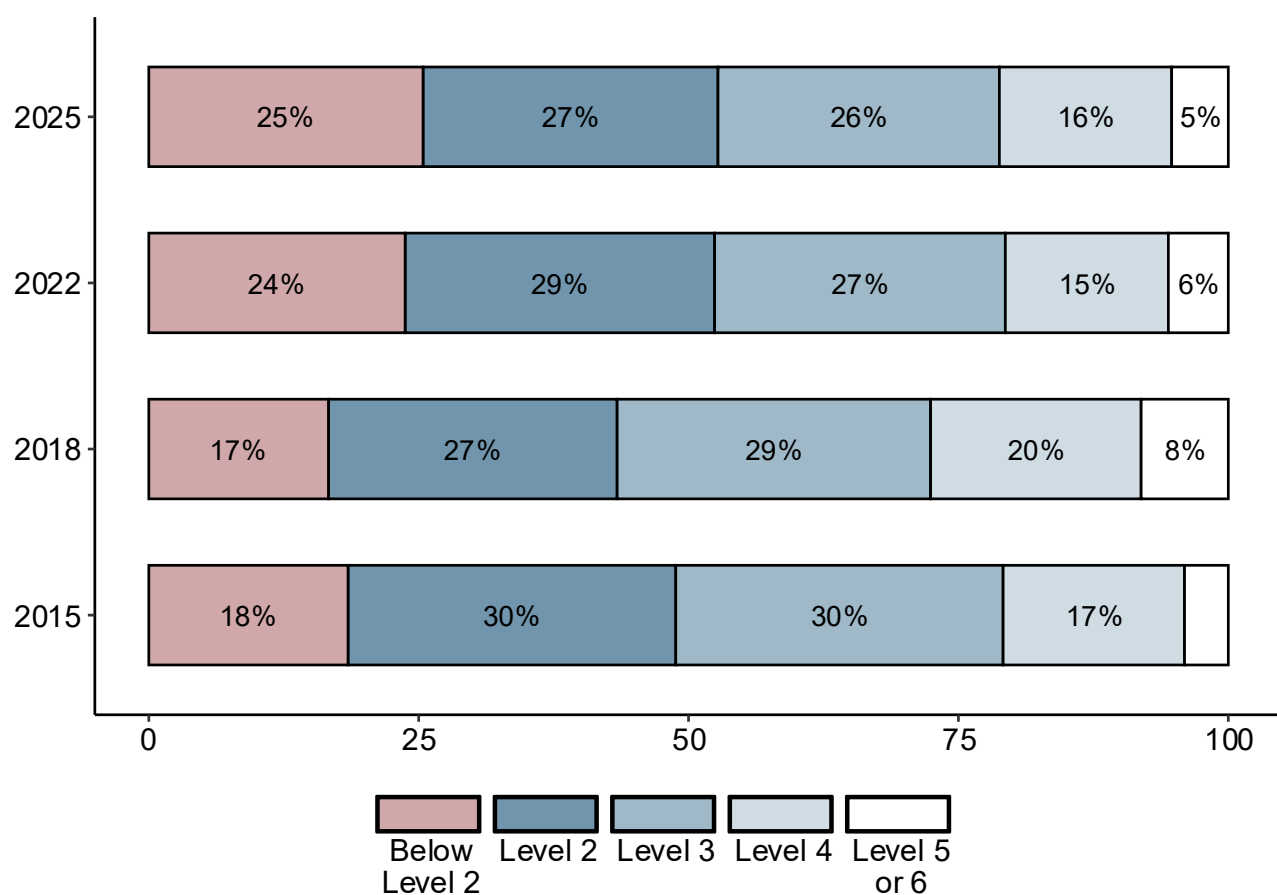
Figure 5.15 shows that in PISA 2025, 5% of girls in Wales achieved Level 5 or 6 in reading which was similar to the percentages in 2022 (6%) and 2015 (4%) and lower than the percentage in 2018 (8%)⁵³.

The percentage of girls in Wales performing below the baseline reading proficiency level (Level 2) was 25% in PISA 2025. This was similar to the percentage in PISA 2022 (24%) and higher than the percentages in 2018 (17%) and 2015 (18%).

⁵² Although the figures in this chapter present data for all proficiency levels, the analysis focuses on proficiency Levels 5, 6 and Below Level 2.

⁵³ No significance testing was carried out with the data presented in Figure 5.15.

Figure 5.15 Percentage of girls in Wales performing at each reading proficiency level in the 4 latest PISA cycles



Year	Below Level 2	Level 2	Level 3	Level 4	Level 5 or Level 6
2025	25%	27%	26%	16%	5%
2022	24%	29%	27%	15%	6%
2018	17%	27%	29%	20%	8%
2015	18%	30%	30%	17%	4%

Base: All participating learners in Wales.

No significance testing was undertaken.

Individual percentages may not total 100% due to rounding.

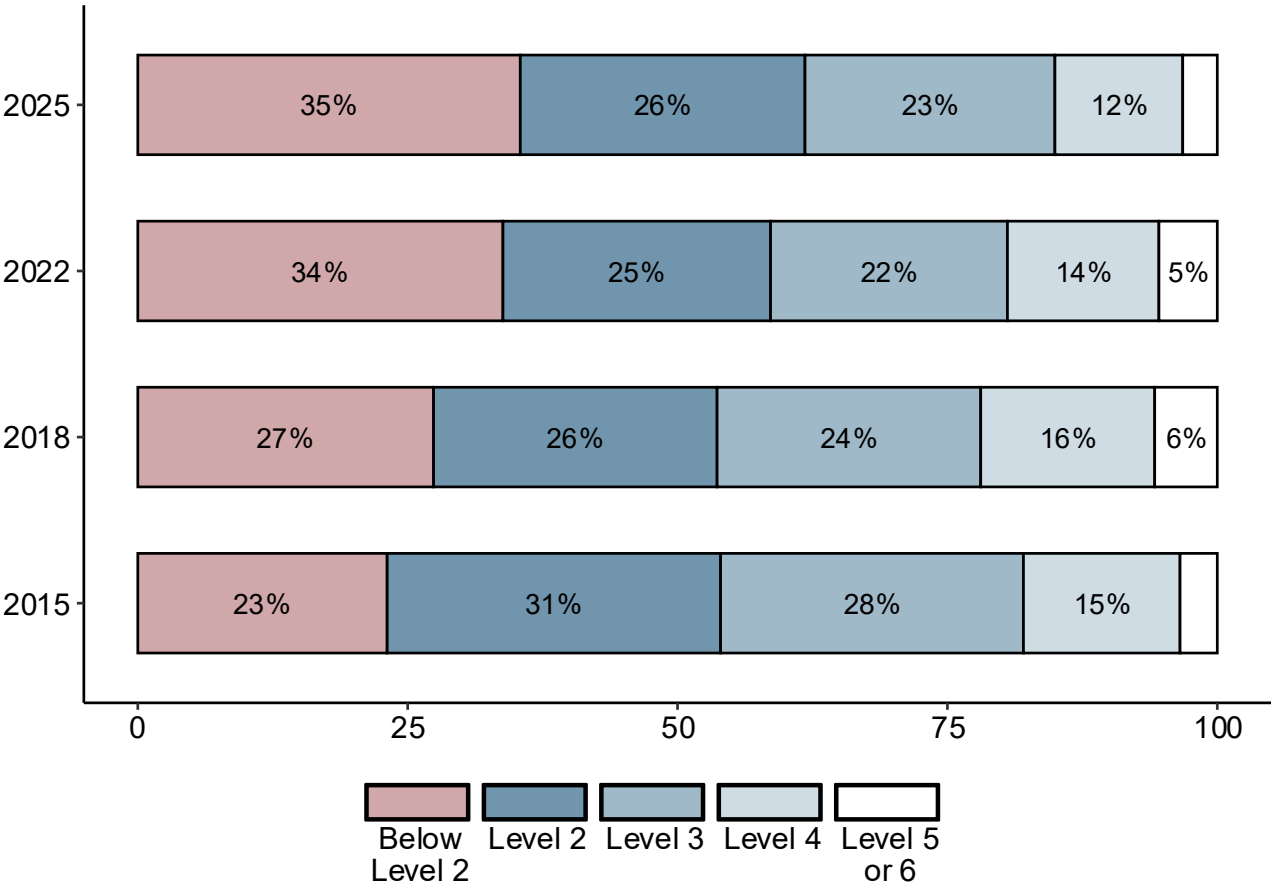
Percentages below 4.5% are not displayed on the chart for visual clarity.

Source: OECD PISA databases for 2015, 2018, 2022, 2025

Figure 5.16 shows that in PISA 2025, 3% of boys in Wales achieved Level 5 or 6 in reading which was the same as the percentage in 2015 and lower than the percentages in 2022 (5%) and 2018 (6%)⁵⁴.

The percentage of boys in Wales performing below the baseline reading proficiency level (Level 2) was 35% in PISA 2025. This was similar to the percentage in PISA 2022 (34%) and higher than the percentages in 2018 (27%) and 2015 (23%).

Figure 5.16 Percentage of boys in Wales performing at each reading proficiency level in the 4 latest PISA cycles



Year	Below Level 2	Level 2	Level 3	Level 4	Level 5 or Level 6
2025	35%	26%	23%	12%	3%
2022	34%	25%	22%	14%	5%
2018	27%	26%	24%	16%	6%
2015	23%	31%	28%	15%	3%

⁵⁴ No significance testing was carried out with the data presented in Figure 5.16.

*Base: All participating learners in Wales.
No significance testing was undertaken.
Individual percentages may not total 100% due to rounding.
Percentages below 4.5% are not displayed on the chart for visual clarity.*

Source: OECD PISA databases for 2015, 2018, 2022, 2025

5.5 Did mathematics performance differ by gender?

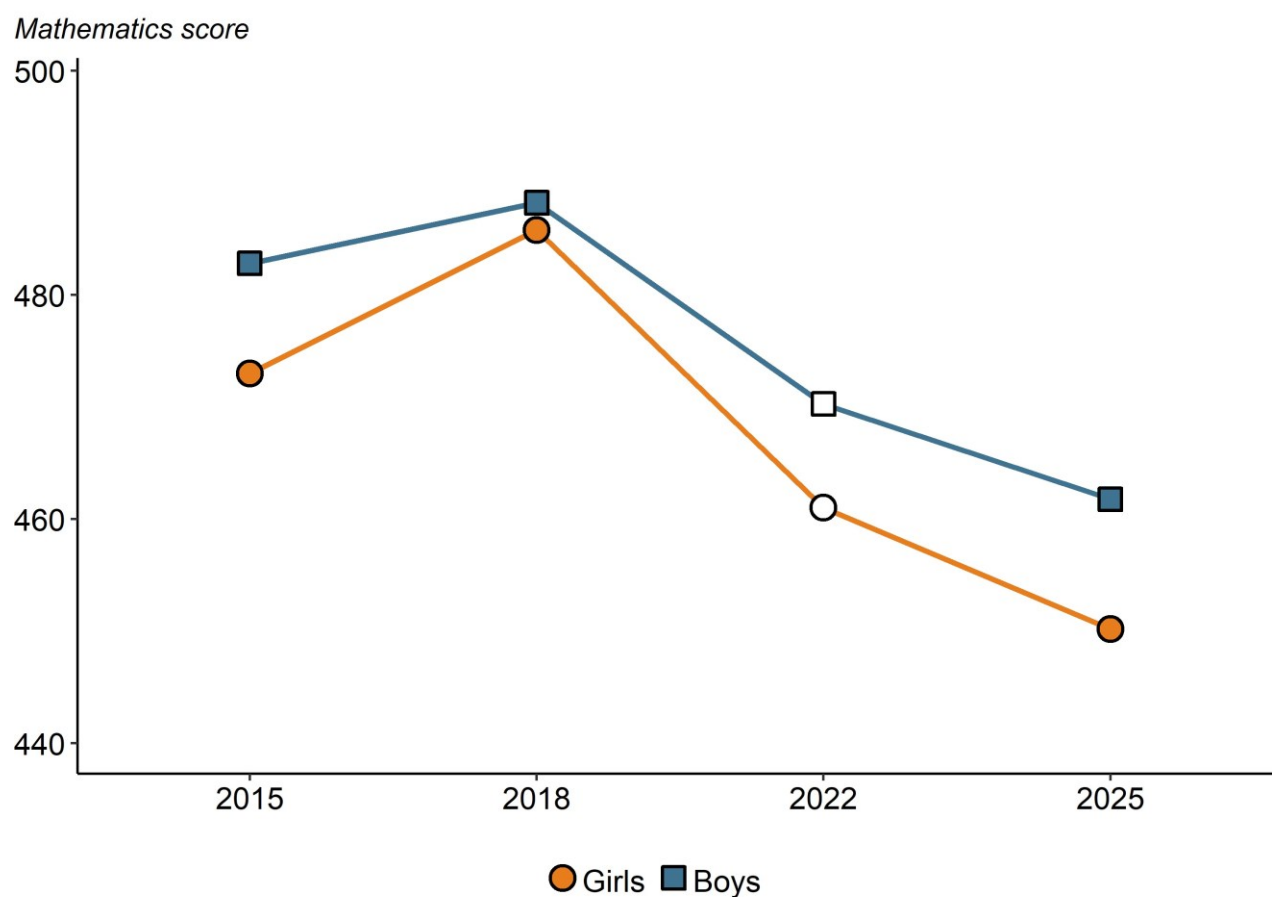
5.5.1 How did girls in Wales perform in mathematics?

- In PISA 2025, girls in Wales achieved an average score of 450 in mathematics, significantly below the score of 461 in 2022.
- Girls' 2025 score was also significantly below the scores of 486 achieved in 2018 and 473 achieved in 2015 (see Figure 5.17).

5.5.2 How did boys in Wales perform in mathematics?

- In PISA 2025, boys in Wales achieved an average score of 462 in mathematics, not significantly different from the score achieved in 2022 (470)
- Boys' 2025 score was significantly below the scores achieved in 2018 (488) and 2015 (483) (see Figure 5.17).

Figure 5.17 Trend in girls' and boys' mathematics performance in Wales



Gender	2015	2018	2022	2025
Girls	* 473	* 486	* 461	450
Boys	* 483	* 488	470	462

Base: All participating learners in Wales.

Asterisks (*) indicate that the score shown was significantly different from the average score for PISA 2025.

PISA cycles in which PISA sampling standards were not all met are indicated by a white point in the figure.

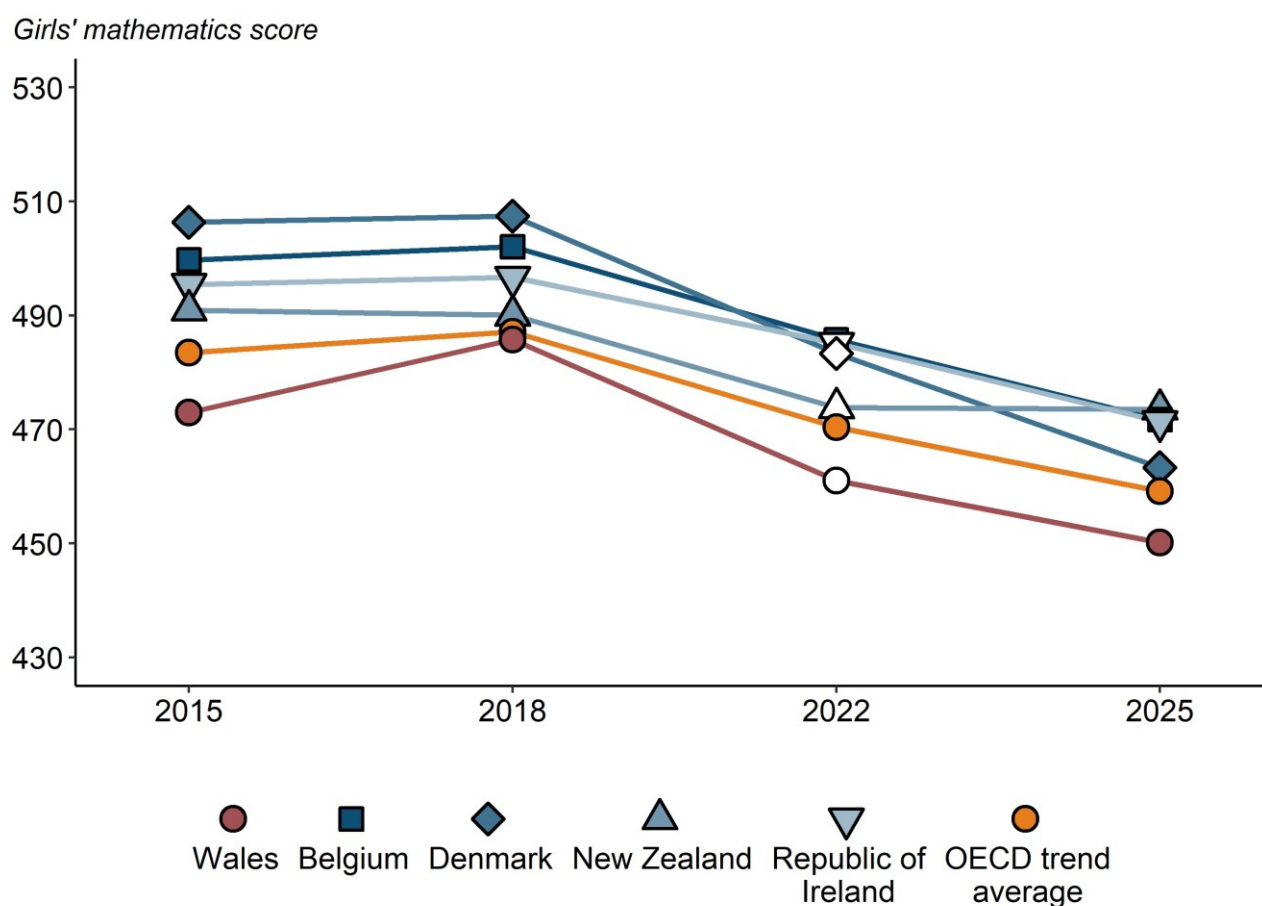
Source: OECD PISA databases for 2025, 2022, 2018 and 2015

5.5.3 What does PISA tell us about girls' performance in mathematics?

Figure 5.18 shows that in PISA 2025, the average mathematics score for girls in Wales (450) was significantly below the corresponding score in 2015 (473), reflecting a downward trend. This mirrored the trends observed in each of the comparator countries as well as the OECD trend average over this period.

Similarly, the average score for girls in Wales in 2025 (450) was significantly below the corresponding scores in 2018 (486) and 2022 (461). This pattern was also found in each of the comparator countries (except in New Zealand in 2022) and the OECD trend average. In New Zealand, there was no significant difference between the average score for 2025 and the score in 2022.

Figure 5.18 Trends in girls' mathematics performance in Wales, the comparator countries and in the OECD trend average



Country	2015	2018	2022	2025
Wales	* 473	* 486	* 461	450
Belgium	* 500	* 502	* 486	472
Denmark	* 506	* 507	* 483	463
New Zealand	* 491	* 490	474	474
Republic of Ireland	* 495	* 497	* 485	471
OECD trend average	* 484	* 487	* 470	459

Base: All participating learners in the countries included.

Asterisks (*) indicate that the score shown was significantly different from the average score in that country for PISA 2025.

PISA cycles in which PISA sampling standards were not all met are indicated by a white point in the figure. OECD trend averages were calculated using PISA 2025 data for OECD countries that participated in all cycles, excluding Costa Rica and Spain.

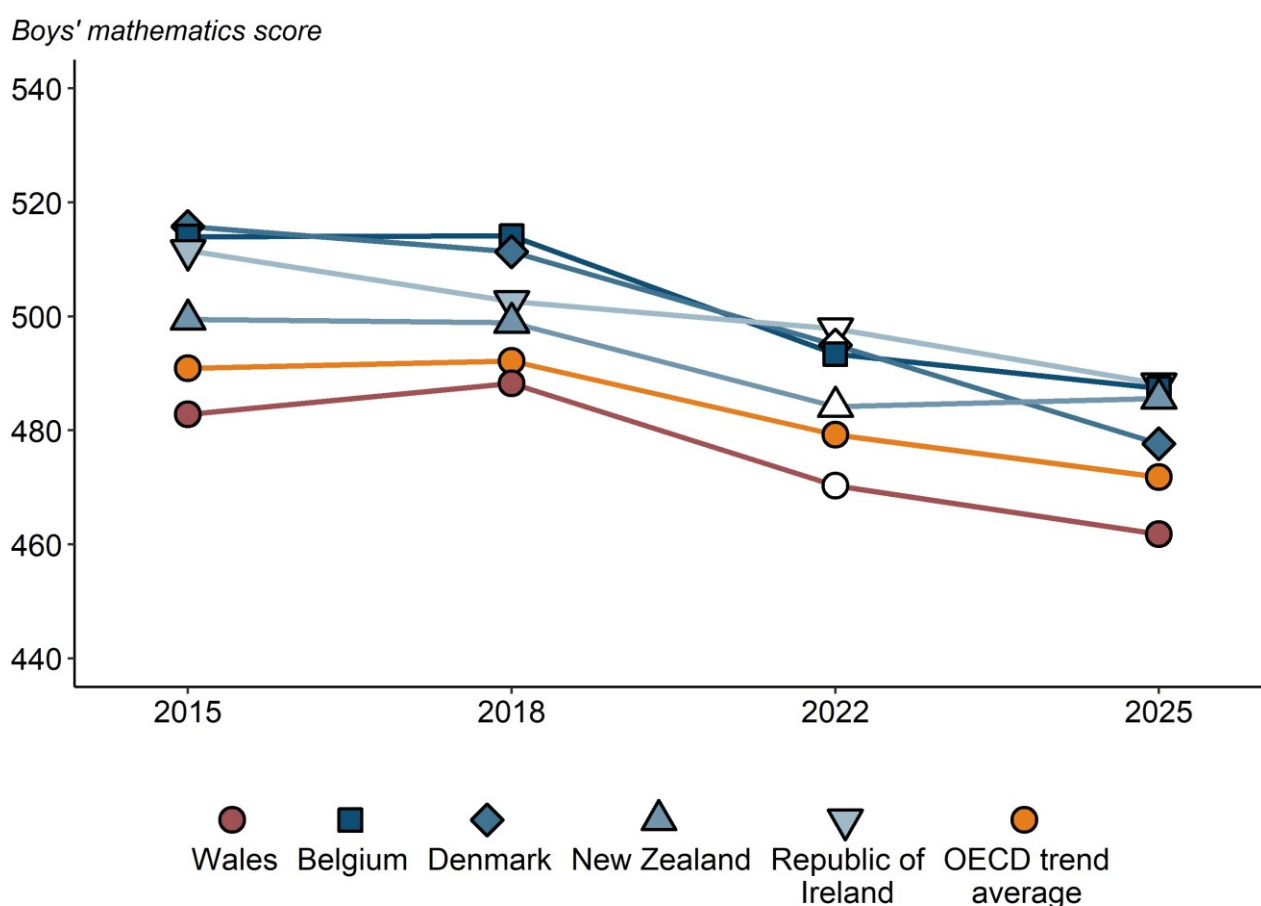
Source: OECD PISA databases for 2025, 2022, 2018 and 2015

5.5.4 What does PISA tell us about boys' performance in mathematics?

Figure 5.19 shows that in PISA 2025, the average mathematics score for boys in Wales (462) was significantly below the corresponding score in 2015 (483), reflecting a downward trend. This mirrored the trends observed in each of the comparator countries as well as the OECD trend averages over this period.

The average score for boys in Wales in 2025 (462) was also significantly below the corresponding score in 2018 (488). Again, this pattern was found in each of the comparator countries and in the OECD trend average. However, there was no significant difference between the average score for boys in Wales in 2025 (462) with the score in 2022 (470). This was also the pattern for boys' performance in Belgium and New Zealand. By contrast, the average mathematics scores in 2025 for boys in Denmark, the Republic of Ireland and the OECD trend average were significantly below the scores in 2022.

Figure 5.19 Trends in boys' mathematics performance in Wales, the comparator countries and the OECD trend average



Country	2015	2018	2022	2025
Wales	* 483	* 488	470	462
Belgium	* 514	* 514	493	487

Country	2015	2018	2022	2025
Denmark	* 516	* 511	* 495	478
New Zealand	* 499	* 499	484	486
Republic of Ireland	* 512	* 503	* 498	488
OECD trend average	* 491	* 492	* 479	472

Base: All participating learners in the countries included.

Asterisks () indicate that the score shown was significantly different from the average score in that country for PISA 2025.*

PISA cycles in which PISA sampling standards were not all met are indicated by a white point in the figure. OECD trend averages were calculated using PISA 2025 data for OECD countries that participated in all cycles, excluding Costa Rica and Spain.

Source: OECD PISA databases for 2025, 2022, 2018 and 2015

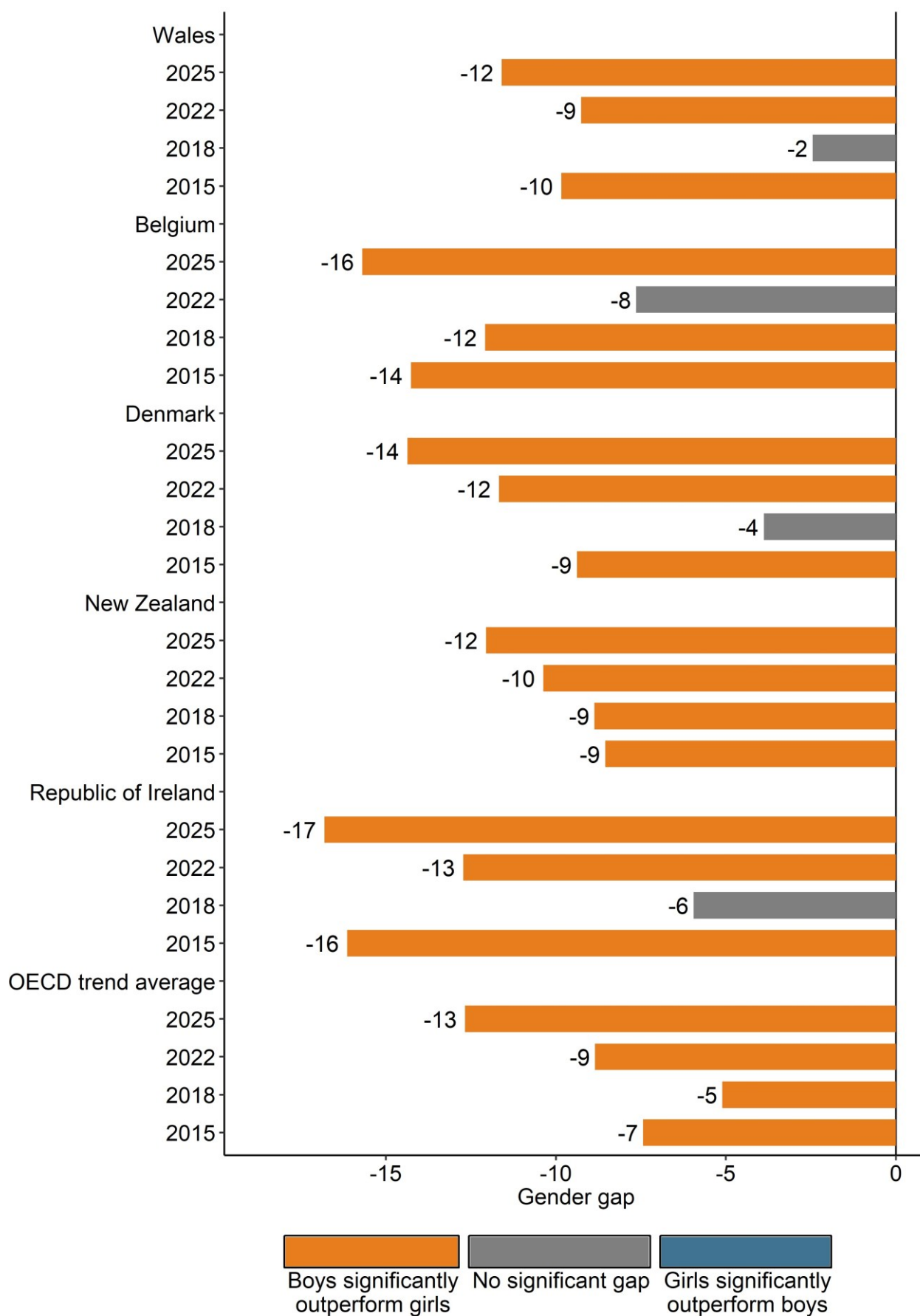
5.5.5 How have gender gaps in mathematics performance changed over time in Wales, comparator groups and the OECD trend average?

As shown in Figure 5.20, in 2025, boys significantly outperformed girls in mathematics in Wales, each of the comparator countries and in the OECD trend average.

This was also the case in 2015 while the picture was mixed in 2018 (where there were no significant differences between girls' and boys' scores in Wales, Denmark and the Republic of Ireland) and in 2022 (where there was no significance difference between girls' and boys' scores in Belgium).

The mathematics gender gap in Wales in 2025 (–12 points) was not significantly different compared with the gender gaps in each of the comparator countries and the OECD trend average.

Figure 5.20 Trends in gender gaps in mathematics performance in Wales, comparator countries and the OECD trend average



Country	2015	2018	2022	2025
Wales	* -10	-2	* -9	* -12
Belgium	* -14	* -12	-8	* -16
Denmark	* -9	-4	* -12	* -14
New Zealand	* -9	* -9	* -10	* -12
Republic of Ireland	* -16	-6	* -13	* -17
OECD trend average	* -7	* -5	* -9	* -13

Base: All participating learners in the countries included.

Gaps calculated as girls' scores – boys' scores.

Asterisks (*) indicate that girls' average scores are significantly different from boys' average scores within individual PISA cycles.

PISA sampling standards were not all met in PISA 2022.

OECD trend averages were calculated using PISA 2025 data for OECD countries that participated in all cycles, excluding Costa Rica and Spain.

Source: OECD PISA databases for 2025, 2022, 2018 and 2015

As shown in Table 5.7, there were no significant changes in the gender gap in mathematics in Wales when comparing the score point difference in 2025 with those for 2022, 2018 and 2015. This pattern was also observed in Belgium and New Zealand while in Denmark and the Republic of Ireland gender gaps in mathematics were significantly wider in 2025 compared with 2018. The OECD trend average gap in 2025 was significantly wider than the gaps recorded in each of the previous 3 cycles.

Table 5.7 Trends in gender gaps in mathematics performance in Wales, comparator countries and the OECD trend average

Country	2015	2018	2022	2025
Wales	-10	-2	-9	-12
Belgium	-14	-12	-8	-16
Denmark	-9	* -4	-12	-14
New Zealand	-9	-9	-10	-12
Republic of Ireland	-16	* -6	-13	-17
OECD trend average	* -7	* -5	* -9	-13

Base: All participating learners in the countries included.

Gaps calculated as girls' scores – boys' scores.

Asterisks (*) indicate a significant difference in the gender gap compared with the gender gap in that country in 2025.

PISA sampling standards were not all met in PISA 2022.

OECD trend averages were calculated using PISA 2025 data for OECD countries that participated in all cycles, excluding Costa Rica and Spain.

Source: OECD PISA databases for 2025, 2022, 2018 and 2015

The mathematics gender gap for learners in Wales was examined in the context of all higher-performing countries in PISA 2025 (where learners achieved an average mathematics score above 440)⁵⁵. In 35 countries (including Wales), the average score for girls was significantly below the score for boys. In 5 countries there was no significant difference between girls' and boys' average scores.

5.5.6 How did girls and boys in Wales perform at the 10th and 90th percentiles in mathematics?

This section compares the performance of the highest- and lowest-achieving girls and boys using the 10th (lowest) and 90th (highest) percentile scores for mathematics and provides the difference (the interdecile range, shortened to range) between these two scores⁵⁶.

Figure 5.21 shows the average scores at the 10th and 90th percentiles and interdecile ranges for learners in Wales, its comparator countries and the OECD average while Table 5.7 shows the significance of differences between girls' and boys' average scores and gender gaps.

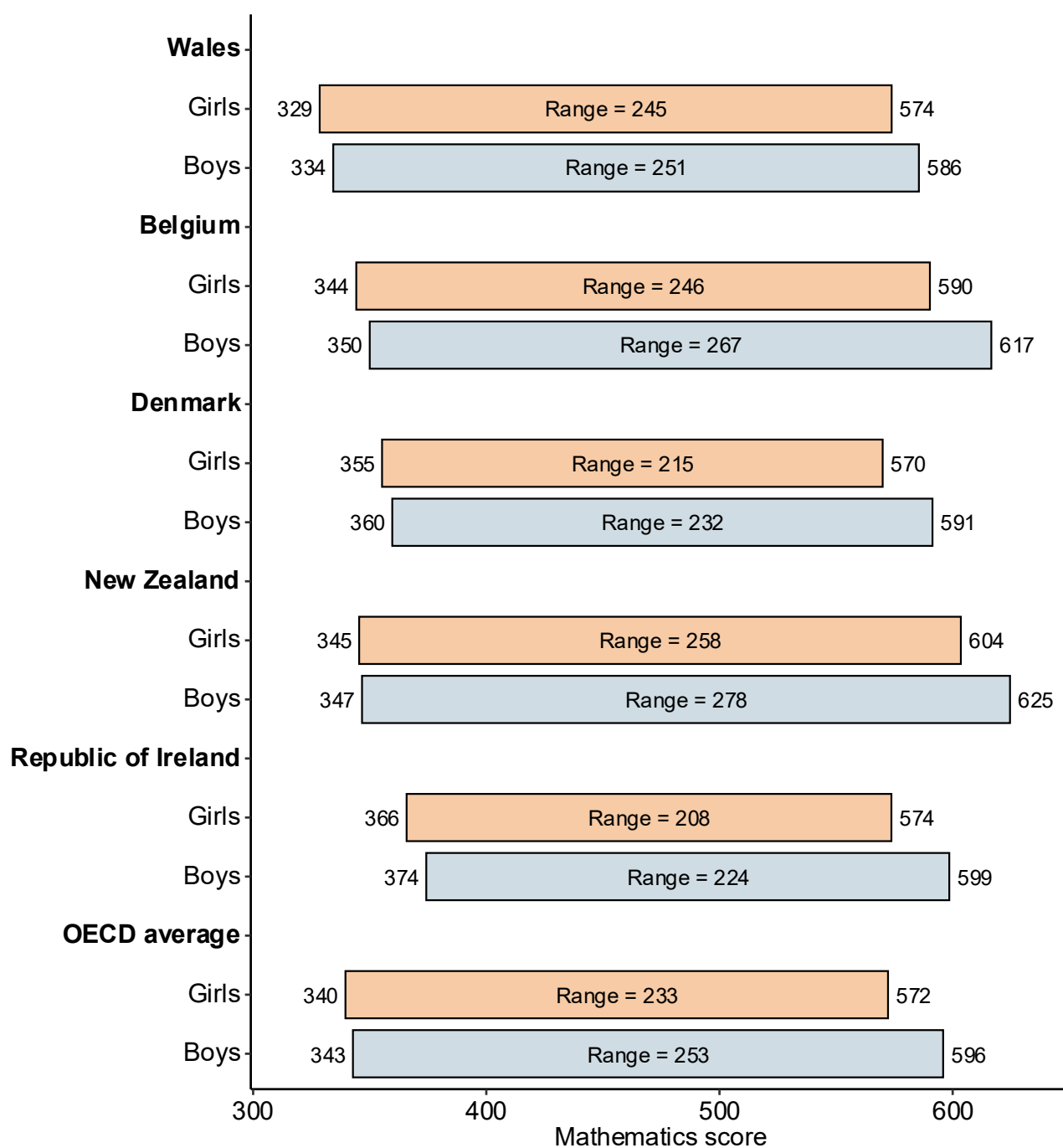
In Wales, the average mathematics score at the 10th percentile for girls (329) was not significantly different from the mathematics score at the 10th percentile for boys (334). The same was true at the 90th percentile with the average mathematics score for girls (574) not significantly different from the average score for boys (586).

The range in girls' mathematics scores in Wales (245) was not significantly different from the range of boys' scores (251). By contrast, the range of girls' scores was significantly narrower than for boys in each of the comparator countries and the OECD average.

⁵⁵ Gaps were calculated as girls' scores – boys' scores. A negative number indicates the average score for girls is below the average score for boys.

⁵⁶ See Chapter 1 (1.4.5) for definitions of percentiles and interdecile range.

Figure 5.21 Performance of girls and boys at the 10th and 90th percentiles in mathematics in Wales, comparator countries and the OECD average



Country	Gender group	Score at the 10th percentile	Score at the 90th percentile	Interdecile range
Wales	Girls	329	574	245
Wales	Boys	334	586	251
Belgium	Girls	344	590	246

Country	Gender group	Score at the 10th percentile	Score at the 90th percentile	Interdecile range
Belgium	Boys	350	617	267
Denmark	Girls	355	570	215
Denmark	Boys	360	591	232
New Zealand	Girls	345	604	258
New Zealand	Boys	347	625	278
Republic of Ireland	Girls	366	574	208
Republic of Ireland	Boys	374	599	224
OECD average	Girls	340	572	233
OECD average	Boys	343	596	253

Base: All participating learners in the countries included.

Interdecile ranges were calculated as 90th percentile – 10th percentile.

Ranges may appear inconsistent due to rounding.

Source: OECD PISA database for 2025

Table 5.8: Gender gap at the 10th and 90th percentiles in mathematics in Wales comparator countries and the OECD average

Country	Score at the 10th percentile	Score at the 90th percentile	Interdecile range
Wales	–6	–12	–6
Belgium	–6	* –26	* –21
Denmark	–4	* –21	* –17
New Zealand	–1	* –21	* –20
Republic of Ireland	–8	* –25	* –16
OECD average	* –3	* –24	* –20

Base: All participating learners in the countries included.

Interdecile ranges were calculated as 90th percentile – 10th percentile.

Gaps were calculated as girls' scores – boys' scores and range of girls' scores – range of boys' scores.

Asterisks () indicate a significant gender gap (significant difference between girls' and boys' average score and significant difference in ranges of scores).*

Two countries with the same or similar gap may have different outcomes from significance testing due to the different sample sizes and rounding.

Source: OECD PISA database for 2025

5.5.7 To what extent did girls and boys in Wales reach the highest and lowest PISA proficiency levels in mathematics compared with the OECD average and comparator countries?

This section compares girls' and boys' performance in terms of the percentages attaining each of the PISA proficiency levels for mathematics (ranging between 1 and 6). In this section the proportion of higher-performing girls and boys (those attaining Level 5 or Level 6) and lower-performing girls and boys (those attaining below Level 2) are compared⁵⁷.

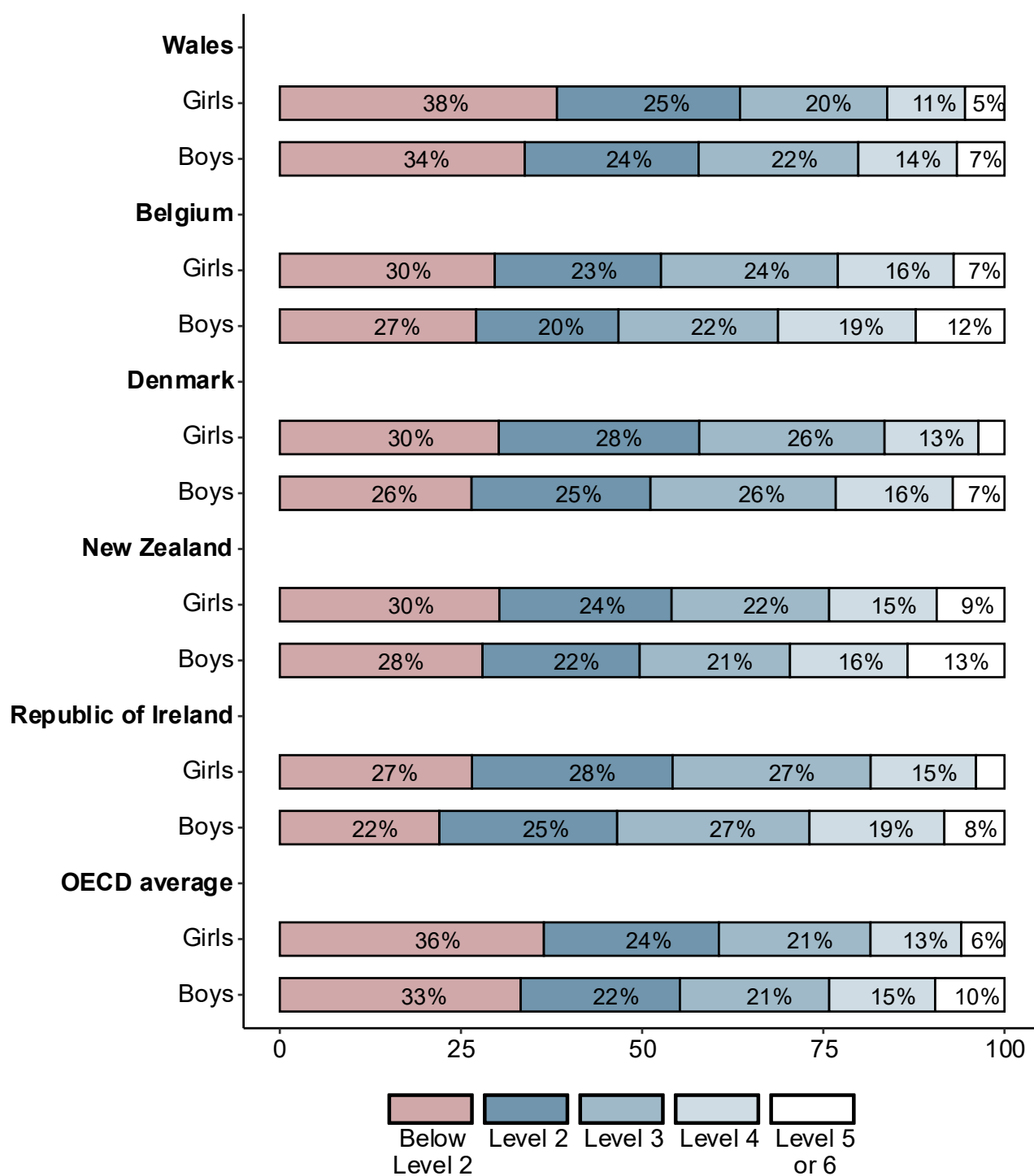
Figure 5.22 shows the percentage of girls and boys achieving each mathematics proficiency level in Wales, its comparator countries and the OECD average while Table 5. shows the significance of differences between girls' and boys' achievement at these levels.

- In Wales, in 2025, there was no significant difference between the percentages of girls and boys who achieved the highest proficiency levels (Levels 5 or 6) in mathematics (5% and 7% respectively).

⁵⁷ This section's analysis focuses on below Level 2 and Levels 5 or 6 only. The chart and table present data for all levels.

- In each of the comparator countries, and the OECD average, the percentages of girls who achieved Levels 5 or 6 in mathematics were significantly smaller than the percentage of boys.
- In Wales, in 2025, the percentage of girls (38%) who achieved a mathematics score below the baseline proficiency level (Level 2) was not significantly different from the percentage of boys (34%), the same pattern was observed in Belgium and New Zealand.
- In Denmark, the Republic of Ireland and the OECD average, the percentages of girls achieving scores below Level 2 were significantly larger than the percentages of boys.

Figure 5.22 Percentage of girls and boys performing at each mathematics proficiency level in Wales, comparator countries and the OECD average



Country	Group	Below Level 2	Level 2	Level 3	Level 4	Level 5 or Level 6
Wales	Girls	38%	25%	20%	11%	5%
Wales	Boys	34%	24%	22%	14%	7%

Country	Group	Below Level 2	Level 2	Level 3	Level 4	Level 5 or Level 6
Belgium	Girls	30%	23%	24%	16%	7%
Belgium	Boys	27%	20%	22%	19%	12%
Denmark	Girls	30%	28%	26%	13%	4%
Denmark	Boys	26%	25%	26%	16%	7%
New Zealand	Girls	30%	24%	22%	15%	9%
New Zealand	Boys	28%	22%	21%	16%	13%
Republic of Ireland	Girls	27%	28%	27%	15%	4%
Republic of Ireland	Boys	22%	25%	27%	19%	8%
OECD average	Girls	36%	24%	21%	13%	6%
OECD average	Boys	33%	22%	21%	15%	10%

Base: All participating learners in the countries included.

Individual percentages may not total 100% due to rounding.

Percentages below 4.5% are not displayed on the chart for visual clarity.

Source: OECD PISA database for 2025

Table 5.9 Gender gap in the percentage of learners at each proficiency level in mathematics in Wales, comparator countries and the OECD average

Country	Below Level 2	Level 2	Level 3	Level 4	Level 5 or 6
Wales	4%	1%	–2%	* –3%	–1%
Belgium	3%	* 3%	2%	* –3%	* –5%
Denmark	* 4%	3%	0%	* –3%	* –4%
New Zealand	2%	2%	1%	–1%	* –4%
Republic of Ireland	* 5%	* 3%	1%	* –4%	* –4%
OECD average	* 3%	* 2%	0%	* –2%	* –4%

Base: All participating learners in the countries included.

Gaps were calculated as percentage of girls – percentage of boys.

Asterisks (*) indicate significant gender gaps.

Two countries with the same or similar percentage may have different outcomes from significance testing due to the different sample sizes and rounding.

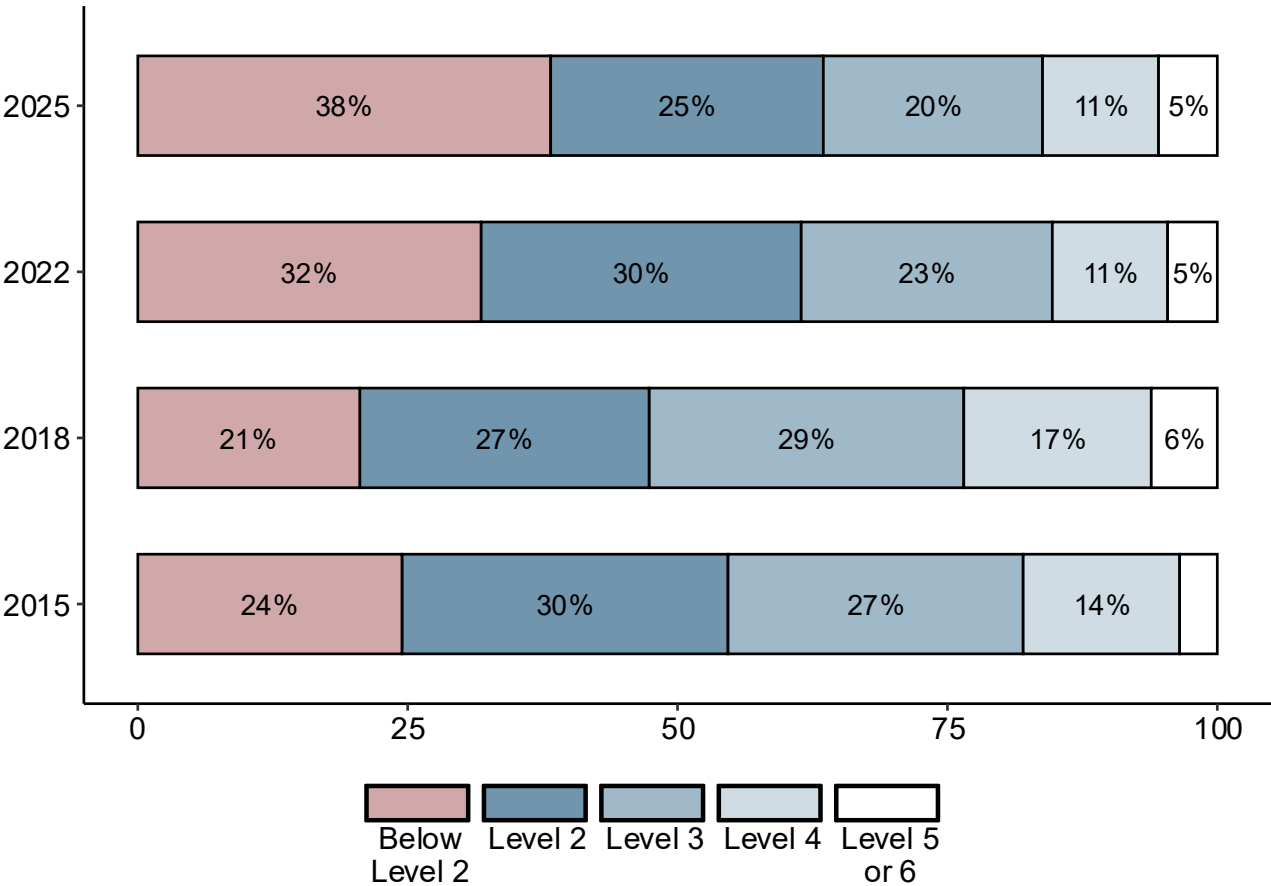
Source: OECD PISA database for 2025

5.5.8 To what extent did girls and boys in Wales reach the highest and lowest PISA proficiency levels in mathematics in the latest 4 cycles⁵⁸?

Figure 5.23Figure 5.23 shows that in PISA 2025, 5% of girls in Wales achieved Level 5 or 6 in mathematics which was the same as the percentage in 2022, similar to the percentage in 2018 (6%) and higher than the percentage in 2015 (3%)⁵⁹.

The percentage of girls in Wales performing below the baseline mathematics proficiency level (Level 2) was 38% in PISA 2025, higher than the percentages in PISA 2022 (32%), 2018 (21%) and 2015 (24%).

Figure 5.23 Percentage of girls in Wales performing at each mathematics proficiency level in the 4 latest PISA cycles



Year	Below Level 2	Level 2	Level 3	Level 4	Level 5 or Level 6
2025	38%	25%	20%	11%	5%

⁵⁸ Although the figures in this chapter present data for all proficiency levels, the analysis focuses on proficiency Levels 5, 6 and Below Level 2.

⁵⁹ No significance testing was carried out with the data presented in Figure 5.23.

Year	Below Level 2	Level 2	Level 3	Level 4	Level 5 or Level 6
2022	32%	30%	23%	11%	5%
2018	21%	27%	29%	17%	6%
2015	24%	30%	27%	14%	3%

Base: All participating learners in Wales.

No significance testing was undertaken.

Individual percentages may not total 100% due to rounding.

Percentages below 4.5% are not displayed on the chart for visual clarity.

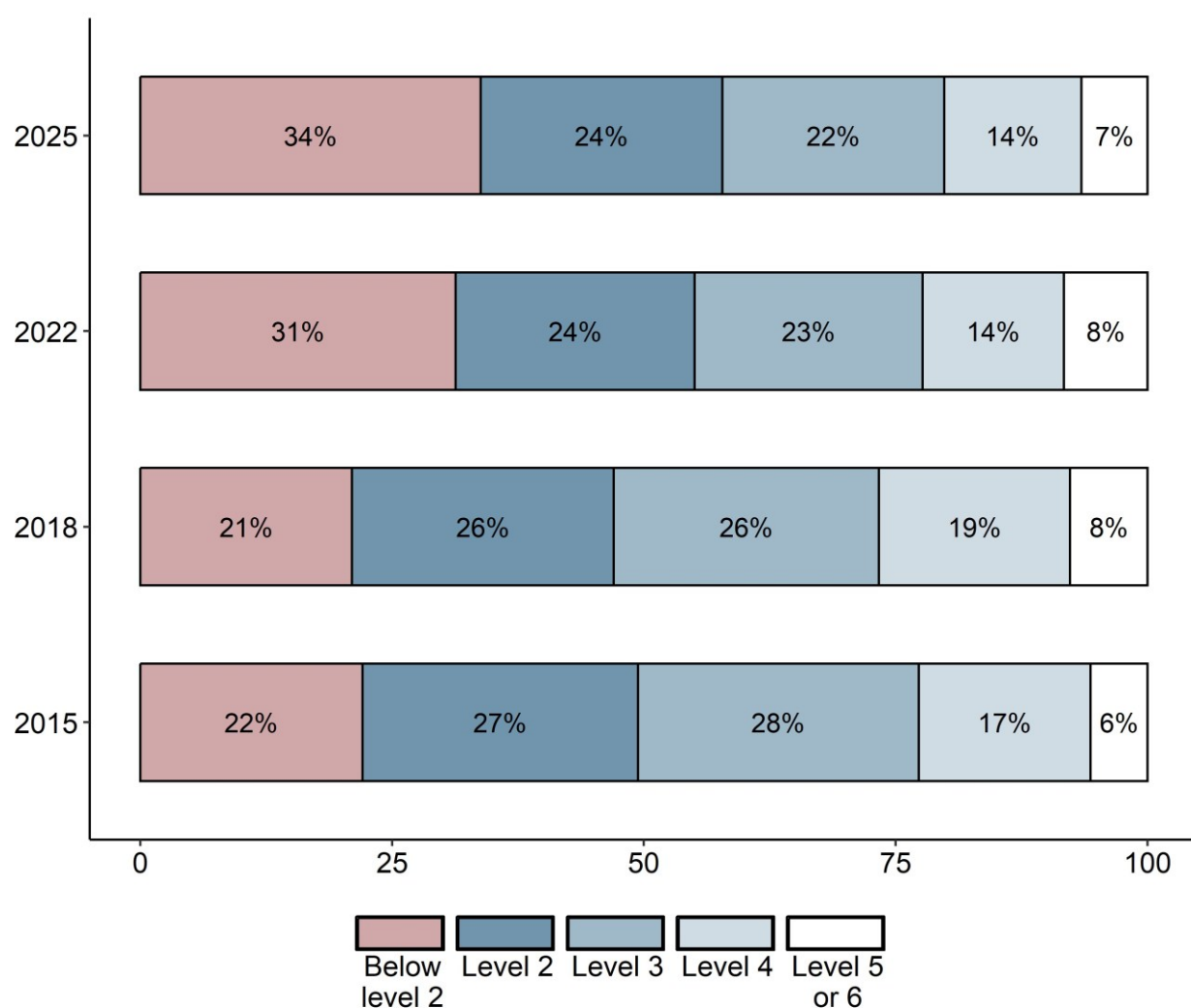
Source: OECD PISA databases for 2015, 2018, 2022, 2025

Figure 5.24 shows that in PISA 2025, 7% of boys in Wales achieved Level 5 or 6 in mathematics which was similar to the percentages in 2022 (8%), 2018 (8%) and 2015 (6%)⁶⁰.

The percentage of boys in Wales performing below the baseline mathematics proficiency level (Level 2) was 34% in PISA 2025, higher than the percentages in PISA 2022 (31%), 2018 (21%) and 2015 (22%).

⁶⁰ No significance testing was carried out with the data presented in Figure 5.24.

Figure 5.24 Percentage of boys in Wales performing at each mathematics proficiency level in the 4 latest PISA cycles



Year	Below Level 2	Level 2	Level 3	Level 4	Level 5 or Level 6
2025	34%	24%	22%	14%	7%
2022	31%	24%	23%	14%	8%
2018	21%	26%	26%	19%	8%
2015	22%	27%	28%	17%	6%

Base: All participating learners in Wales.

No significance testing was undertaken.

Individual percentages may not total 100% due to rounding.

Source: OECD PISA databases for 2015, 2018, 2022, 2025

6 Equity and Inclusion – Socioeconomic status

6.1 Chapter Overview

In this chapter we explore differences in learners' PISA scores in science, reading and mathematics according socioeconomic status and immigrant status. As described in chapter 1, the OECD average is the average for all the 38 OECD countries participating in 2025. The OECD trend average is the average for the 35 countries that participated in each of the latest 4 PISA cycles (2015, 2018, 2022 and 2025)⁶¹.

6.2 Key findings: Socioeconomic differences

- In 2025, Wales' average score on the ESCS Index was +0.14 indicating that, on average, learners' socioeconomic status was higher than the average across OECD countries (0).
- There was a 65 score point difference in science scores between the most disadvantaged group of learners and the least disadvantaged group of learners in Wales in 2025. In reading, this difference was 50 score points and in mathematics it was 70 score points. In each subject the range of scores in Wales between the most and least disadvantaged learners was significantly⁶² narrower than the range for the OECD average.
- On average learners in Wales who were eligible for free school meals achieved average scores in science, reading and mathematics significantly below scores for learners who were not eligible.
- The difference in science performance associated with a one-unit increase in the ESCS index in 2025 was significantly smaller in Wales (26 score points) than on average across OECD countries (36 score points).
- The difference in reading performance associated with a one-unit increase in the ESCS index in 2025 was significantly smaller in Wales (20 score points) than on average across OECD countries (32 score points).
- The difference in mathematics performance associated with a one-unit increase in the ESCS index in 2025 was significantly smaller in Wales (28 score points) than on average across OECD countries (35 score points).
- The percentage of the variance in science performance in Wales that could be explained by socioeconomic status was 6%, while in reading it was 4% and in mathematics it was 8%. On average across OECD countries 12% of the variance in

⁶¹ The 35 OECD trend countries are those OECD countries in PISA 2025 that have participated in every cycle since PISA 2015, excluding Costa Rica and Spain. See chapter 1 for further details.

⁶² In this report, findings described as significant are statistically significant. See chapter 1 for further details.

science performance, 9% of the variance in reading performance and 12% of the variance in mathematics performance could be explained by socioeconomic status.

- In Wales 15% of learners were academically resilient⁶³ in science, 17% were academically resilient in reading and 14% were academically resilient in mathematics. On average across OECD countries 12% of learners were academically resilient in science and mathematics while 13% were academically resilient in reading.
- In Wales, the average science score for learners with a first-generation immigrant background was not significantly different from the score for non-immigrant learners. This was also the case for reading and mathematics.
- The average score learners in Wales with a second-generation immigration background was significantly above the average scores for both first-generation immigrant learners and non-immigrant learners. This was also the case for reading and mathematics.

6.3 Measures of socioeconomic status in Wales

This chapter reports on how science, reading and mathematics scores vary by learners' socioeconomic background. This is achieved by looking at performance in PISA by free school meals (FSM) status and by using PISA's economic, social and cultural status (ESCS) index.

6.3.1 The ESCS Index

The ESCS Index is based on learners' responses to questions about their parents' background, education, and possessions in their homes.

The methodology for calculating the Economic, Social, and Cultural Status index (ESCS) was revised for the 2025 cycle. Although the index retains the same name and continues to measure socioeconomic background, a different methodology was used to calculate the index. At the time of writing, the exact details of these methodology changes were not available, and it was therefore not possible to make statistical comparisons between the 2025 cycle and previous cycles within this report.

The index is standardised across OECD countries with an average of 0 (representing the average socioeconomic status of a 15-year-old learner across all participating OECD countries) and standard deviation of 1. This means almost all learners will fall between -3 and +3 on the index. If a country's ESCS index is above 0, on average, learners' socioeconomic status is above the average across all OECD countries. If a country's

⁶³ A learner is classified as being academically resilient if they are relatively disadvantaged in terms of their socioeconomic background (they are in the lowest quartile of the ESCS Index) but perform in the top quarter of learners in that country.

ESCS index is below 0, on average learners' socioeconomic status is below the average across all OECD countries.

This index was calculated differently in PISA 2025 to previous cycles of PISA meaning that we cannot draw any comparisons to these.

Wales' average score on the ESCS Index was +0.14 indicating that, on average, learners' socioeconomic status in Wales was higher than the average across all OECD countries. In each comparator country, the average score was also above 0: Belgium (+0.12), Denmark (+0.38), New Zealand (+0.19) and the Republic of Ireland (+0.33).

Relative to the OECD average, there was a similar percentage of learners in Wales with missing or otherwise unavailable ESCS estimates (10% compared with 12% respectively)⁶⁴. This percentage of missing data should be considered when assessing how representative the ESCS data are for Wales.

6.3.2 Free school meals

In Wales, eligibility for free school meals is used as a proxy measure for socioeconomic disadvantage. Table 6.1 below shows the percentages of learners eligible or not for free school meals in Wales using 2 measures. The first of these is eligibility for FSM in the year of PISA assessments using the 2025 school census return data. The second uses the same census data to determine the percentage of learners who have been recorded as eligible for FSM at any point in the past 6 years so that socioeconomic disadvantage is understood to be not just pertaining to a single point in time.

The table shows that there is a clear association between learners' FSM status and the ESCS quartiles used in PISA. For example, the percentages of learners in ESCS Quartile 1 (the most disadvantaged learners) who were eligible for FSM in 2025 (28%) or in the past 6 years (43%) were higher than the percentages in ESCS Quartile 4 (most advantaged) (3%).

⁶⁴ For the comparator countries, the percentages of learners with missing or otherwise unavailable ESCS estimates were Belgium (7%), Denmark (9%), New Zealand (10%) and the Republic of Ireland (3%)

Table 6.1 FSM eligibility by ESCS deprivation quartile

ESCS Quartile	Learners eligible for FSM (2025)	Learners not eligible for FSM (2025)	Learners eligible for FSM at any point in the last six years	Learners not eligible for FSM at any point in the last six years	Missing FSM data
ESCS Quartile 1	28%	72%	43%	57%	0%
ESCS Quartile 2	13%	87%	23%	77%	0%
ESCS Quartile 3	7%	93%	13%	87%	0%
ESCS Quartile 4	3%	97%	5%	95%	0%
Missing ESCS	22%	78%	30%	70%	0%
All learners	14%	86%	22%	78%	0%

Source: OECD PISA 2025 Database, National Learner Database

6.4 Analysis of the relationship between socioeconomic status and performance

There are 5 different ways to think about the relationship between socioeconomic status and attainment in PISA. Each of these is applied in the following sections for science (6.5), reading (6.6) and mathematics (6.7).

6.4.1 Measuring the difference in attainment, on average, between learners with high socioeconomic status and those with low socioeconomic status using FSM data

By dividing learners into groups of those who were eligible or not for FSM in 2025 or over the past 6 years, comparisons can be made between their average scores.

6.4.2 Measuring the difference in attainment, on average, between learners with high socioeconomic status and those with low socioeconomic status using the ESCS Index

By dividing learners into 4 equal groups (quartiles) according to their ESCS score a comparison can be made between their average scores. This includes calculating the

interquartile range (shortened to range) of average scores between learners who were most disadvantaged (Quartile 1) and those who were least disadvantaged (Quartile 4)⁶⁵⁶⁶.

6.4.3 Measuring the extent to which learners' subject scores correspond with their ESCS index score (the gradient of the slope)

The OECD plotted individual learners' subject scores against their ESCS scores and calculated the average difference in performance associated with each unit on the ESCS index. This is known as the gradient or steepness of the slope where the steeper the slope, the larger the impact that disadvantage had on performance. Low values indicate that socioeconomic status had less impact on learner attainment; high values indicate that socioeconomic background had more impact on learner attainment. A slope of 30 would mean a one-unit increase in the ESCS index (which is quite a large change) is associated with 30 more points scored.

6.4.4 Measuring the variation between learners with similar socioeconomic status

As many factors influence an individual learner's score other than their socioeconomic status, a range of PISA scores at each point on the index would be expected. The OECD plotted learners' average subject scores against each point on the ESCS index to calculate the average percentage of score variation explained by socioeconomic status. This is referred to as the strength of the socioeconomic effect. A strong effect will show less variability in the attainment of learners with the same socioeconomic status, which implies that socioeconomic status is a dominant factor in determining outcomes. A weak effect will show more variability in the attainment of learners with the same socioeconomic status, which implies that socioeconomic status was not a dominant factor in determining outcomes.

6.4.5 Calculating the percentage of learners who were 'academically resilient'

Academically resilient learners are those who succeed academically despite their comparatively low socioeconomic status. A learner is classed as resilient in PISA if they are in the bottom quartile of the ESCS index in their country (Quartile 1) but perform in the top quartile of learners in that country (Quartile 4).

⁶⁵ In this report the focus is on the average score for quartiles 1 and 4 and the interquartile range. See Appendix C for average performance for all 4 ESCS quartiles.

⁶⁶ See Chapter 1.4.5 for definitions of quartiles and interquartile range.

6.5 What is the relationship between socioeconomic status and science performance in PISA in Wales, comparator countries and the OECD average?

6.5.1 Science performance according to FSM eligibility

As shown in Table 6.2 below, learners who were eligible for FSM in 2025 achieved an average score of 439, significantly below learners who were ineligible (481), a gap of 42 score points. Similarly, learners who were eligible for FSM in the past 6 years in 2025 achieved an average score of 444 significantly below learners who were ineligible (485), a gap of 41 score points.

Table 6.2 Learners' science performance in Wales by FSM status

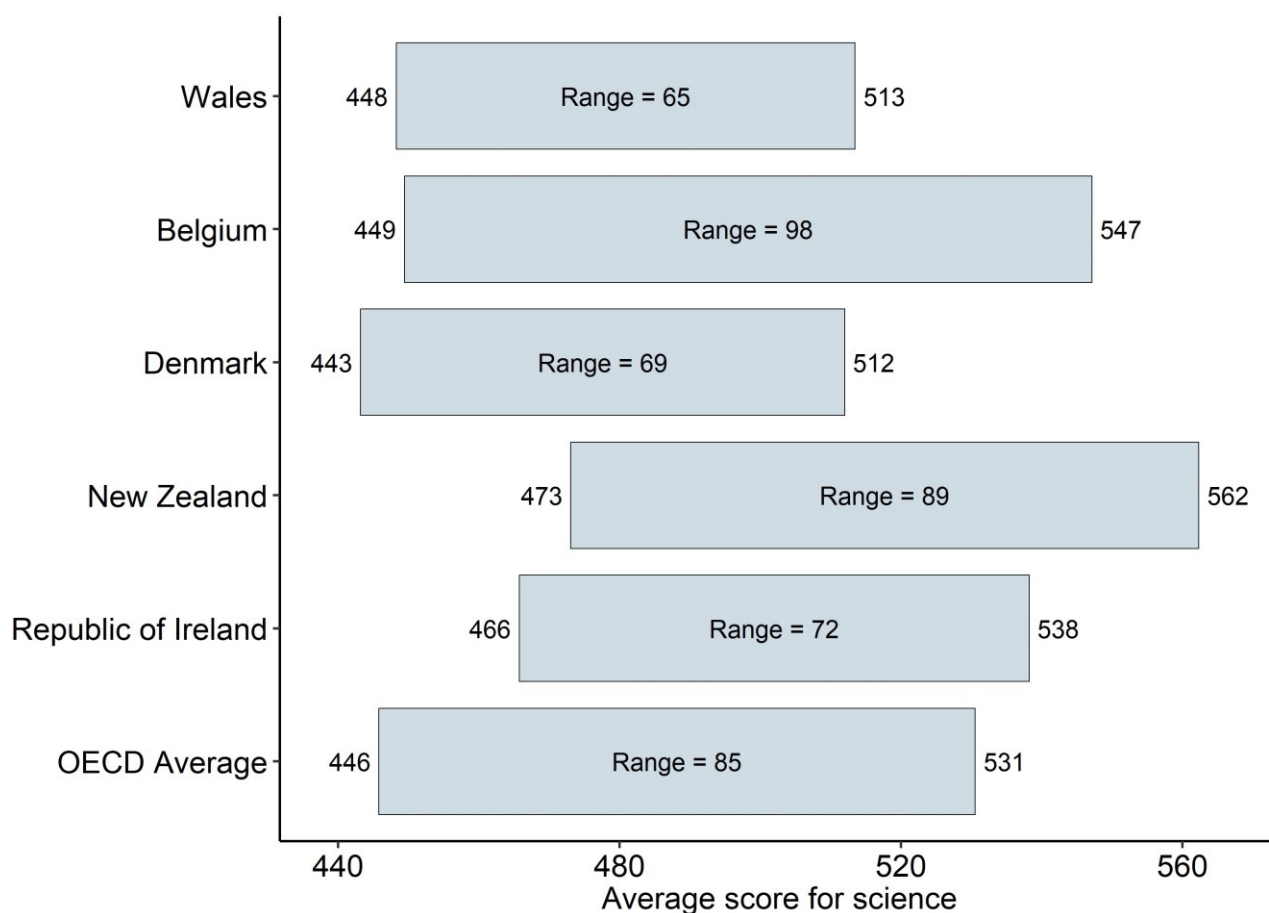
FSM eligibility	Percentage of learners	Average science score
Not eligible for FSM in 2025	86%	481
Eligible for FSM in 2025	14%	439
Not eligible for FSM at any point in the past six years	78%	485
Eligible for FSM at any point in the past six years	22%	444

Source: National Learner Database

Figure 6.1 shows that the interquartile range (shortened to range)⁶⁷ of science scores in Wales (65 points) between the most disadvantaged quartile (Quartile 1: 448) and least disadvantaged quartile of learners (Quartile 4: 513) was not significantly different from the ranges in Denmark (69 points) or the Republic of Ireland (72 points). By contrast, the respective ranges for learners in Belgium (98 points) and New Zealand (89 points) were significantly wider compared with Wales. The same was true across OECD countries on average where the range in science scores between the most disadvantaged quartile and the least disadvantaged quartile of learners (85 points) was significantly wider than the range in Wales. This difference was driven by the least disadvantaged learners in the OECD, on average, achieving a science score significantly above their peers in Wales (531 in the OECD compared with 513 in Wales). By contrast, the score for the most disadvantaged in Wales (448) was not significantly different from the OECD average (446).

⁶⁷ See Chapter 1 (1.4.5) for definitions of percentiles and interdecile range.

Figure 6.1 Range in science performance between ESCS Quartiles 1 and 4 in Wales, comparator countries and the OECD average



Country	ESCS Quartile 1	ESCS Quartile 4	ESCS interquartile range
Wales	448	513	65
Belgium	449	* 547	* 98
Denmark	443	512	69
New Zealand	* 473	* 562	* 89
Republic of Ireland	* 466	* 538	72
OECD average	446	* 531	* 85

Base: All participating learners with ESCS data in the countries included.

Asterisks () indicate average scores and ranges that are significantly different from those for Wales' learners.*

The range was calculated as the average score for Quartile 4 – the average score for Quartile 1.

Ranges may appear inconsistent with quartile scores due to rounding.

Source: OECD PISA 2025 database

6.5.2 The strength of the relationship between ESCS and PISA science scores (gradient of the slope)

Socioeconomic status had a significantly smaller effect on science scores in Wales compared with the OECD average. In Wales there was a 26-point difference in science performance associated with a one-unit increase in ESCS, significantly below the 36-point difference on average across the OECD countries. The strength of the relationship between ESCS and science scores in Wales was also smaller than the effect observed in each of the comparator countries. The point difference in science performance in Wales (26 points) was significantly below the differences in Belgium (38 points), Denmark (35 points), New Zealand (36 points) and the Republic of Ireland (32 points). This indicates that socioeconomic status has less impact on learner attainment in science in Wales than in these countries.

6.5.3 Variation in science scores between learners with similar backgrounds

The percentage of the variation in science performance explained by socioeconomic status in Wales was 6%, compared with 12% on average across the OECD countries. In Belgium it was 14%, in Denmark, 10%, in New Zealand, 11% and in the Republic of Ireland, 10%. The relatively weaker effect illustrates that Wales has more variability in the attainment of learners with the same socioeconomic status, which implies that socioeconomic status is not a dominant factor in determining outcomes.

6.5.4 Percentage of learners in science who were ‘academically resilient’

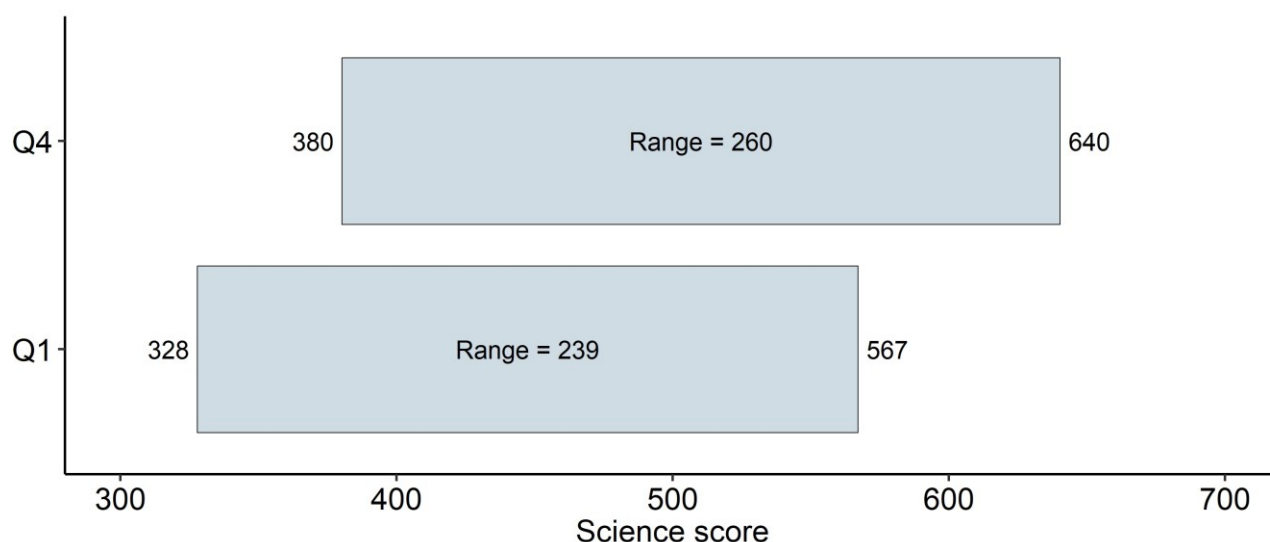
Academically resilient learners are those who succeed academically despite their comparatively low socioeconomic status. In Wales, 15% of learners were academically resilient in the context of science performance, not significantly different from the OECD average (12%) and the rates in Denmark (13%), New Zealand (13%) and the Republic of Ireland (14%). By contrast, the rate for Wales (15%) was significantly above the rate for Belgium (10%). A learner is classed as resilient in PISA if they are in the bottom quartile of the ESCS index in their country (Quartile 1) but perform in the top quartile of learners in that country (Quartile 4).

6.5.5 How did learners in Wales perform at the 10th and 90th percentiles in science by ESCS quartile?

Figure 6.2 shows the 2025 average science scores at the 90th and 10th percentiles (and the range in scores between these percentiles)⁶⁸ for learners in ESCS quartiles 1 and 4.

⁶⁸ See Chapter 1 (1.4.5) for definitions of percentiles and interdecile range. The range was calculated as the average score for Quartile 4 – the average score for Quartile 1.

Figure 6.2 Performance of learners in Wales at the 90th and 10th percentiles in science by ESCS quartile



ESCS quartile	Score at the 10th percentile	Score at the 90th percentile	Interdecile range
Quartile 4	380	640	260
Quartile 1	328	567	239

Base: All participating learners with ESCS data in Wales.

Interdecile ranges calculated as the score at the 90th percentile – the score at the 10th percentile.

Source: OECD PISA 2025 database

6.5.6 To what extent did learners in Wales reach the highest and lowest PISA proficiency levels in science by ESCS quartile?⁶⁹

Quartile 1 (most disadvantaged learners)

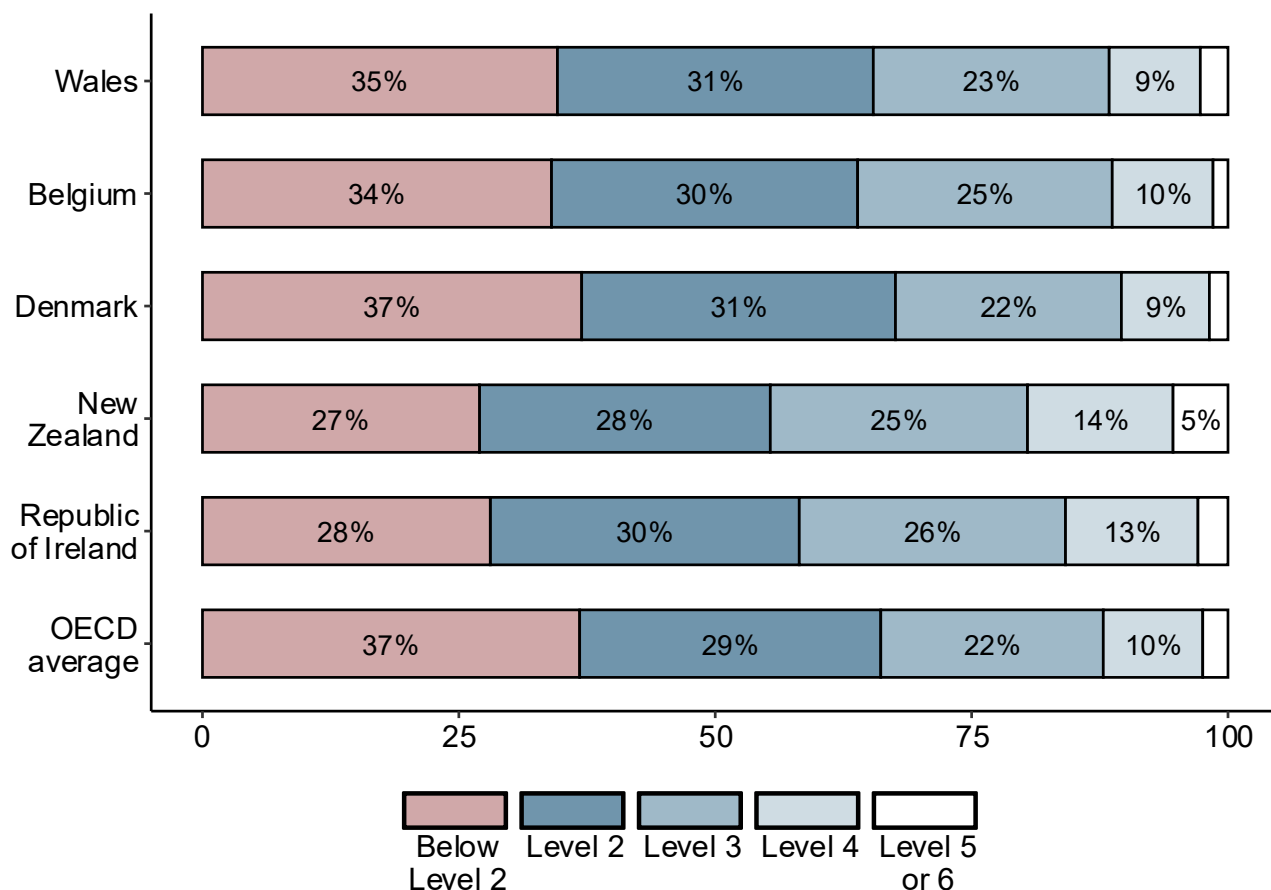
Figure 6.3 shows that 3% of learners in Quartile 1 in Wales achieved Levels 5 or 6 in 2025. This percentage was not significantly different from the percentages of learners in Belgium (1%), Denmark (2%) and the Republic of Ireland (3%) or the OECD average (2%). By contrast, the percentage of learners in Wales (3%) was significantly below the corresponding percentage for New Zealand (5%).

There were no significant differences between the percentage of learners in Quartile 1 in Wales performing below Level 2 in science (35%) and the percentages of learners in Belgium (34%), Denmark (37%) or the OECD on average (37%). By contrast, the percentage of learners in Wales performing below Level 2 in science (35%) was

⁶⁹ Although the figures in this chapter present data for all proficiency levels, the analysis focuses on proficiency Levels 5, 6 and Below Level 2. Corresponding data for learners' performance in reading and mathematics is presented in Appendix Figures A1 – A4.

significantly above the corresponding percentages in New Zealand (27%) and the Republic of Ireland (28%).

Figure 6.3 Percentage of learners in ESCS Quartile 1 performing at each science proficiency level in Wales, comparator countries and the OECD average



Country	Below Level 2	Level 2	Level 3	Level 4	Level 5 or Level 6
Wales	35%	31%	23%	9%	3%
Belgium	34%	30%	25%	10%	1%
Denmark	37%	31%	22%	9%	2%
New Zealand	* 27%	28%	25%	* 14%	* 5%
Republic of Ireland	* 28%	30%	26%	* 13%	3%
OECD average	37%	29%	22%	10%	2%

Base: All participating learners with ESCS data in the countries included.

Asterisks (*) indicate significant differences between percentage of learners in comparator countries or the OECD average compared with the percentage of learners in Wales.

Individual percentages may not total 100% due to rounding.

Percentages below 4.5% are not displayed on the chart for visual clarity.

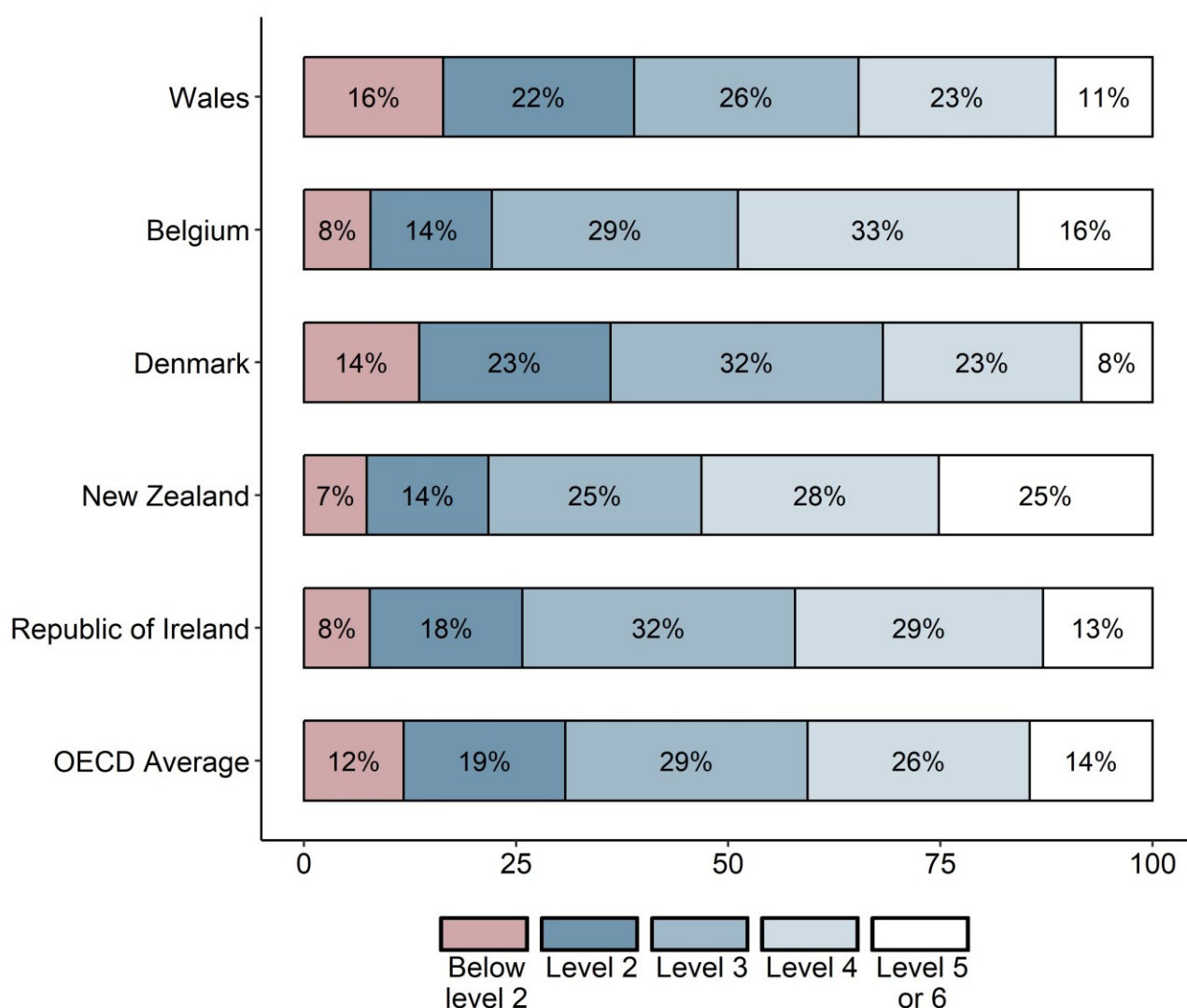
Source: OECD PISA database for 2025

Quartile 4 (least disadvantaged learners)

Figure 6.4 shows that the percentage of learners in Quartile 4 in Wales performing at the highest proficiency levels (Levels 5 or 6) in science was 11%. This was not significantly different from the corresponding percentages of learners in Denmark (8%), the Republic of Ireland (13%) or the OECD average (14%). By contrast, the percentage in Wales (11%) was significantly below the corresponding percentages of learners in Belgium (16%) and New Zealand (25%).

The percentage of learners in Wales in Quartile 4 performing below the baseline proficiency level (below Level 2) in science (16%) was not significantly different from the corresponding percentage in Denmark (14%). By contrast the percentage for Wales was significantly above the corresponding percentages in Belgium (8%), New Zealand (7%), the Republic of Ireland (8%) and the OECD average (12%).

Figure 6.4 Percentage of learners in Quartile 4 performing at each science proficiency level in Wales, comparator countries and the OECD average



Country	Below Level 2	Level 2	Level 3	Level 4	Level 5 or Level 6
Wales	16%	22%	26%	23%	11%
Belgium	* 8%	* 14%	29%	* 33%	* 16%
Denmark	14%	23%	32%	23%	8%
New Zealand	* 7%	* 14%	25%	* 28%	* 25%
Republic of Ireland	* 8%	18%	* 32%	* 29%	13%
OECD average	* 12%	19%	29%	26%	14%

Base: All participating learners with ESCS data in the countries included.

Asterisks (*) indicate significant differences between percentage of learners in comparator countries or the OECD average compared with the percentage of learners in Wales.

Individual percentages may not total 100% due to rounding.

Source: OECD PISA database for 2025

6.6 What is the relationship between socioeconomic status and reading performance in PISA in Wales, comparator countries and the OECD average?

6.6.1 Reading performance according to FSM eligibility

As shown in Table 6.3, learners who were eligible for FSM in 2025 achieved an average reading score of 430 significantly below learners who were ineligible (463), a gap of 33 score points. Similarly, learners who were eligible for FSM in the past 6 years in 2025 achieved an average score of 433 significantly below learners who were ineligible (466), also a gap of 33 score points.

Table 6.3 Learners' reading performance in Wales by FSM status

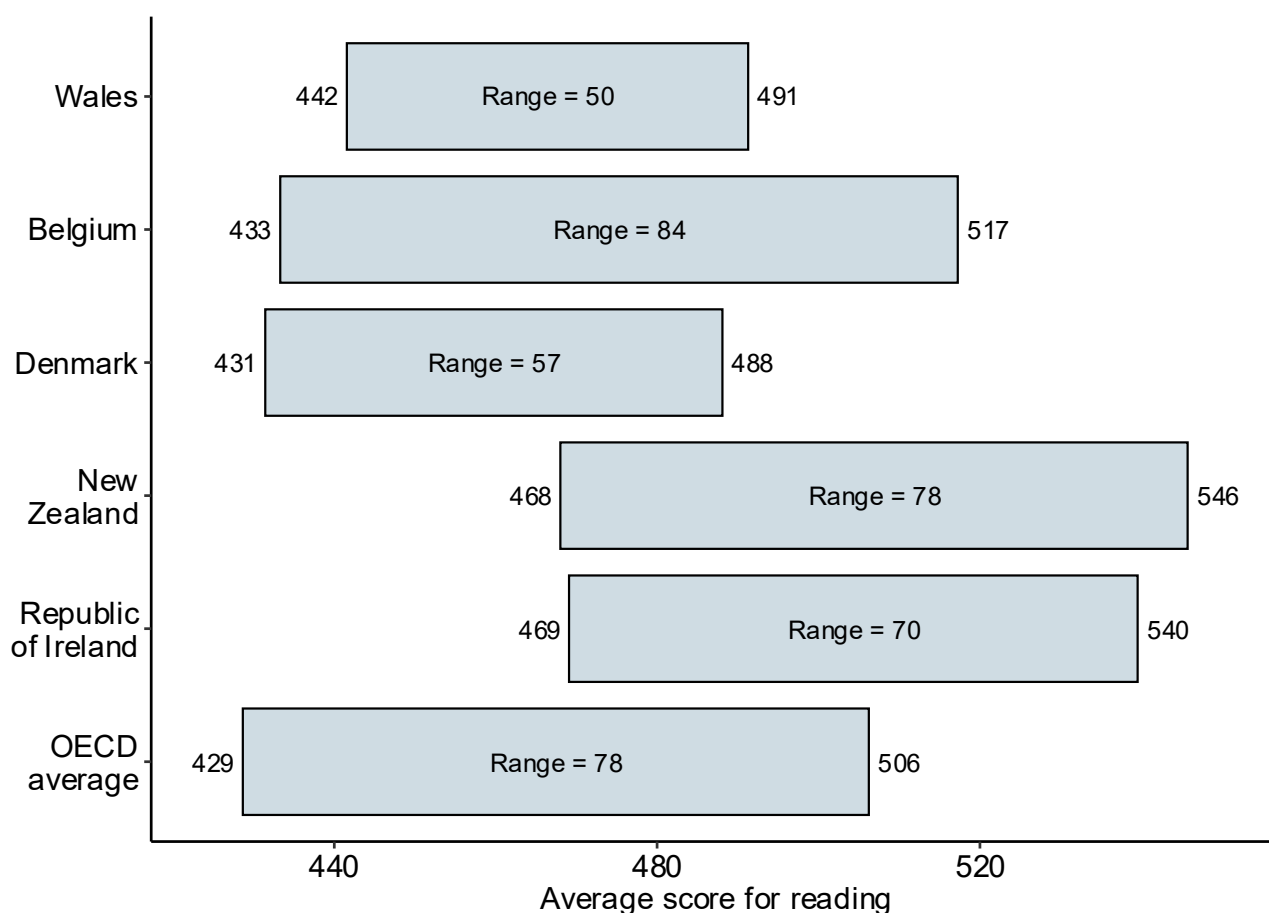
FSM eligibility	Percentage of learners	Average reading score
Not eligible for FSM in 2025	86%	463
Eligible for FSM in 2025	14%	430
Not eligible for FSM at any point in the past six years	78%	466
Eligible for FSM at any point in the past six years	22%	433

Source: National Learner Database

6.6.2 Range in reading performance between ESCS Quartile 1 and Quartile 4 in Wales, comparator countries and the OECD average

The interquartile range (shortened to range)⁷⁰ of reading scores in Wales (50 points) between learners in Quartile 1 (442) and Quartile 4 (492) was not significantly different from the range in Denmark (57 points) (see Figure 6.5). By contrast, the range of reading scores for learners in Wales (50) was significantly narrower compared with the OECD average (78), Belgium (84), New Zealand (78) and the Republic of Ireland (70). In each case, these differences were mostly driven by learners' average scores in Quartile 4 (least disadvantaged) in these countries which were significantly above the corresponding scores for learners in Wales.

Figure 6.5 Range in reading performance between ESCS Index Quartiles 1 and 4 in Wales, comparator countries and the OECD average



Country	ESCS Quartile 1	ESCS Quartile 4	ESCS interquartile range
Wales	442	491	50

⁷⁰ See Chapter 1 (1.4.5) for definitions of percentiles and interdecile range.

Country	ESCS Quartile 1	ESCS Quartile 4	ESCS interquartile range
Belgium	433	* 517	* 84
Denmark	431	488	57
New Zealand	* 468	* 546	* 78
Republic of Ireland	* 469	* 540	* 70
OECD average	* 429	* 506	* 78

Base: All participating learners with ESCS data in the countries included.

Asterisks (*) indicate average scores and ranges that are significantly different from those for Wales' learners.

The range was calculated as the average score for Quartile 4 – the average score for Quartile 1.

Ranges may appear inconsistent with quartile scores due to rounding.

Source: OECD PISA 2025 database

6.6.3 The strength of the relationship between ESCS and PISA reading scores (the gradient of the slope)

Socioeconomic status had a significantly smaller effect on reading scores in Wales compared with the OECD average. In Wales there was a 20-point difference in reading performance associated with a one-unit increase in ESCS, significantly below the OECD average (32 points). The point difference in reading performance in Wales was also significantly below the differences in each of the comparator countries: Belgium (33), Denmark (30 points), New Zealand (32 points) and the Republic of Ireland (30 points), indicating there was a significantly stronger relationship between socioeconomic status and reading performance in these countries compared with Wales.

6.6.4 Variation in reading scores between learners with similar backgrounds

The percentage of the variation in reading performance explained by socioeconomic status in Wales was 4%, compared with 9% on average across the OECD countries. In Belgium the percentage was 10%, in Denmark, 7%, in New Zealand, 8% and in the Republic of Ireland, 9%. The weaker relationship suggests that, in Wales, there is greater variation in attainment among learners with similar socioeconomic backgrounds, indicating that socioeconomic status is not the dominant factor of determining outcomes.

6.6.5 Percentage of reading learners who are 'academically resilient'

Academically resilient learners are those who succeed academically despite their comparatively low socioeconomic status. In Wales, 17% of learners were academically resilient in the context of reading performance, significantly above the OECD average

(13%). The academically resilient rate for learners in Wales was also significantly above the rate for Belgium (11%). By contrast, it was not significantly different from the rates in each of the other comparator countries: Denmark (15%), New Zealand (15%) and the Republic of Ireland (14%).

6.7 What is the relationship between socioeconomic status and mathematics performance in PISA in Wales, comparator countries and the OECD average?

6.7.1 Mathematics performance according to FSM eligibility

As shown in Table 6.4, learners who were eligible for FSM in 2025 achieved an average score of 417 significantly below learners who were ineligible (462), a gap of 45 score points. Similarly, learners who were eligible for FSM in the past 6 years in 2025 achieved an average score of 422 significantly below learners who were ineligible (466), a gap of 44 score points.

Table 6.4 Learners' mathematics performance in Wales by FSM status

FSM eligibility	Percentage of learners	Average mathematics score
Not eligible for FSM in 2025	86%	462
Eligible for FSM in 2025	14%	417
Not eligible for FSM at any point in the past six years	78%	466
Eligible for FSM at any point in the past six years	22%	422

Source: National Learner Database

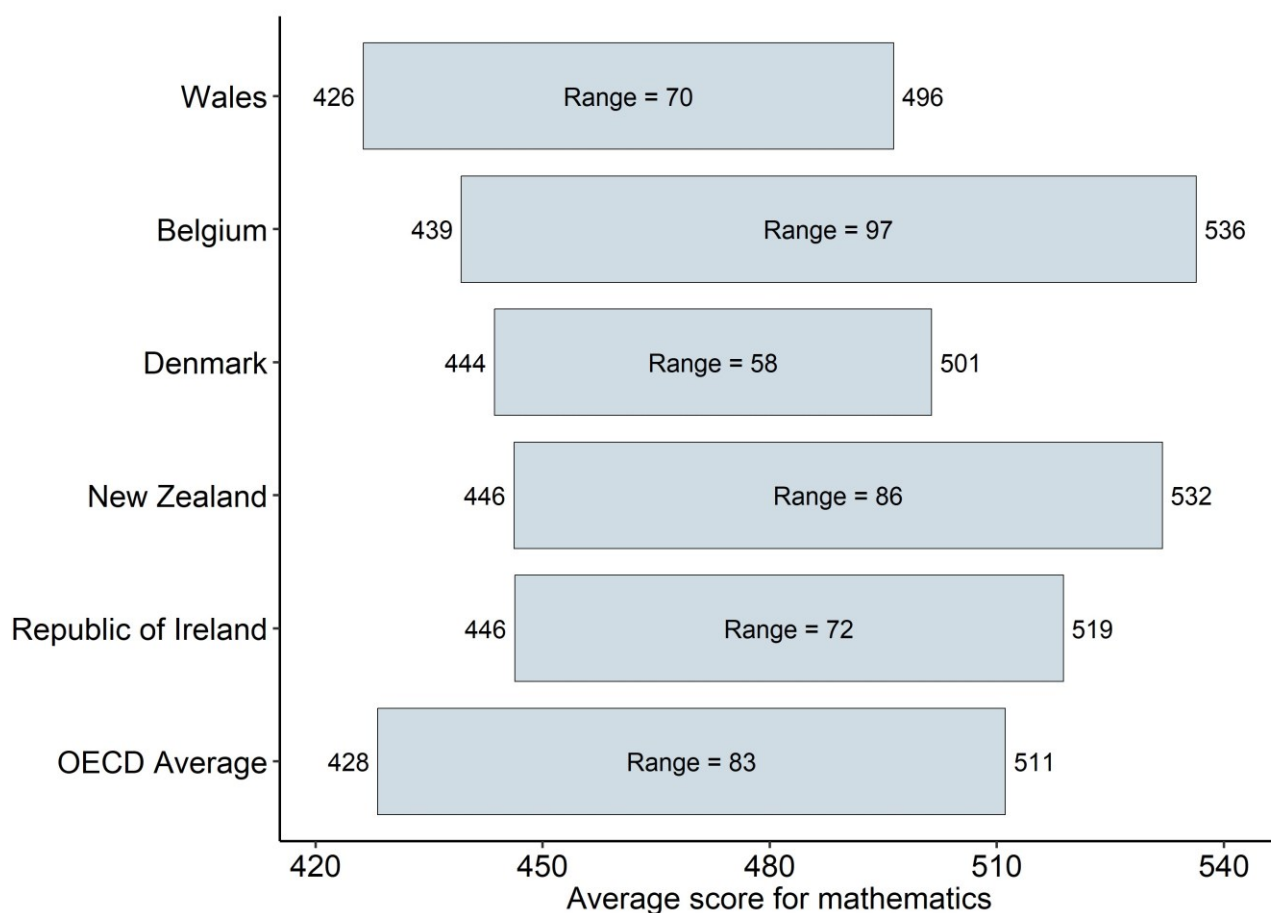
6.7.2 Range in mathematics performance between ESCS Quartile 1 and Quartile 4 in Wales, comparator countries and the OECD average

Figure 6.6 shows that the interquartile range (shortened to range)⁷¹ of mathematics scores in Wales (70 points) between the average score for learners in Quartile 1 (426) and Quartile 4 (496) was not significantly different from the ranges in Denmark (58 points) or the Republic of Ireland (72 points). By contrast, the range of learners' average mathematics scores in Wales (70 points) was significantly narrower compared with the ranges in Belgium (97 points), New Zealand (86 points) and the OECD average range (83

⁷¹ See Chapter 1 (1.4.5) for definitions of percentiles and interdecile range.

points). In each case, these differences were mostly driven by learners' average scores in Quartile 4 which were significantly above the corresponding scores for learners in Wales.

Figure 6.6 Mathematics performance by ESCS Index quartile



Country	ESCS Quartile 1	ESCS Quartile 4	ESCS interquartile range
Wales	426	496	70
Belgium	* 439	* 536	* 97
Denmark	* 444	501	58
New Zealand	* 446	* 532	* 86
Republic of Ireland	* 446	* 519	72
OECD average	428	* 511	* 83

Base: All participating learners with ESCS data in the countries included.

Asterisks () indicate average scores and ranges that are significantly different from those for Wales' learners.*

The range was calculated as the average score for Quartile 4 – the average score for Quartile 1.

6.7.3 The strength of the relationship between ESCS and PISA mathematics scores (the gradient of the slope)

Socioeconomic status had a significantly smaller effect on mathematics scores in Wales compared with the OECD average. In Wales there was a 28-point difference in mathematics performance associated with a one-unit increase in ESCS, significantly below the OECD average (35 points). The point difference in mathematics performance in Wales was also significantly below the differences in Belgium (38 points) and New Zealand (34 points) but not significantly different from Denmark (29 points) or the Republic of Ireland (31 points).

6.7.4 Variation between mathematics learners with similar backgrounds

The percentage of the variation in mathematics performance explained by socioeconomic status in Wales was 8%, compared with 12% on average across the OECD countries. In Belgium the percentage was 16%, in Denmark, 8%, in New Zealand, 10% and in the Republic of Ireland, 11%. The weaker relationship suggests that, in Wales, there is greater variation in attainment among learners with similar socioeconomic backgrounds, indicating that socioeconomic status is not the dominant factor determining outcomes.

6.7.5 Percentage of mathematics learners who are ‘academically resilient’

Academically resilient learners are those who succeed academically despite their comparatively low socioeconomic status. In Wales, 14% of learners were academically resilient in the context of mathematics performance, not significantly different from the OECD average (12%) or the rates in Denmark (14%), New Zealand (14%) and the Republic of Ireland (13%). By contrast, the rate in Wales (14%) was significantly above the rate in Belgium (10%).

6.8 Does performance differ by immigration status

The learner questionnaire in PISA 2025 collects information which identifies whether learners are first- or second-generation immigrants. PISA defines immigrant learners as those whose mother and father were both born in a country/economy other than that where the student took the PISA test. The 3 categories of immigrant background used are:

- non-immigrant learners - those whose mother or father (or both) was/were born in the country where the learner sat the PISA test, regardless of whether the learner him/herself was born in that country
- first-generation immigrant learners – those who were born in another country and whose parents/carers were also born in another country

- second-generation immigrant learners – those born in the country of assessment but whose parents/carers were both born in another country

The percentage of learners across the OECD countries with an immigrant background was 15% in 2026. In Wales the percentage of learners with an immigrant background was 11%. In PISA 2025, the immigration status of 10% of learners was not available in 2025 for both Wales and the OECD average.

6.8.1 Science

In Wales the average science score for learners with a first-generation immigrant background (482) was not significantly different from the score for non-immigrant learners (479). By contrast, the average score for learners with a second-generation immigrant background (505) was significantly above the average scores for both learners with a first-generation immigrant background (482) and non-immigrant learners (479).

Table 6.5 below shows that, on average across OECD countries, the average science score for learners with either a first-generation (437) or second-generation (460) immigrant background was significantly below the average score for non-immigrant learners (495).

Table 6.5 Immigration background and average science scores in Wales and the OECD average

Learners	Wales	OECD
Non-immigrant learners	479	495
First-generation learners	482	437
Second-generation learners	505	460
Difference between non-immigrant learners and Second-generation learners	* –26	* 35
Difference between First-generation learners and non-immigrant learners	3	* –58
Difference between First-generation learners and Second-generation learners	* –23	* –23

Base: All participating learners in Wales and the OECD with data on Immigration status.

The difference between the performance of non-immigrant learners and second-generation learners was calculated as the average score for non-immigrant learners – the average score for second-generation learners.

The difference between the performance of non-immigrant learners and first-generation learners was calculated as the average score for first-generation learners – the average score for non-immigrant learners.

The difference between the performance of first-generation learners and second-generation learners was calculated as the average score for first-generation learners – the average score for second-generation learners.

Source: OECD PISA 2025 database

6.8.2 Reading

In Wales the average reading score for learners with a first-generation immigrant background (464) was not significantly different from the score for non-immigrant learners (462) (see Table 6.6). By contrast, the average score for learners with a second-generation immigrant background (490) was significantly above the average scores for both learners with a first-generation background (464) and non-immigrant learners (462).

On average across OECD countries, the average reading score for learners with either a first-generation (414) or second-generation (442) immigrant background was significantly below the average score for non-immigrant learners (474).

Table 6.6 Immigration background and average reading scores in Wales and the OECD average

Learners	Wales	OECD
Non-immigrant learners	462	474
First-generation learners	464	414
Second-generation learners	490	442
Difference between non-immigrant learners and Second-generation learners	* –29	* 32
Difference between First-generation learners and non-immigrant learners	2	* –60
Difference between First-generation learners and Second-generation learners	* –26	* –28

Base: All participating learners in Wales and the OECD with data on Immigration status.

The difference between the performance of non-immigrant learners and second-generation learners was calculated as the average score for non-immigrant learners – the average score for second-generation learners.

The difference between the performance of non-immigrant learners and first-generation learners was calculated as the average score for first-generation learners – the average score for non-immigrant learners.

The difference between the performance of first-generation learners and second-generation learners was calculated as the average score for first-generation learners – the average score for second-generation learners.

Source: OECD PISA 2025 database

6.8.3 Mathematics

In Wales the average mathematics score for learners with a first-generation immigrant background (461) was not significantly different from the score for non-immigrant learners (459) (see Table 6.7). By contrast, the average score for learners with a second-generation immigrant background (488) was significantly above the average scores for both first generation learners (461) and non-immigrant learners (459).

On average across OECD countries, the average mathematics score for learners with either a first-generation (433) or second-generation (447) immigrant background was significantly below the average score for non-immigrant learners (474).

Table 6.7 Immigration background and average mathematics scores in Wales and the OECD average

Learners	Wales	OECD
Non-immigrant learners	459	474
First-generation learners	461	433
Second-generation learners	488	447
Difference between non-immigrant learners and Second-generation learners	* –29	* 28
Difference between First-generation learners and non-immigrant learners	3	* –41
Difference between First-generation learners and Second-generation learners	* –26	* –14

Base: All participating learners in Wales and the OECD with data on Immigration status.

The difference between the performance of non-immigrant learners and second-generation learners was calculated as the average score for non-immigrant learners – the average score for second-generation learners.

The difference between the performance of non-immigrant learners and first-generation learners was calculated as the average score for first-generation learners – the average score for non-immigrant learners.

The difference between the performance of first-generation learners and second-generation learners was calculated as the average score for first-generation learners – the average score for second-generation learners.

Source: OECD PISA 2025 database

7 PISA across the United Kingdom

7.1 Chapter overview

This chapter describes the average PISA science, reading and mathematics scores for learners in Wales, England, Northern Ireland and Scotland. This chapter also describes the relative performance of the highest- and lowest-achieving learners in each UK country, the relative differences by gender in their average scores, and the relative differences between the most and least disadvantaged socioeconomic groups.

7.2 Key findings

- In PISA 2025, learners' average score for science in Wales was 476, significantly below the corresponding scores in England (516), Northern Ireland (492) and Scotland (491).
- Learners' average score for reading in Wales was 459, significantly below the corresponding scores in England (497), Northern Ireland (482) and Scotland (488).
- Learners' average score for mathematics in Wales was 456, significantly below the corresponding scores in England (492), Northern Ireland (473) and Scotland (467).
- In Wales, and each of the other countries, there was a stable trend in learners' average science performance over time with no significant score difference between the average score for PISA 2015 compared with the average score in 2025.
- In Wales there was a significant downward trend in learners' average reading scores between PISA 2015 and 2025, as in Northern Ireland. Learners' reading scores were stable in England and Scotland over the same period.
- In mathematics, there was a significant downward trend in learners' average scores in Wales between PISA 2015 and 2025, as in Northern Ireland and Scotland. The average scores for learners in England remained stable over this same period.
- Gender differences in PISA 2025 were consistent across the 4 countries for reading with girls achieving a significantly higher average score than boys.
- In mathematics, there were significant gender gaps in favour of boys in learners' average scores in each country except Northern Ireland.
- In science there was a significant gender gap in favour of boys in England but no significant difference between girls' and boys' mathematics scores in Wales, Northern Ireland and Scotland.
- As in previous cycles, learners from less disadvantaged socioeconomic backgrounds performed better than their peers from more disadvantaged backgrounds across all domains and all countries.

7.3 Introduction

Though there are many similarities between Wales, England, Northern Ireland and Scotland, there are also substantive differences in terms of their education systems, culture, and demographic composition. The purpose of this chapter is not to explore possible explanations for the differing scores between the UK countries, but rather to summarise and report scores within the 3 PISA subject domains of science, reading and mathematics.

7.4 How did learners perform in each domain?

Figure 7.1 shows the average PISA scores for each country in each of the 3 domains. However, not all differences between countries were significant meaning their rank order should be interpreted with caution. This section focuses on significant differences between the average scores in Wales and the other UK countries.

7.4.1 Science

Learners' average score for science in Wales was 476, significantly below the corresponding scores in England (516), Northern Ireland (492) and Scotland (491).

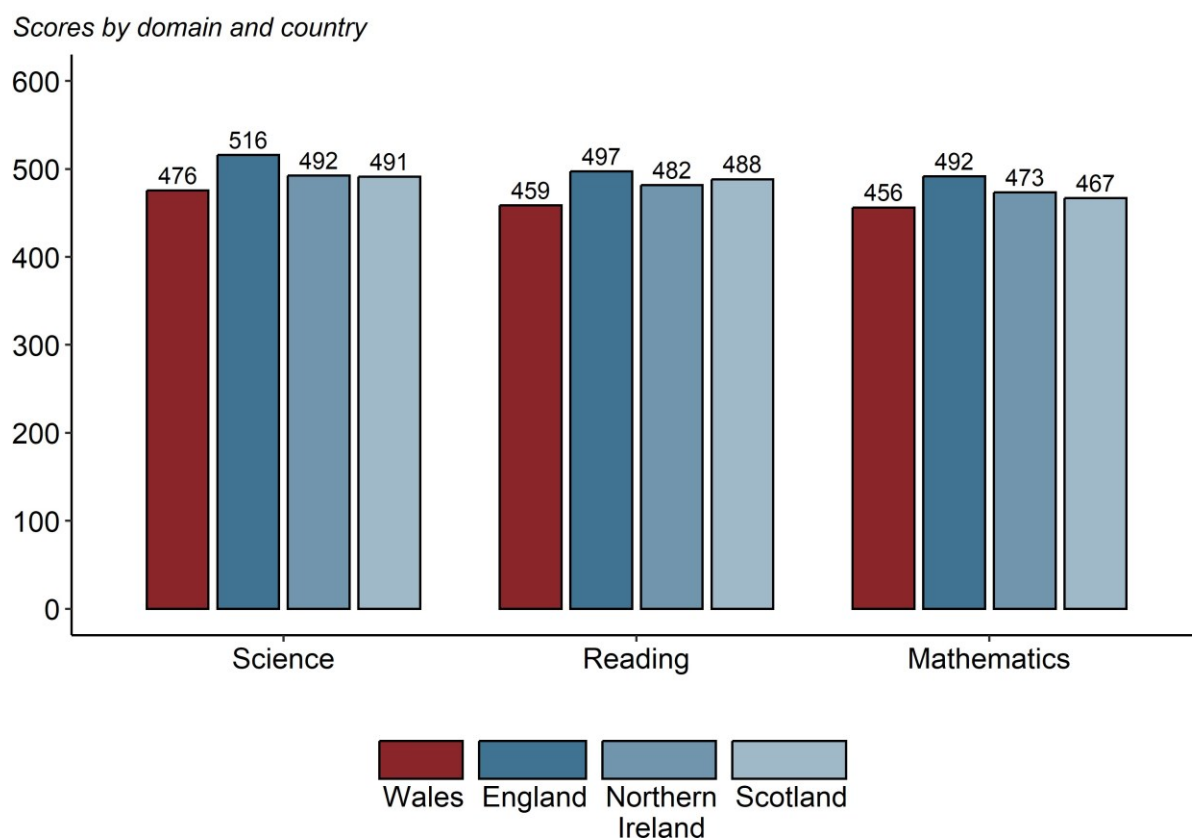
7.4.2 Reading

Learners' average score for reading in Wales was 459, significantly below the corresponding scores in England (497), Northern Ireland (482) and Scotland (488).

7.4.3 Mathematics

Learners' average score for mathematics in Wales was 456, significantly below the corresponding scores in England (492), Northern Ireland (473) and Scotland (467).

Figure 7.1 Learners' average PISA domain scores by UK country



Country	Science	Reading	Mathematics
Wales	476	459	456
England	* 516	* 497	* 492
Northern Ireland	* 492	* 482	* 473
Scotland	* 491	* 488	* 467

Base: All participating learners in Wales, England, Northern Ireland and Scotland.

Asterisks (*) indicate average scores that are significantly different from the average score for learners in Wales in PISA 2025.

Source: OECD PISA databases for 2025

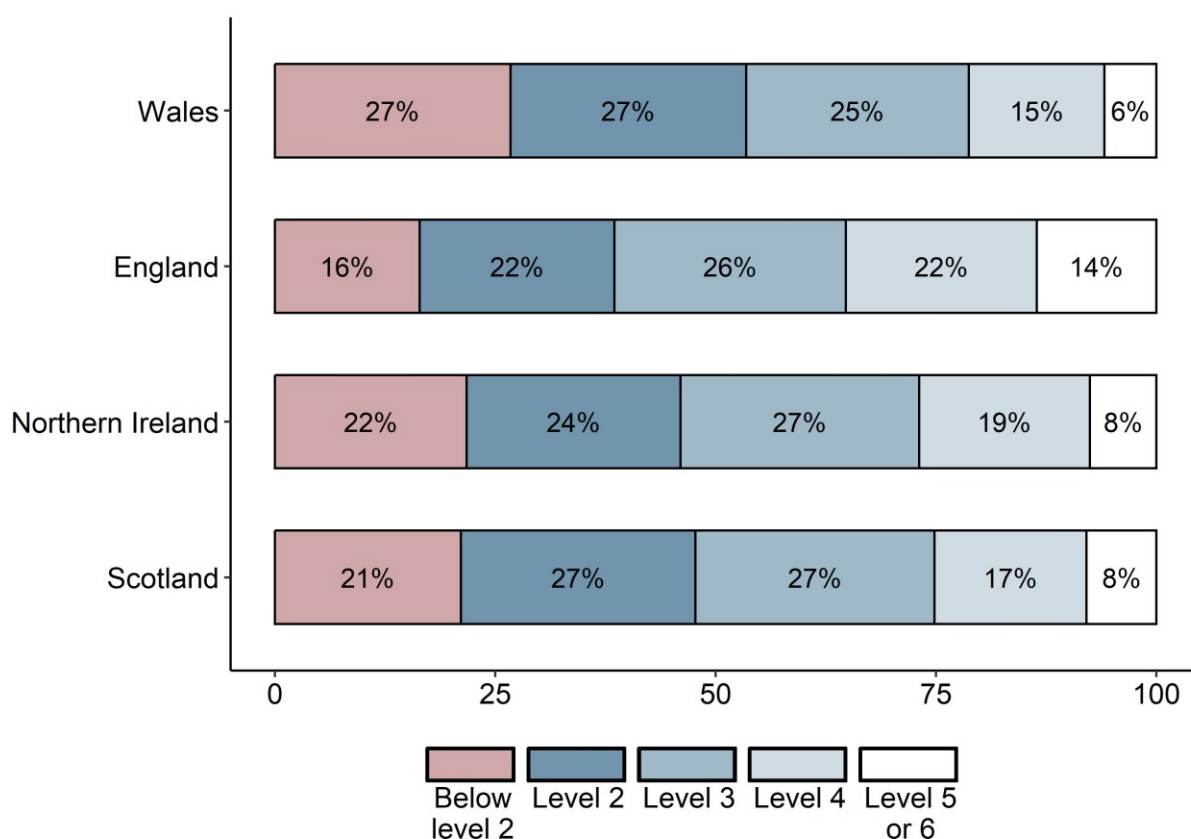
7.5 How did learners perform across the PISA proficiency levels?

The UK countries may also be compared in terms of the percentages of learners attaining each of the PISA proficiency levels for science, reading and mathematics (levels range between 1 and 6). In the following sections the proportion of higher-performing learners (those learners attaining Level 5 or Level 6) and lower-performing learners (those learners attaining below Level 2) are reported across the UK countries.

7.5.1 Science

Figure 7.2 shows that in PISA 2025, the percentage of learners in Wales performing at Levels 5 or 6 in science was 6%, significantly smaller than the corresponding percentages in England (14%), Northern Ireland (8%) and Scotland (8%). The percentage of learners in Wales performing below Level 2 in science was 27%, significantly larger than the corresponding percentages in England (16%), Northern Ireland (22%), and Scotland (21%).

Figure 7.2 Percentage of learners achieving each science proficiency level by UK country



Country	Below Level 2	Level 2	Level 3	Level 4	Level 5 or Level 6
Wales	27%	27%	25%	15%	6%
England	* 16%	* 22%	26%	* 22%	* 14%
Northern Ireland	* 22%	24%	27%	* 19%	* 8%
Scotland	* 21%	27%	27%	17%	* 8%

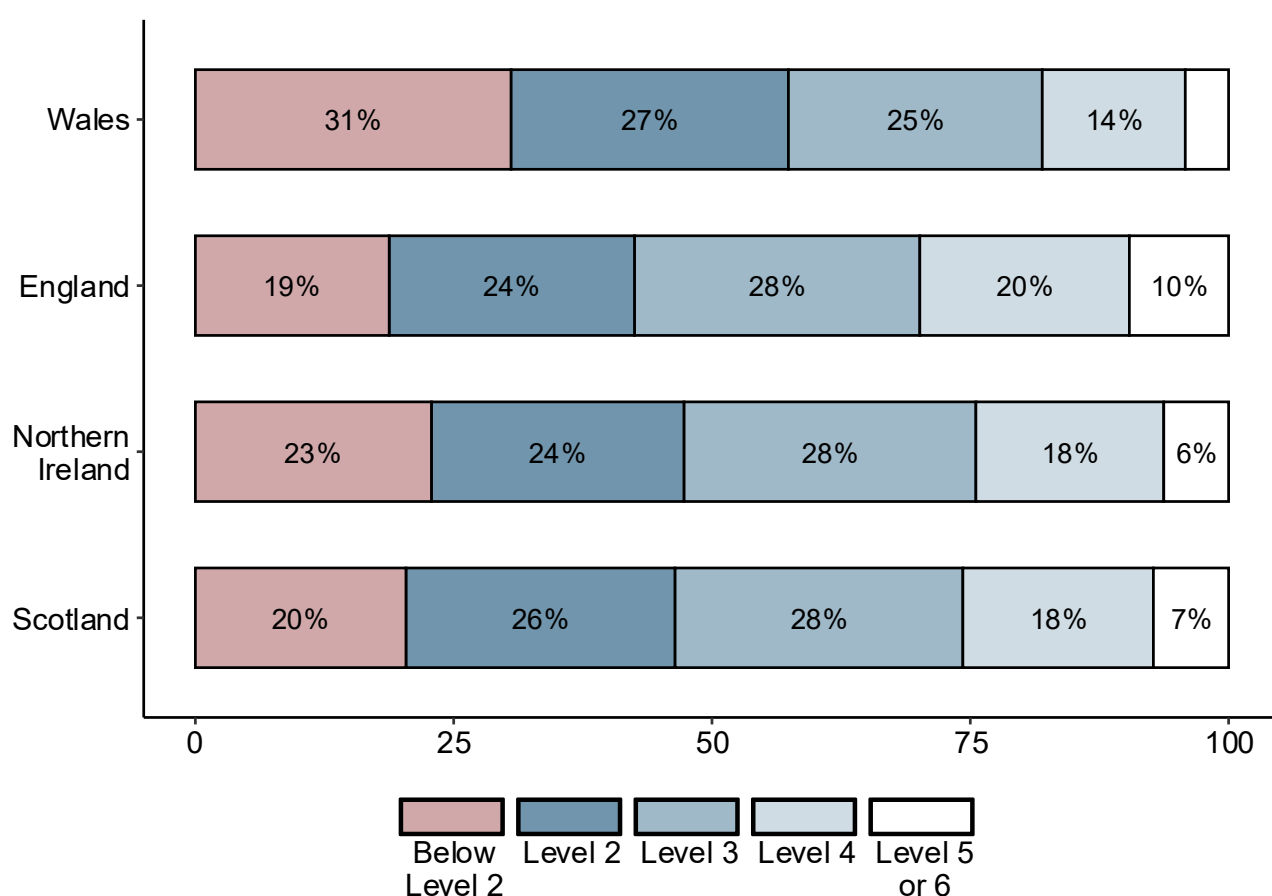
Base: All participating learners in Wales, England, Northern Ireland and Scotland.

Asterisks (*) indicate percentages that are significantly different from the percentages for learners in Wales. Individual percentages may not total 100% due to rounding.

7.5.2 Reading

Figure 7.3 shows that in Wales, the percentage of learners performing at Levels 5 or 6 in reading was 4%, significantly smaller than the corresponding percentages in England (10%), Northern Ireland (6%) and Scotland (7%). The percentage of learners in Wales performing below Level 2 in reading was 31%, significantly larger than the corresponding percentages in England (19%), Northern Ireland (23%) and Scotland (20%).

Figure 7.3 Percentage of learners achieving each reading proficiency level by UK country



Country	Below Level 2	Level 2	Level 3	Level 4	Level 5 or Level 6
Wales	31%	27%	25%	14%	4%
England	* 19%	* 24%	* 28%	* 20%	* 10%
Northern Ireland	* 23%	24%	* 28%	* 18%	* 6%
Scotland	* 20%	26%	* 28%	* 18%	* 7%

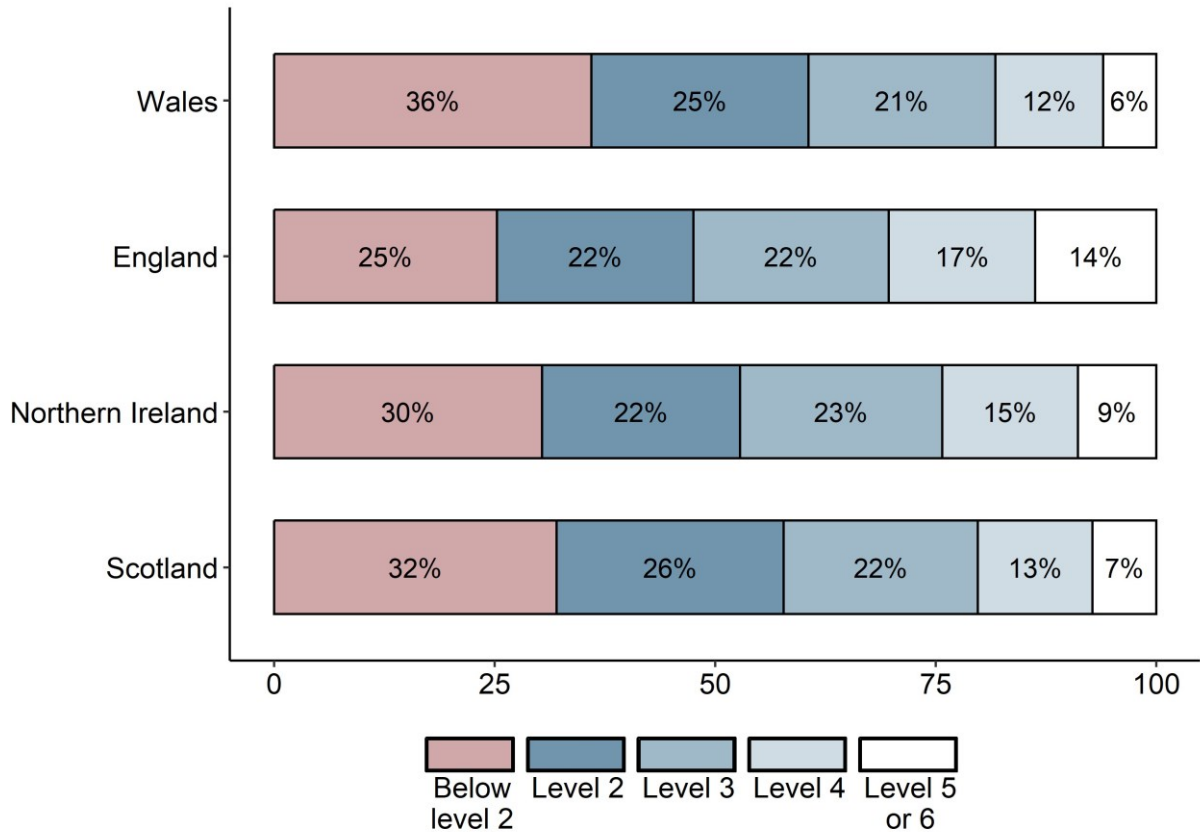
Base: All participating learners in Wales, England, Northern Ireland and Scotland.
Asterisks (*) indicate percentages that are significantly different from the percentages for learners in Wales.
Individual percentages may not total 100% due to rounding.
Percentages below 4.5% are not displayed on the chart for visual clarity.

Source: OECD PISA database for 2025

7.5.3 Mathematics

Figure 7.4 shows that in Wales, the percentage of learners performing at Levels 5 or 6 in mathematics was 6%. This percentage was not significantly different from the corresponding percentage in Scotland (7%) but was significantly below the percentages of learners in England (14%) and Northern Ireland (9%). The percentage of learners in Wales performing below Level 2 in mathematics was 36%. This percentage was not significantly different from the corresponding percentage in Scotland (32%) but was significantly above the percentages in England (25%) and Northern Ireland (30%).

Figure 7.4 Percentage of learners achieving each mathematics proficiency level by UK country



Country	Below Level 2	Level 2	Level 3	Level 4	Level 5 or Level 6
Wales	36%	25%	21%	12%	6%

Country	Below Level 2	Level 2	Level 3	Level 4	Level 5 or Level 6
England	* 25%	22%	22%	* 17%	* 14%
Northern Ireland	* 30%	22%	23%	* 15%	* 9%
Scotland	32%	26%	22%	13%	7%

Base: All participating learners in Wales, England, Northern Ireland and Scotland.

Asterisks () indicate percentages that are significantly different from the percentages for learners in Wales. Individual percentages may not total 100% due to rounding.*

Source: OECD PISA database for 2025

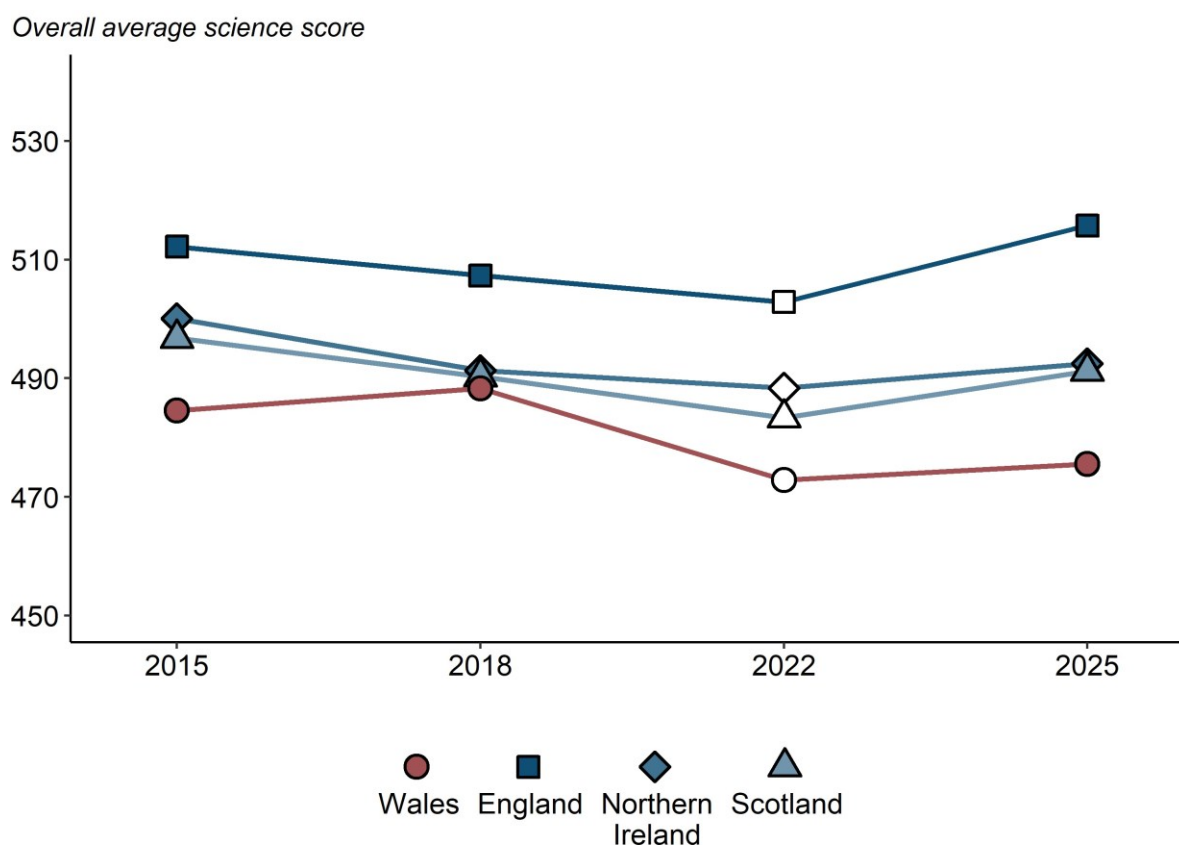
7.6 How did learners perform over time?

7.6.1 Science

Figure 7.5 shows that in Wales there was a stable trend in learners' average science score between PISA 2015 (485) and PISA 2025 (476). Learners' average score in 2025 was not significantly different to the score in 2022 (473) while it was significantly below the score in 2018 (488).

As in Wales, there were stable trends for learners in England, Northern Ireland and Scotland between 2015 and 2025. Learners' average science scores for 2025 in these countries were also not significantly different from the corresponding scores in 2022 and 2018 except in one case where learners in England in PISA 2025 (516) achieved an average score significantly above the score in 2022 (503).

Figure 7.5 Trend in learners' average science score by country



Country	2015	2018	2022	2025
Wales	485	* 488	473	476
England	512	507	* 503	516
Northern Ireland	500	491	488	492
Scotland	497	490	483	491

Base: All participating learners in Wales, England, Northern Ireland and Scotland.

Asterisks (*) indicate that the score shown was significantly different from the average score in that country for PISA 2025.

PISA cycles in which PISA sampling standards were not all met are indicated by a white point in the figure.

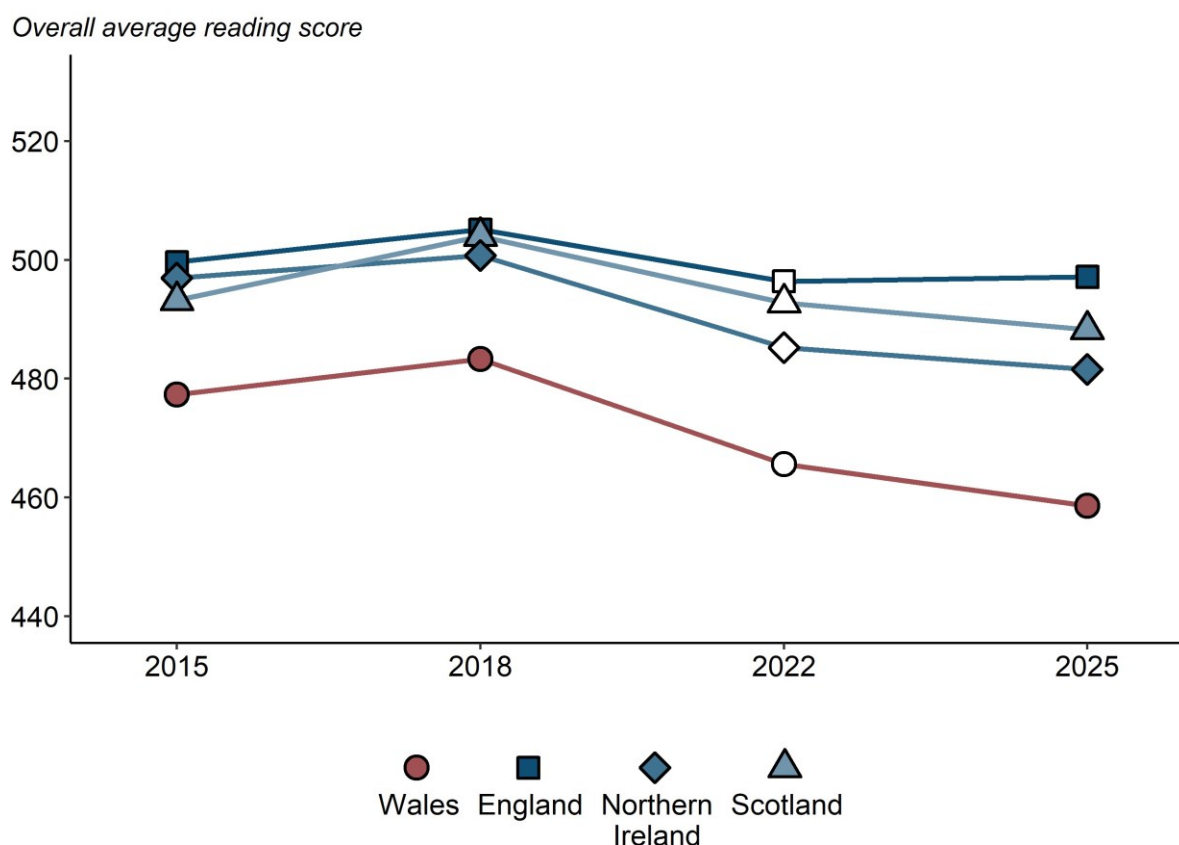
Source: OECD PISA databases for 2025, 2022, 2018 and 2015

7.6.2 Reading

Figure 7.6 shows that in Wales, the average reading score for learners in 2025 (459) was not significantly different from the corresponding score in 2022 (466). By contrast, the score in 2025 (459) was significantly below the scores in 2018 (483) and 2015 (477) reflecting a clear downward trend over time.

In England, the trend in learners' average reading scores was stable between 2015 (500) and 2025 (497), as was the case in comparison with 2022 and 2018 (496 and 505 respectively). As in Wales, the average reading score for learners in Northern Ireland in 2025 (482) was not significantly different from the corresponding score in 2022 (485) but was significantly below the scores in 2018 (501) and 2015 (497) also reflecting a downward trend over time. In Scotland, as in England, there was a stable trend in learners' average scores between 2015 (493) and 2025 (488). The average score for its learners in 2025 (488) was not significantly different from the score in 2022 (493) but was significantly below the score in 2018 (504).

Figure 7.6 Trend in learners' average reading score by country



Country	2015	2018	2022	2025
Wales	* 477	* 483	466	459
England	500	505	496	497
Northern Ireland	* 497	* 501	485	482
Scotland	493	* 504	493	488

Base: All participating learners in Wales, England, Northern Ireland and Scotland.

Asterisks (*) indicate that the score shown was significantly different from the average score in that country for PISA 2025.

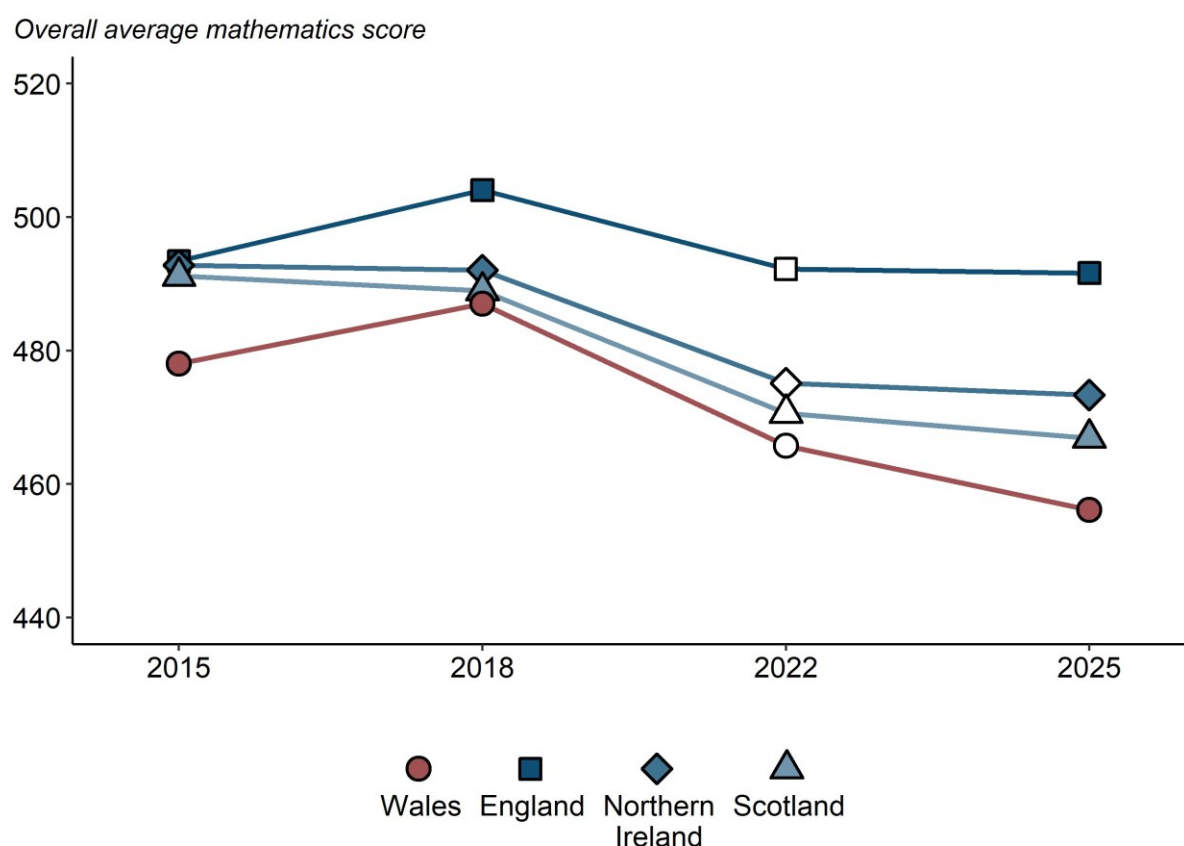
PISA cycles in which PISA sampling standards were not all met are indicated by a white point in the figure.

7.6.3 Mathematics

Figure 7.7 shows that in Wales there was a significant downward trend in learners' average mathematics score between PISA 2015 (478) and 2025 (456). Similarly, learners' average score in 2025 (456) was significantly below the corresponding scores in 2022 (466) and 2018 (487).

In England the trend in learners' average scores has been stable over the longer term with no significant difference between the score in 2015 (493) and 2025 (492). This was also the case when comparing the score in 2025 (492) with the score in 2022 (492) but the score in 2025 was significantly below the score in 2018. The average scores in 2025 for learners in Northern Ireland (473) and Scotland (467) were, as in Wales, significantly below the corresponding scores in 2015 (493 and 489 respectively) reflecting downward trends over the longer term. In both countries, learners' average score in 2025 was also significantly below the score in 2018 but was not significantly different to the score in 2022.

Figure 7.7 Trend in learners' average mathematics score by country



Country	2015	2018	2022	2025
Wales	* 478	* 487	* 466	456

Country	2015	2018	2022	2025
England	493	* 504	492	492
Northern Ireland	* 493	* 492	475	473
Scotland	* 491	* 489	471	467

Base: All participating learners in Wales, England, Northern Ireland and Scotland.

Gender gaps calculated as average girls' score – average boys' score. A positive difference represents a difference by gender favouring girls and a negative difference represents a difference by gender favouring boys.

Some results may appear inconsistent due to rounding.

Asterisks () indicate that girls' average scores are significantly different from boys' average scores within individual PISA cycles.*

Source: OECD PISA database for 2025

7.7 How did the highest- and lowest-performing learners achieve?

This section compares the performance of the highest- and lowest-achieving groups in each UK country. Figure 7.8 shows the 10th and 90th percentile scores for science, reading and mathematics for each UK country and provides the difference (the interdecile range, shortened to range) between these two scores.

7.7.1 Science

In science in PISA 2025, there were no significant differences between the range of scores for learners in Wales (261) compared with the ranges for learners in Northern Ireland (261) and Scotland (255). By contrast, the range of scores for learners in Wales was significantly narrower than the range for learners in England (274). This was driven by the significantly stronger performance of learners in England at the 90th percentile (45 points higher).

7.7.2 Reading

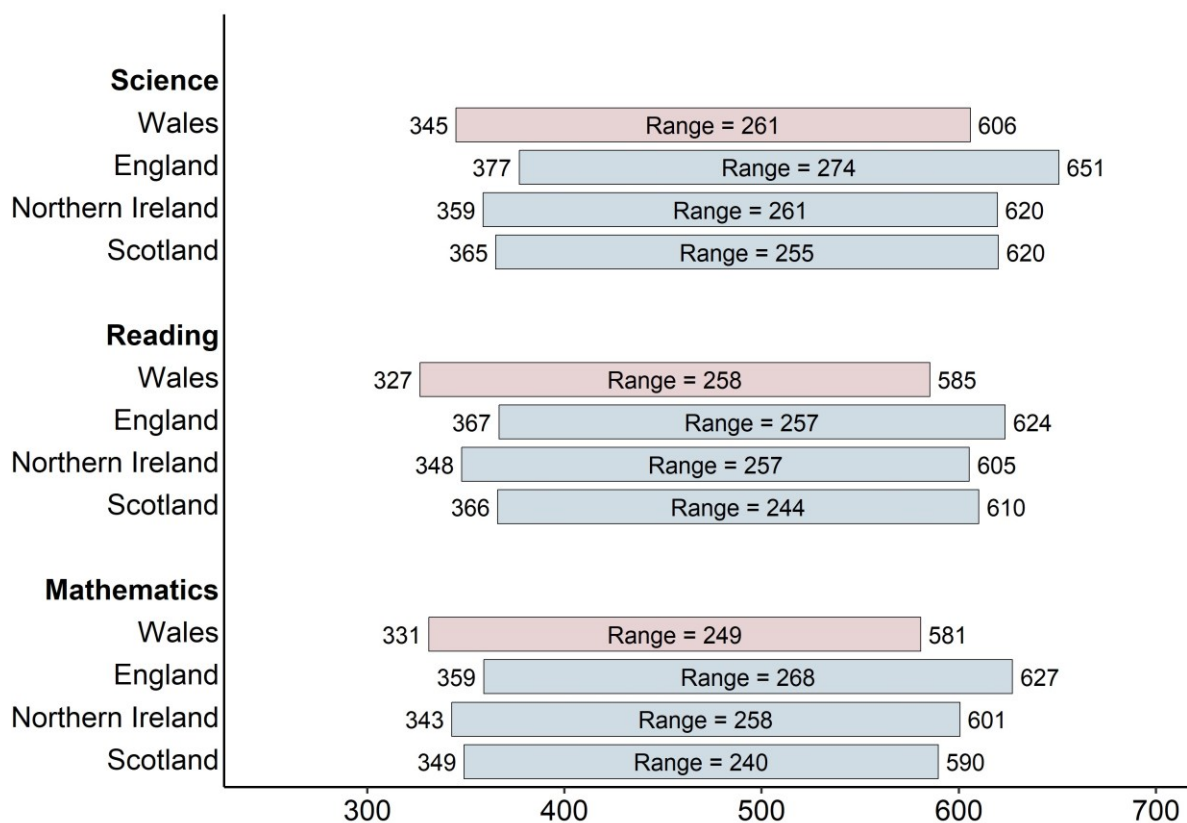
In reading, there were no significant differences between the range of scores for learners in Wales (258) compared with the corresponding ranges in England (257) and Northern Ireland (257). By contrast, the range for learners in Wales was significantly wider than the corresponding range in Scotland (244). This was mostly driven by the significantly stronger performance of learners in Scotland at the 10th percentile (18 points higher than learners in Wales).

7.7.3 Mathematics

In mathematics, there were no significant differences between the range of scores for learners in Wales (249) compared with the ranges for learners in Northern Ireland (258)

and Scotland (240). By contrast, the range of scores for learners in Wales (249) was significantly narrower than the corresponding range in England (268). This difference was mostly driven by learners in England achieving an average score at the 90th percentile (627) that was 46 score points higher than the corresponding score for learners in Wales (581).

Figure 7.8 Range between learners' 10th and 90th percentile scores in science by country



Country and domain	10th percentile	90th percentile	Interdecile range
Science Wales	345	606	261
Science England	* 377	* 651	* 274
Science Northern Ireland	* 359	* 620	261
Science Scotland	*365	* 620	255
Reading Wales	327	585	258
Reading England	* 367	* 624	257
Reading Northern Ireland	* 348	* 605	257

Country and domain	10th percentile	90th percentile	Interdecile range
Reading Scotland	* 366	* 610	* 244
Mathematics Wales	331	581	249
Mathematics England	* 359	* 627	* 268
Mathematics Northern Ireland	343	* 601	258
Mathematics Scotland	* 349	590	240

Base: All participating learners in Wales, England, Northern Ireland and Scotland.

Interdecile ranges were calculated as the average score at the 90th percentile – the average score at the 10th percentile.

Asterisks () indicate a significant score or range that is significantly different from the equivalent for learners in Wales.*

Ranges may appear inconsistent due to rounding.

Source: OECD PISA database for 2025

7.8 How did girls and boys perform?

This section provides the average PISA scores for girls and boys in each subject domain in each UK country. In the following tables, the gap between these scores was determined as the girls' average score minus the boys' average score. A positive difference represents a gender gap favouring girls and a negative difference represents a gender gap favouring boys.

7.8.1 Science

Table 7.1 shows the average PISA science scores by gender. The average score for girls in Wales (476) was not significantly different from the score for boys (475). Similarly, there were no significant differences between girls' average scores and boys' average scores in Northern Ireland (494 and 491 respectively) and Scotland (490 and 493 respectively). By contrast, in England, the average score for girls (509) was significantly below the score for boys (522), a gap of –13 points.

The gap between girls' and boys' scores in Wales (2 points) was significantly smaller than the corresponding gap in England (–13 points) but not significantly different from the corresponding gaps in Northern Ireland (2 points) and Scotland (–3 points)⁷².

⁷² These significance tests (to ascertain whether there are significant differences between the science gender in Wales and equivalent gaps in other countries) are not represented in Table 7.1. Asterisks (*) in Table 7.1 indicate a significant gender gap within a country.

Table 7.1 Learners' average science score difference by gender by country

Country	Girls	Boys	Gap
Wales	476	475	2
England	509	522	* –13
Northern Ireland	494	491	2
Scotland	490	493	–3

Base: All participating learners in Wales, England, Northern Ireland and Scotland.

Gender gaps were calculated as average girls' score – average boys' score. A positive difference represents a difference by gender favouring girls and a negative difference represents a difference by gender favouring boys.

Some results may appear inconsistent due to rounding.

Asterisks (*) indicate that girls' average scores are significantly different from boys' average scores within individual PISA cycles.

Source: OECD PISA database for 2025

7.8.2 Reading

Table 7.2 shows the average PISA reading scores by gender for each country. For reading, girls' average scores were significantly above boys' scores in all 4 UK countries. The gap for learners in Wales (26 points) was not significantly different from the corresponding gaps in Northern Ireland and Scotland (both 30 points) but it was significantly wider than the gap for learners in England (11 points)⁷³.

Table 7.2 Learners' average reading score difference by gender by country

Country	Girls	Boys	Gap
Wales	472	446	* 26
England	503	492	* 11
Northern Ireland	497	467	* 30
Scotland	503	473	* 30

Base: All participating learners in Wales, England, Northern Ireland and Scotland.

Gender gaps calculated as average girls' score – average boys' score. A positive difference represents a difference by gender favouring girls and a negative difference represents a difference by gender favouring boys.

Some results may appear inconsistent due to rounding.

⁷³ These significance tests (to ascertain whether there are significant differences between the reading gender gap in Wales and equivalent gaps in other countries) are not represented in Table 7.2. Asterisks (*) in Table 7.2 indicate a significant gender gap within a country.

Asterisks (*) indicate that girls' average scores are significantly different from boys' average scores within individual PISA cycles.

Source: OECD PISA database for 2025

7.8.3 Mathematics

Table 7.3 shows that the average mathematics scores for girls were significantly below the scores for boys in Wales, England and Scotland (gaps of –12, –26 and –16 respectively). In Northern Ireland, the difference was not significant (–9). The gap for learners in Wales (–12 points) was not significantly different from the corresponding gaps in Northern Ireland (–9) or Scotland (–16) but was significantly narrower than the gap in England (–26)⁷⁴.

Table 7.3 Learners' average mathematics score difference by gender by country

Country	Girls	Boys	Gap
Wales	450	462	*–12
England	478	504	*–26
Northern Ireland	469	478	–9
Scotland	459	475	*–16

Base: All participating learners in Wales, England, Northern Ireland and Scotland.

Gender gaps were calculated as average girls' score – average boys' score. A positive difference represents a difference by gender favouring girls and a negative difference represents a difference by gender favouring boys.

Some results may appear inconsistent due to rounding.

Asterisks (*) indicate that girls' average scores are significantly different from boys' average scores within individual PISA cycles.

Source: OECD PISA database for 2025

7.9 What was the relationship between socioeconomic status and learners' performance?

This section explores how different socioeconomic groups perform relative to each other across the UK countries. As in previous chapters, learners are divided into quartiles based on their score on the PISA index of economic, social and cultural status (ESCS). Quartile 1 represents the most disadvantaged learners and Quartile 4 the least disadvantaged learners. Interquartile ranges (shortened to ranges) have been calculated as the Quartile 4 average score minus the Quartile 1 average score to show the spread of learners' attainment by socioeconomic status. Figure 7.9 shows the average domain

⁷⁴ These significance tests (to ascertain whether there are significant differences between the mathematics gender gap in Wales and the equivalent gap in other countries) are not represented in Table 7.3. Asterisks (*) in Table 7.3 indicate a significant gender gap within a country.

scores for learners in Quartile 1 and Quartile 4 in addition to the range in scores between these quartiles for each of the UK countries.

7.9.1 Science

The range of average science scores in Wales (65 points) between learners in Quartile 1 (450) and Quartile 4 (515) was not significantly different from the corresponding ranges in England (81 points), Northern Ireland (82 points) or Scotland (72 points).

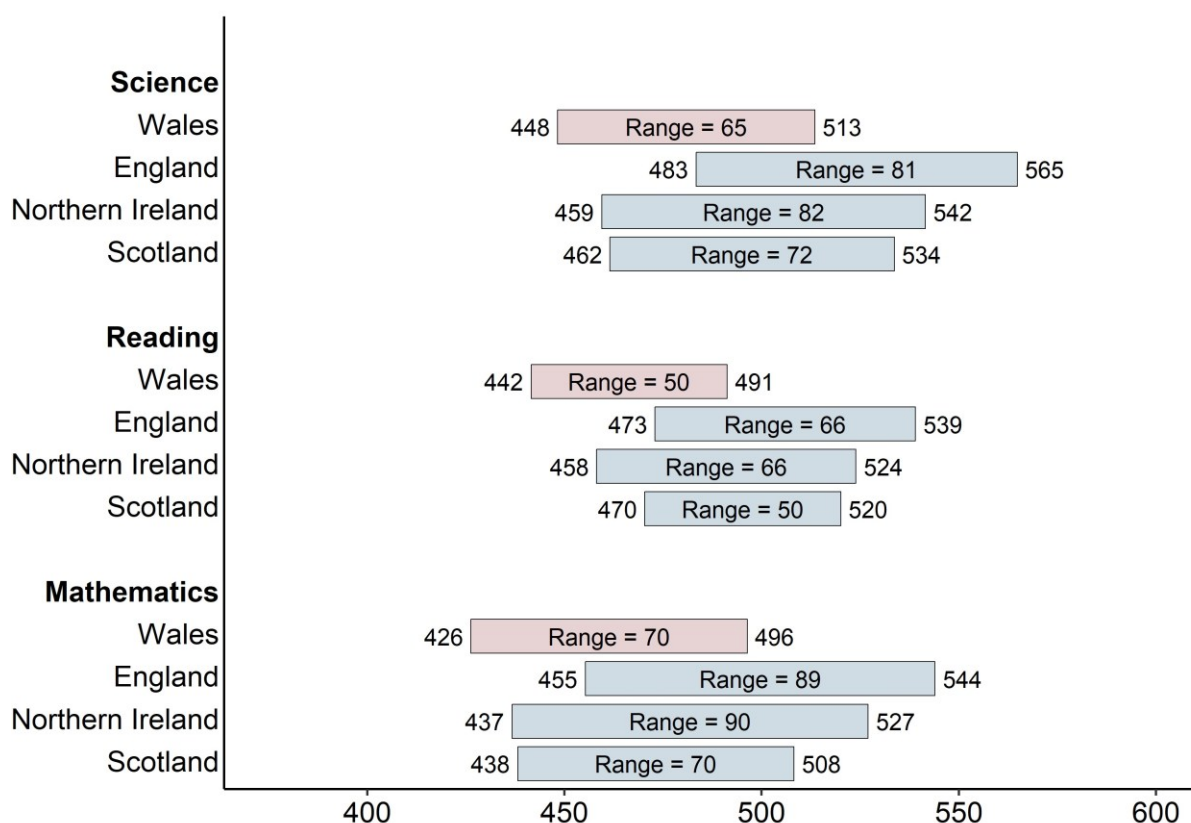
7.9.2 Reading

The range of average reading scores in Wales (50 points) between learners in Quartile 1 (442) and Quartile 4 (491) was not significantly different from the corresponding ranges in England (66 points), Northern Ireland (66 points) or Scotland (50 points).

7.9.3 Mathematics

The range of average mathematics scores in Wales (70 points) between learners in Quartile 1 (426) and Quartile 4 (496) was not significantly different from the corresponding range in Scotland (70 points) but was significantly narrower than the gaps in England (89 points) and Northern Ireland (90 points).

Figure 7.9 Ranges between average scores for learners in PISA ESCS Quartiles 1 and 4 by UK country



Country and domain	ESCS Quartile 1	ESCS Quartile 4	Interquartile Range
Science Wales	448	513	65
Science England	* 483	* 565	81
Science Northern Ireland	* 459	* 542	82
Science Scotland	* 462	* 534	72
Reading Wales	442	491	50
Reading England	* 473	* 539	66
Reading Northern Ireland	* 458	* 524	66
Reading Scotland	* 470	* 520	50
Mathematics Wales	426	496	70
Mathematics England	* 455	* 544	* 89
Mathematics Northern Ireland	437	* 527	* 90
Mathematics Scotland	438	508	70

Base: All participating learners with ESCS data in Wales, England, Northern Ireland and Scotland. Asterisks () indicate average scores and ranges that are significantly different from those for Wales' learners.*

The range was calculated as Quartile 4 average score – Quartile 1 average score.

Ranges may appear inconsistent with quartile scores due to rounding.

Two countries with the same range in scores may have different outcomes from significance testing due to the different sample sizes and rounding.

Source: OECD PISA 2025 database

8 Conclusion

Volume 1 of the PISA 2025 National Report for Wales has presented an overview of the achievement of learners in science, reading and mathematics using the PISA frameworks for science, reading and mathematics. Learners in Wales achieved an average score of 476 in science, significantly below the OECD average of 482. In reading, they scored an average reading score of 459, which was not significantly different from the OECD average of 461, and in mathematics, learners had an average score of 456, which was significantly below the OECD average of 463. Chapters 2–4 have reported in detail on comparisons of these scores and the differences between the highest- and lowest-performing learners with those in other countries, commenting on trends over time and testing for significance where appropriate.

In PISA 2025, girls and boys achieved similar average scores for science of 476 and 475 respectively, with no significant gender gap. In reading, girls achieved an average score of 472, which was significantly above the average score for boys of 446. However, the gender gap was reversed in mathematics, with girls achieving an average score of 450 which was significantly below the average score of the boys at 462. On the ESCS Index, Wales's average score was +0.14, indicating that learners' socioeconomic status in Wales, on average, was above the OECD average. The difference between the most and least disadvantaged groups was 65 points in science, 50 points in reading and 70 points in mathematics in Wales. Across OECD countries, the average differences in science, reading and mathematics were significantly wider than in Wales. Chapters 5 and 6 have described in detail the achievements of different groups of learners. In Wales, learners' average scores in science, reading and mathematics were significantly below the corresponding scores in England, Northern Ireland and Scotland.

Volume 2 of the PISA 2025 National Report for Wales will report on the patterns of achievement across the science subdomains and computational problem solving. Aspects of learners' wellbeing, their aspirations and their experiences of teaching and learning will be discussed, as well as key findings from the questionnaires completed by participating learners and schools.

Appendix A: Wales non-response bias analysis

A.1 Introduction

A.1.1 What is a non-response bias analysis?

International assessments such as PISA are designed to draw conclusions about national learner populations. Achieving this relies on obtaining samples of learners in each participating country that accurately represent their national learner populations.

The sampling approaches used in PISA are designed to ensure that the participating schools, and the participating learners within those schools, adequately reflect the target population. However, schools and learners in Wales may choose not to participate in the study. This non-response may occur at random, but it is also possible that non-respondents share characteristics that make the achieved sample less representative of the target population.

A non-response bias analysis investigates whether non-response has affected the representativeness of the achieved sample and, consequently, the validity of the reported results. In this analysis of PISA data, we examined whether responding and non-responding schools and learners in Wales national sample differed in terms of their characteristics. If non-response is systematically associated with characteristics that are also related to PISA outcomes, the reported results may be biased. For example, if schools with higher levels of learner eligibility for free school meals were underrepresented in the final sample, the achieved sample may no longer accurately reflect the national learner population, potentially affecting the validity of the reported findings.

A.1.2 How were schools and learners selected to participate in PISA?

To select the national samples of each participating country, PISA adopts a stratified sampling design consisting of two stages. The first stage focuses on the selection of schools. The second stage focuses on the selection of learners within the schools that agreed to participate in the study.

In each country, the probability of an individual school being selected is based on the estimated number of age-eligible learners within the school, as well as country-specific factors that reflect the national structure of schools. In Wales, two additional factors were selected as explicit sampling strata that contributed to the probability of school selection; the region within Wales (Central South, North, South East or South West and Mid Wales), and the school-type (independent or maintained schools). For most education systems for each school that is chosen in the initial sample, two replacement schools were also identified with similar characteristics to the originally sampled school. In Wales, this was not possible as there were not enough schools within each of the explicit strata.

The second stage randomly selects up to 40 eligible learners⁷⁵ within each sampled school. The OECD require that each participating learner is aged between 15 years 3 months and 16 years 2 months at the onset of data collection. All age-eligible learners in a school have an equal probability of being selected to participate in the study. Learners may be excluded from the study if they have Additional Learning Needs (ALN) or if they have insufficient English or Welsh language experience that would impact their ability to take the assessments. Selected learners may also choose not to participate in the assessment. The Wales PISA sample consisted of 130 eligible schools having at least one learner in this age range.

Of these original 130 schools, 102 agreed to participation. An additional 11 replacement schools agreed to participation, leading to a final participating sample of 113 schools. Performance data was collected for 3,406 of the 4,461 sampled learners in participating schools. Non-participating learners in participating schools are not replaced.

A.1.3 Key questions about the Welsh national sample

This non-response bias analysis looked to address the following questions about the Welsh national sample:

Were there any specific characteristics common among the original sample schools that chose not to participate, and were these sufficiently accounted for by the introduction of participating replacement schools?

Were there any specific characteristics common among the selected learners that chose not to participate, and how well do the participating learners reflect the national population of learners that would have been eligible to participate in the study?

The answers to these questions help us to understand how representative the final set of participating learners were of the total population of PISA-eligible learners in Wales, and therefore, how representative the national findings from PISA 2025 are.

A.2 Methodology

A.2.1 School-level analyses

The school-level analyses consisted of two stages:

Analysis of the original sample of schools (before replacements)

We compared the characteristics of the participating schools in the original sample ($n = 102$) to the whole set of original sample schools ($N = 130$). This analysis was conducted using the school base weights.

⁷⁵ 40 learners were selected from each school unless there were fewer than 40 eligible learners in a school.

Analysis of the final sample of participating schools (with replacements)

We compared the characteristics of the final set of all participating schools ($n = 113$), to the whole set of schools in the original sample ($N = 130$). This analysis used the school non-response adjusted weights.

The first stage of analysis investigated potential bias arising from school non-response (non-participation). The second stage of analysis investigated how any potential bias identified in the first stage was mitigated by (or potentially, introduced) by the inclusion of replacement schools and the introduction of non-response adjustments to school weights.

Each school-level analysis was conducted twice; once using the school base weights or non-response adjusted weights, and a second time using the selected weight multiplied by the school-level number of PISA eligible learners. This gives an estimate in terms of the survey population of 15-year-olds in Wales for each characteristic.

School-level data from PISA was matched to school characteristic data from the Welsh Government. The following matched variables were included in the school-level analyses:

The percentage of learners who have additional learning needs (ALN).

The percentage of learners with English as an additional language (EAL).

The percentage of learners who have been eligible for free-school-meals (FSM) on average across the last 3 years.

In addition, the stratification variable school attainment bands (1–5, or missing) were also included in these analyses.

A.2.2 Learner-level analyses

The learner-level analysis consisted of two stages:

Analysis of the participating and non-participating learners

We compared the distribution of the participating learners in Wales ($n = 3,406$) to the distribution of all sampled learners in the study ($n = 4,461$). Note that this analysis only includes sampled learners in participating schools, and not learners from sampled schools that did not participate in the study. Learners were weighted by their base student weights.

Analysis of the final sample of participating learners using non-response adjusted weights

We compared the distribution of the participating learners ($n = 3,406$) before and after the application of non-response adjusted student weights. Comparisons were also drawn to the total distribution of sampled learners ($N = 4,461$).

Learners in participating schools were compared using the explicit school-level stratification variables (school type⁷⁶ and region in Wales⁷⁷), as well as the implicit school-level stratification variable (school attainment band).

A.2.3 Statistical analysis

For categorical variables, the distribution of characteristics of the original sample (either schools or learners) was compared with the distribution for participants. For continuous variables, summary means were calculated and the difference between means was calculated. Bias and relative bias are also shown in each table. The bias is the difference between the respective estimates for the participants and the total sample. The relative bias is calculated as the bias divided by the estimate from the total sample. The relative bias is a measure of the size of the bias compared to the total sample estimate.

A.3 Comparisons of participating and non-participating schools

A.3.1 Analysis of the original sample (before replacement)

This section presents the non-response bias analysis based on the original sample of 130 schools. The distribution of the participating schools from the original sample was compared to the total original sample. School base weights were used for both the total original sample and the participating schools.

There were no statistically significant relationships between participation status and school attainment band. Biases were generally small. A relative bias greater than an absolute value of 10% was observed for schools only where the attainment band information was missing, whilst for all other attainment bands the relative bias was at most 10% indicating no strong evidence of bias in relation to school attainment.

⁷⁶ Independent schools, maintained schools

⁷⁷ Central South Wales, North Wales, South East Wales, South West and Mid Wales

Appendix Table A.1: Percentage distribution of schools in Wales' original sample for PISA 2025 by attainment band

School characteristic	Original %	Participating %	Bias	Relative Bias
Attainment band 1 (low)	22.0	19.7	2.3	0.10
Attainment band 2	23.7	25.0	-1.3	-0.05
Attainment band 4	24.7	23.6	1.1	0.05
Attainment band 5 (high)	20.3	20.7	-0.3	0.02
Attainment band missing	9.3	11.1	-1.8	-0.20

All original sample schools n = 130

Bias was calculated as the difference between the estimates of the participating schools and the total sample (participating schools in original sample – all schools in original sample). Relative bias was calculated as the bias divided by the estimate from the total sample.

Schools were weighted by their school base weights.

Source: OECD, PISA 2025. Department for Education and Skills (Wales), 2025.

When the schools were weighted by their enrolled eligible 15-year-old learners, there was a statistically significant relationship between participation status and school attainment band. The relative biases in the lowest and missing band were greater than an absolute value of 10% suggesting that learners in schools in the lowest attainment bands may be underrepresented in the final sample as shown in Table A.2. However, the missing attainment band group was a small percentage of the sample and the bias was considerably smaller than reported in Table A1 indicating that bias is not a large problem in relation to having missing data on the attainment band.

Appendix Table A.2: Percentage distribution of schools weighted by enrolled eligible 15-year-old learners in Wales' original sample for PISA 2025 by attainment band

School characteristic	Original %	Participating %	Bias	Relative Bias
Attainment band 1 (low)	22.8	19.9	3.0	0.13
Attainment band 2	23.6	25.6	-2.0	-0.08
Attainment band 4	26.8	29.4	-2.6	0.10
Attainment band 5 (high)	25.2	23.2	2.0	0.08
Attainment band missing	1.6	2.0	-0.4	-0.23

All original sample schools n = 130

Bias was calculated as the difference between the estimates of the participating schools and the total sample (participating schools in original sample – all schools in original sample). Relative bias was calculated as the bias divided by the estimate from the total sample.

Schools were weighted by their school base weights multiplied by the number of enrolled learners.

Source: OECD, PISA 2025. Department for Education and Skills (Wales), 2025.

The mean values of the variables related to the average percentage of learners who have been eligible for free school meals (FSM) over the last 3 years, the percentage of learners who have ALN, and the percentage of learners with EAL are given in Table A.3 and Table A.4. The relative bias in both tables in relation to all measures are small indicating no sizeable bias in relation to these characteristics.

Appendix Table A.3: School average learner characteristics of schools in Wales' original sample for PISA 2025

School characteristic	Original %	Participating %	Bias	Relative Bias
Average percentage of learners who have been eligible for FSM over the last 3 years	20.0	19.5	0.5	0.03
Percentage of learners with ALN	10.0	10.0	0.1	0.01
Percentage of learners who have EAL	8.0	8.2	-0.1	-0.02

All original sample schools n = 130

Bias was calculated as the difference between the estimates of the participating schools and the total sample (participating schools in original sample – all schools in original sample). Relative bias was calculated as the bias divided by the estimate from the total sample.

Schools were weighted by their base weights.

Source: OECD, PISA 2025. Department for Education and Skills (Wales), 2025.

Appendix Table A.4: School average learner characteristics of schools in Wales' original sample for PISA 2025, weighted by enrolment of 15-year-olds

School characteristic	Original %	Participating %	Bias	Relative Bias
Average percentage of learners who have been eligible for FSM over the last 3 years	19.7	19.6	0.1	0.01
Percentage of learners with ALN	8.6	8.5	0.1	0.01
Percentage of learners who have EAL	10.3	10.5	-0.2	-0.02

All original sample schools n = 130

Bias was calculated as the difference between the estimates of the participating schools and the total sample (participating schools in original sample – all schools in original sample). Relative bias was calculated as the bias divided by the estimate from the total sample.

Schools were weighted by their school base weights multiplied by the number of enrolled learners.

Source: OECD, PISA 2025. Department for Education and Skills (Wales), 2025.

A.4 Analysis of the final participating sample (with replacements)

This section presents the non-response bias analysis based on the original sample of 130 schools comparing against the final participating sample of 113 schools. School base weights were used for the original sample of schools, whereas non-response adjusted weights were used for the participating schools.

The distribution of schools from the original sample by the implicit stratification variable is shown in comparison with the participating final sample in Table A.5. In all cases, the absolute value of the relative bias for schools in the attainment bands was less than 10% indicating no large bias in the schools that participated related to school attainment bands after adjustments for non-response.

Appendix Table A.5: Percentage distribution of schools in Wales' final participating sample for PISA 2025 compared with the original sample by attainment band

School characteristic	Original %	Participating %	Bias	Relative Bias
Attainment band 1 (low)	22.0	23.0	-1.0	0.05
Attainment band 2	23.7	23.9	-0.1	-0.01
Attainment band 4	24.7	23.4	1.3	0.05
Attainment band 5 (high)	20.3	21.1	-0.8	0.04
Attainment band missing	9.3	8.7	0.6	0.07

All original sample schools n = 130, participating schools, n=113

Bias was calculated as the difference between the estimates of the participating schools and the total sample (participating schools in original sample – all schools in original sample). Relative bias was calculated as the bias divided by the estimate from the total sample.

Original sample schools were weighted by their school base weights. Participating schools were weighted by their non-response adjusted weights.

Source: OECD, PISA 2025. Department for Education and Skills (Wales), 2025.

The analysis is repeated in Table A.6 but schools were weighted by the school enrolment of 15-year-old eligible learners. Again, there is no evidence of large bias where the attainment bands are known. In line with the analysis presented in Table A2, relative bias is high when the attainment band data is missing, but the size of the group is small and overall bias is small.

Appendix Table A.6 Percentage distribution of schools in Wales' final participating sample for PISA 2025 compared with the original sample by attainment band weighted by school enrolment of 15-year-olds

School characteristic	Original %	Participating %	Bias	Relative Bias
Attainment band 1 (low)	22.8	22.8	0.0	0.00
Attainment band 2	23.6	25.3	-1.6	0.07
Attainment band 4	26.8	25.9	0.8	0.03
Attainment band 5 (high)	25.2	23.7	1.5	0.06
Attainment band missing	1.6	2.3	-0.7	0.41

All original sample schools n = 130, participating schools, n=113

Bias was calculated as the difference between the estimates of the participating schools and the total sample (participating schools in original sample – all schools in original sample). Relative bias was calculated as the bias divided by the estimate from the total sample.

Original sample schools were weighted by their school base weights multiplied by the number of enrolled learners. Participating schools were weighted by their non-response adjusted weights multiplied by the number of enrolled learners.

Source: OECD, PISA 2025. Department for Education and Skills (Wales), 2025.

The mean values of the variables related to the average percentage of learners who have been eligible for free school meals (FSM) over the last 3 years, the percentage of learners who have ALN, and the percentage of learners with EAL are given in Table A.7 and Table A.8.

Appendix Table A.7: School average learner characteristics of schools in Wales' final participating sample for PISA 2025 compared with the original sample 2025

School characteristic	Original %	Participating %	Bias	Relative Bias
Average percentage of learners who have been eligible for FSM over the last 3 years	20.0	19.3	0.6	0.03
Percentage of learners with ALN	10.0	10.0	0.0	0.00
Percentage of learners who have EAL	8.0	7.9	0.1	0.01

All original sample schools n = 130, participating schools, n=113

Bias was calculated as the difference between the estimates of the participating schools and the total sample (participating schools in original sample – all schools in original sample). Relative bias was calculated as the bias divided by the estimate from the total sample.

Original sample schools were weighted by their school base weights. Participating schools were weighted by their non-response adjusted weights.

Source: OECD, PISA 2025. Department for Education and Skills (Wales), 2025.

Appendix Table A.8: School average learner characteristics of schools in Wales' final participating sample for PISA 2025 compared with the original sample 2025, weighted by enrolled eligible 15-year-old learners

School characteristic	Original %	Participating %	Bias	Relative Bias
Average percentage of learners who have been eligible for FSM over the last 3 years	19.7	19.6	0.1	0.01
Percentage of learners with ALN	8.6	9.0	-0.4	-0.05
Percentage of learners who have EAL	10.3	9.3	1.0	0.10

All original sample schools n = 130, participating schools, n=113

Bias was calculated as the difference between the estimates of the participating schools and the total sample (participating schools in original sample – all schools in original sample). Relative bias was calculated as the bias divided by the estimate from the total sample.

Original sample schools were weighted by their school base weights multiplied by the number of enrolled learners. Participating schools were weighted by their non-response adjusted weights multiplied by the number of enrolled learners.

Source: OECD, PISA 2025. Department for Education and Skills (Wales), 2025.

A.5 Comparisons of participating and non-participating learners

This section presents the non-response bias analysis of the participating learners: the distribution of the participating learners (N = 3406) was compared to the distribution of sampled learners within participating schools (N = 4,461). First, learners were weighted by their learner base weights, excluding any non-response adjustment factor; then the non-response adjustment factor was taken into account.

A.5.1 Analysis of learners (using student base weights)

Table A.9 and Table A.10 show that relative bias was small for all categories of the explicit stratification variables.

Appendix Table A.9: Percentage distribution of learners in Wales' final participating sample for PISA 2025 compared with the original sample by explicit stratification variables

Stratification variable	All sampled learners	Participating learners	Non-participating learners	Bias	Relative bias
Independent	3.7	3.9	3.1	-0.2	0.05
Maintained	96.3	96.1	96.9	0.2	0.00
Central South Wales	30.9	30.7	31.6	0.2	0.01
North Wales	21.2	21.7	19.5	-0.5	0.03
South East Wales	21.8	21.6	22.2	0.1	0.01
South West and Mid Wales	26.1	26.0	26.7	0.2	0.01

All sampled learners = 4,461. Participating learners = 3,406. Non-participating learners = 1,055.

Learners were weighted by their student base weights.

Source: OECD, PISA 2025. Department for Education and Skills (Wales), 2025.

Appendix Table A.10: Percentage distribution of learners in Wales' final participating sample for PISA 2025 compared with the original sample by attainment band

Stratification variable	All sampled learners	Participating learners	Non-participating learners	Bias	Relative bias
Attainment band 1 (low)	19.7	18.5	23.3	1.1	0.06
Attainment band 2	26.0	25.8	26.7	0.2	0.01
Attainment band 4	27.2	27.3	26.9	-0.1	0.00
Attainment band 5 (high)	23.4	24.4	20.0	-1.1	-0.05
Attainment band missing	3.7	4.0	3.1	-0.2	-0.06

All sampled learners = 4,461. Participating learners = 3,406. Non-participating learners = 1,055. Learners were weighted by their student base weights.

Source: OECD, PISA 2025. Department for Education and Skills (Wales), 2025.

A.5.2 Analysis of learners (using non-response adjusted weights)

Finally, Table A.11 and Table A.12 show the distribution of learners for all sampled learners, participating learners weighted by both the student base weights and the non-response adjusted weights. The distributions are similar across all reported characteristics indicating no strong evidence of significant bias in line with the earlier analysis.

Appendix Table A.11: Percentage distribution of learners in Wales' final participating sample for PISA 2025 by explicit stratification variables, before and after adjusting for learner non-response

Stratification variable	All sampled learners	Participating learners (student base weights)	Participating learners (non-response adjusted student weights)
Independent	3.7	3.9	3.1
Maintained	96.3	96.1	96.9
Central South Wales	30.9	30.7	32.3
North Wales	21.2	21.7	21.1
South East Wales	21.8	21.6	19.3
South West and Mid Wales	26.1	26.0	27.3

All sampled learners = 4,461. Participating learners = 3,406. Non-participating learners = 1,055.

Source: OECD, PISA 2025. Department for Education and Skills (Wales), 2025.

Appendix Table A.12: Percentage distribution of learners in Wales' final participating sample for PISA 2025 by attainment band, before and after adjusting for learner non-response

Stratification variable	All sampled learners	Participating learners (student base weights)	Participating learners (non-response adjusted student weights)
Attainment band 1 (low)	19.7	18.5	21.6
Attainment band 2	26.0	25.8	24.4
Attainment band 4	27.2	27.3	26.3
Attainment band 5 (high)	23.4	24.4	24.6
Attainment band missing	3.7	4.0	3.1

All sampled learners = 4,461. Participating learners = 3,406. Non-participating learners = 1,055.

Source: OECD, PISA 2025. Department for Education and Skills (Wales), 2025.

A.6 Summary

Overall, this analysis provides reassurance that the final sample of schools and learners which participated in PISA 2025 was representative of all schools and learners in Wales.

We first investigated non-response bias at the school level, finding that in the final sample does not differ in a statistically meaningful way from the original sample in terms of attainment band, and in terms of the average percentage of learners eligible for free school meals over the last 3 years, the percentage of learners with additional learning needs (ALN), and the percentage of learners with EAL.

Similarly, we investigated non-response bias at the learner level, which supported the analysis at the school level, finding that the final sample did not differ in a statistically meaningful way from the original sample in terms of school region, school type or school attainment band.

Appendix B: List of countries participating in PISA 2025

Appendix Table B.1: OECD member countries, associate or partner countries participating in PISA 2025 by continent

Continents	OECD member countries	OECD associate or partner countries
Africa		Egypt, Kenya, Mauritius, Morocco, Rwanda, Zambia
Asia	Israel, Japan, South Korea, Türkiye*	Armenia, Azerbaijan*, Brunei, Cambodia, China**, Hong Kong, Indonesia, Kurdistan Region (Iraq), Jordan, Kazakhstan*, Kyrgyzstan, Lebanon, Macao, Malaysia, Mongolia, Palestinian Authority, Philippines, Qatar, Saudi Arabia, Singapore, Taiwan, Tajikistan, Thailand, United Arab Emirates, Uzbekistan, Vietnam
Australasia	Australia, New Zealand	
Europe	Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom	Albania, Bulgaria, Croatia, Georgia*, Kosovo, Malta, Moldova, Montenegro, North Macedonia, Romania, Serbia, Ukraine **

North America	Canada, Costa Rica, United States	Dominican Republic, El Salvador, Guatemala
South America	Chile, Colombia, Mexico	Argentina, Brazil, Ecuador, Paraguay, Peru, Uruguay

Countries and education systems marked with an asterisk () are transcontinental, situated partly in Asia and partly in Europe.*

*Countries and education systems marked with an asterisk (**) include sub-regions only. For China, 4 regions took part in PISA 2025 (Beijing, Shanghai, Jiangsu, and Zhejiang, abbreviated as B-S-J-Z (China)). For Ukraine, 17 out of 27 regions took part in PISA 2025.*

Source: OECD database for PISA 2025

Appendix C: Equity and Inclusion – supplementary tables and charts

Appendix Table C.1: Gender gaps in science performance for higher-performing countries relative to Wales

Gender gaps in science performance	Country and gender gap in the average score in science between girls and boys
Countries where the average score in science for girls was significantly below that for boys	Canada (–5), Republic of Ireland (–7), Chile (–9), Japan (–10), Beijing, Shanghai, Jiangsu and Zhejiang regions in China (B-S-J-Z) (–14), and Hong Kong (–16)
Countries where there was no significant difference between the average scores in science for girls and boys	France (6), Switzerland (5), Netherlands (5), Slovak Republic (5), Ukrainian regions (17 of 27) (4), Portugal (4), Czech Republic (3), New Zealand (2), South Korea (2), Iceland (2), Belgium (2), Wales (2) , Poland (1), Estonia (1), Vietnam (1), Singapore (0), Spain (0), Australia (–1), Macao (–1), Denmark (–1), Luxembourg (–1), Uruguay (–2), Austria (–3), Germany (–3), Italy (–3), Türkiye (–4), Hungary (–8), and United States (–8)
Countries where the average score in science for girls was significantly above that for boys	Finland (22), Slovenia (21), Croatia (20), Malta (19), Israel (13), Sweden (12), Latvia (12), United Arab Emirates (11), Taiwan (11), Lithuania (10), and Norway (10), OECD average (1)

Base: All participating learners with average scores over 440 in the countries included.

Gaps calculated as average girls' scores – average boys' scores

The United Kingdom is not shown on this table. See Chapter 7 for presentation of PISA data across the UK.

Source: OECD PISA 2025 database

Appendix Table C.2: Gender gaps in reading performance for higher-performing countries relative to Wales

Gender gaps in reading performance	Country and gender gap in the average score in reading between girls and boys
Countries where the average score in reading for girls was significantly above that for boys	Slovenia (52), Croatia (47), Finland (46), Lithuania (44), Sweden (41), Taiwan (39), Norway (39), Slovak Republic (37), Poland (37), Netherlands (35), Portugal (33), Belgium (33), New Zealand (33), France (32), Australia (31), Czech Republic (31), Switzerland (31), Denmark (31), Luxembourg (30), OECD average (30) , South Korea (28), Italy (28),

Gender gaps in reading performance	Country and gender gap in the average score in reading between girls and boys
	Wales (26) , Singapore (26), Spain (26), Austria (26), Germany (25), Estonia (25), United States (24), Macao (22), Canada (22), Türkiye (22), Hungary (20), Republic of Ireland (19), Japan (14), Hong Kong (12), and B-S-J-Z (7)

Base: All participating countries with average scores over 440 in reading in PISA 2025.

The United Kingdom is not shown on this table. See Chapter 7 for presentation of PISA data across the UK.

Gaps calculated as average girls' scores – average boys' scores

There are no countries where the average score in reading for girls is significantly below or not significantly different from that for boys

Source: OECD PISA 2025 database

Appendix Table C.3: Gender gaps in mathematics performance for higher-performing countries relative to Wales

Gender gaps in mathematics performance	Country and gender gap in the average score in mathematics between girls and boys
Countries where the average score in mathematics for girls was significantly below that for boys	United Arab Emirates (–4), Norway (–6), Vietnam (–6), Latvia (–7), Lithuania (–9), Netherlands (–9), Singapore (–10), Portugal (–11), South Korea (–11), Germany (–11), Slovak Republic (–11), Wales (–12) , Czech Republic (–12), New Zealand (–12), Iceland (–12), Poland (–13), France (–13), Estonia (–13), Switzerland (–13), OECD average (–13) , Spain (–14), Denmark (–14), Belgium (–16), Japan (–16), Australia (–16), Republic of Ireland (–17), Italy (–17), Hong Kong (–17), Türkiye (–18), Macao (–19), Luxembourg (–19), Hungary (–19), Canada (–20), B-S-J-Z (–21), Austria (–23), United States (–24)
Countries where there was no significant difference between the average scores in mathematics for girls and boys	Slovenia (3), Taiwan (–1), Croatia (–1), Sweden (–2), and Finland (–2)

Base: All participating countries with average scores over 440 in mathematics in PISA 2025.

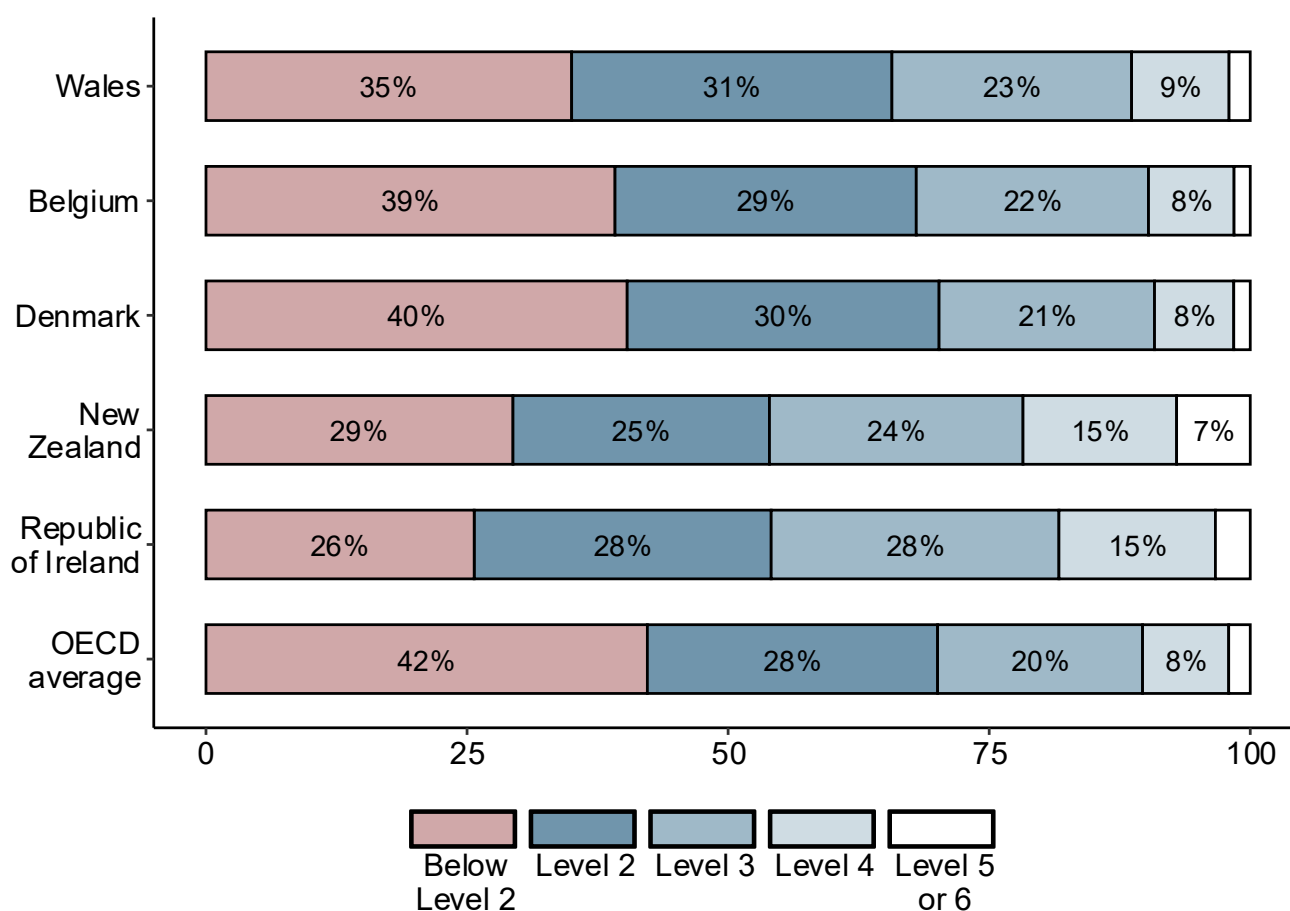
The United Kingdom is not shown on this table. See Chapter 7 for presentation of PISA data across the UK.

Gaps calculated as average girls' scores – average boys' scores

There are no countries where the average score in mathematics for girls is significantly above that for boys

Source: OECD PISA 2025 database

Appendix Figure C.1 Percentage of learners in ESCS Quartile 1 performing at each reading proficiency level in Wales, comparator countries and the OECD average



Country	Below Level 2	Level 2	Level 3	Level 4	Level 5 or Level 6
Wales	35%	31%	23%	9%	2%
Belgium	39%	29%	22%	8%	2%
Denmark	40%	30%	21%	8%	2%
New Zealand	* 29%	* 25%	24%	* 15%	* 7%
Republic of Ireland	* 26%	28%	28%	* 15%	3%
OECD average	* 42%	28%	20%	8%	2%

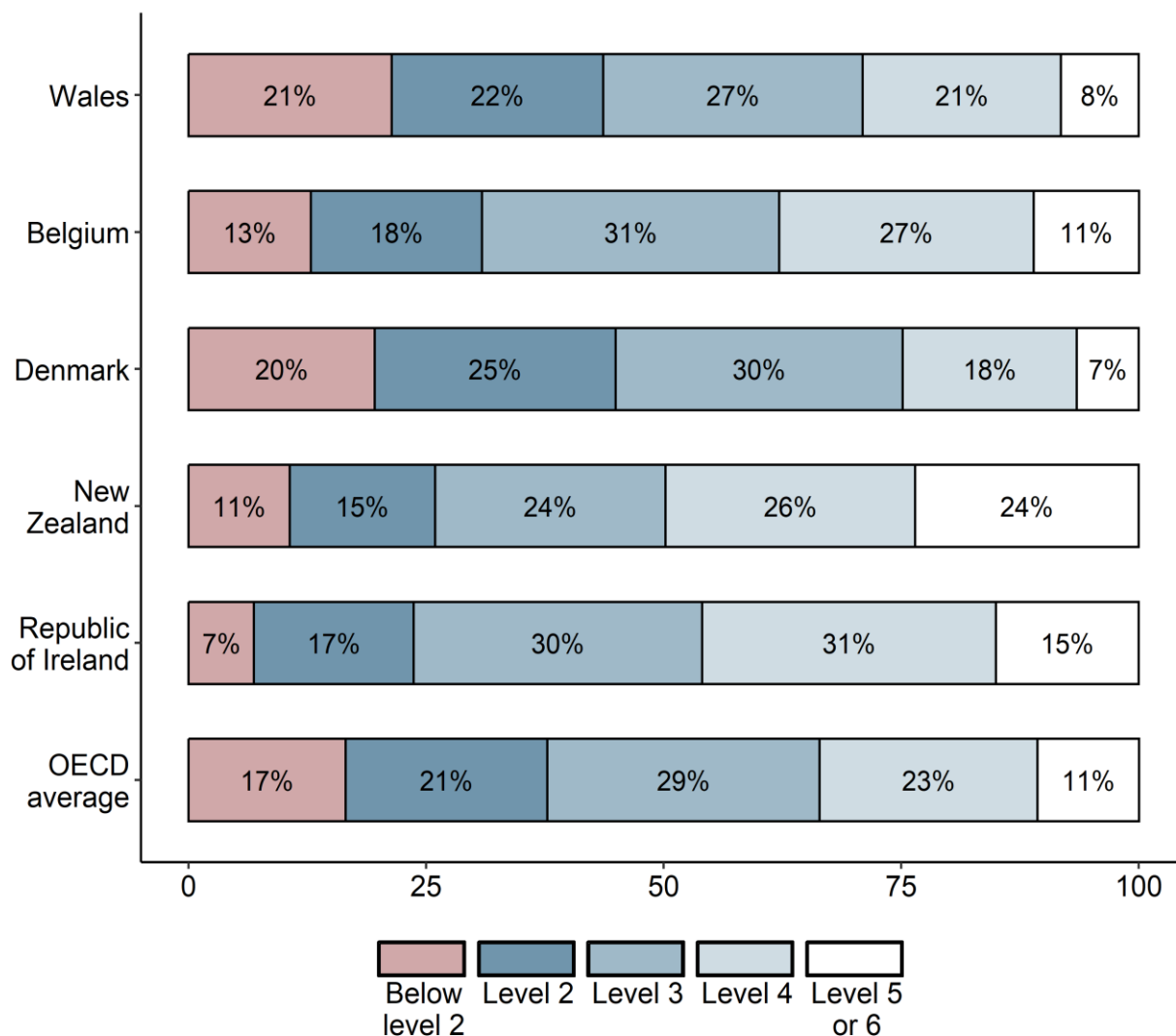
Base: All participating learners with ESCS data in the countries included.

Asterisks () indicate significant differences between percentage of learners in comparator countries or the OECD average compared with the percentage of learners in Wales.*

Individual percentages may not total 100% due to rounding.

Source: OECD PISA database for 2025

Appendix Figure C.2 Percentage of learners in ESCS Quartile 4 performing at each reading proficiency level in Wales, comparator countries and the OECD average



Country	Below Level 2	Level 2	Level 3	Level 4	Level 5 or Level 6
Wales	21%	22%	27%	21%	8%
Belgium	* 13%	* 18*	31%	* 27%	11%
Denmark	20%	25%	30%	18%	7%
New Zealand	* 11%	* 15%	24%	26%	* 24%
Republic of Ireland	* 7%	* 17%	30%	* 31%	* 15%

Country	Below Level 2	Level 2	Level 3	Level 4	Level 5 or Level 6
OECD average	* 17%	21%	29%	23%	11%

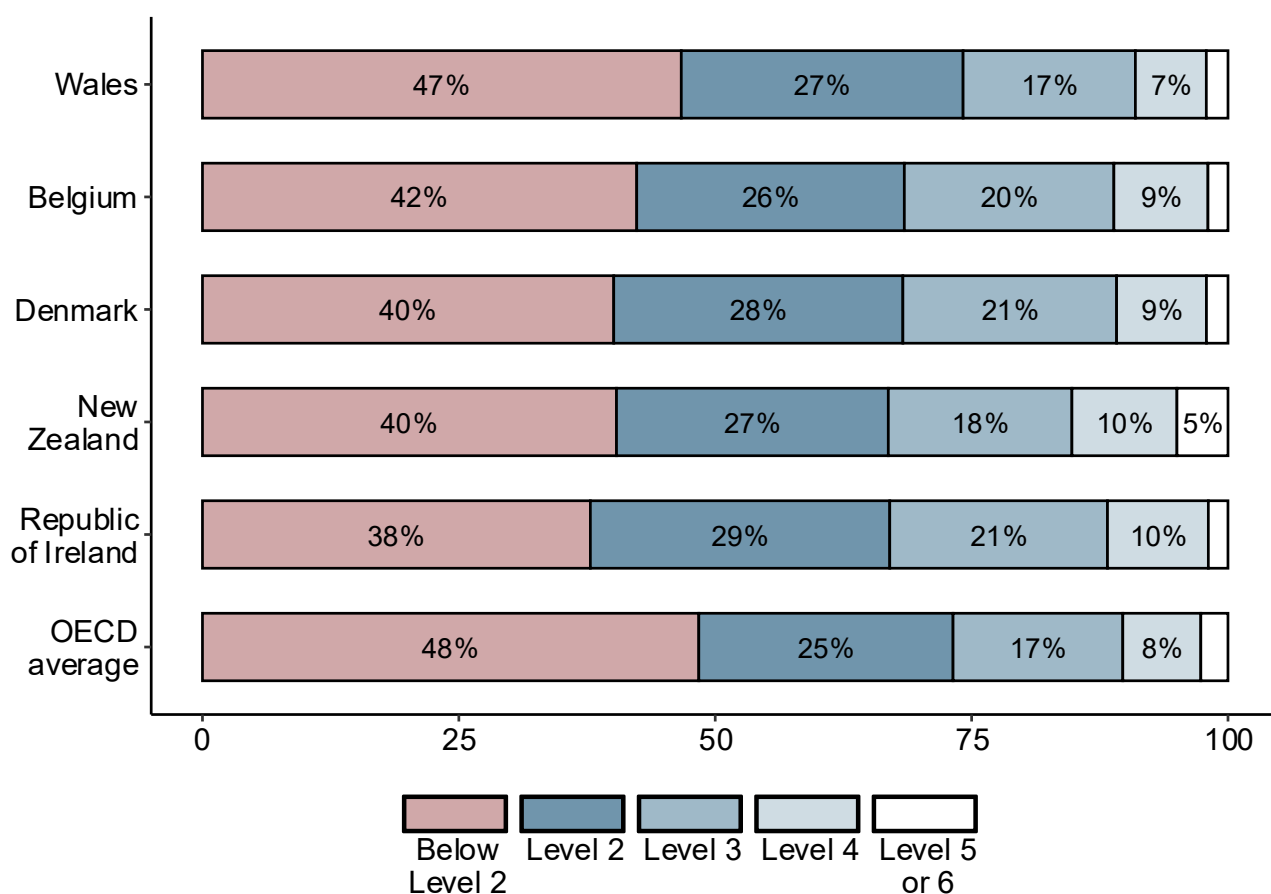
Base: All participating learners with ESCS data in the countries included.

Asterisks (*) indicate significant differences between percentage of learners in comparator countries or the OECD average compared with the percentage of learners in Wales.

Individual percentages may not total 100% due to rounding.

Source: OECD PISA database for 2025

Appendix Figure C.3 Percentage of learners in ESCS Quartile 1 performing at each mathematics proficiency level in Wales, comparator countries and the OECD average



Country	Below Level 2	Level 2	Level 3	Level 4	Level 5 or Level 6
Wales	47%	27%	17%	7%	2%
Belgium	42%	26%	20%	9%	2%

Country	Below Level 2	Level 2	Level 3	Level 4	Level 5 or Level 6
Denmark	* 40%	28%	21%	9%	2%
New Zealand	* 40%	27%	18%	10%	* 5%
Republic of Ireland	* 38%	29%	21%	10%	2%
OECD average	49%	25%	17%	8%	3%

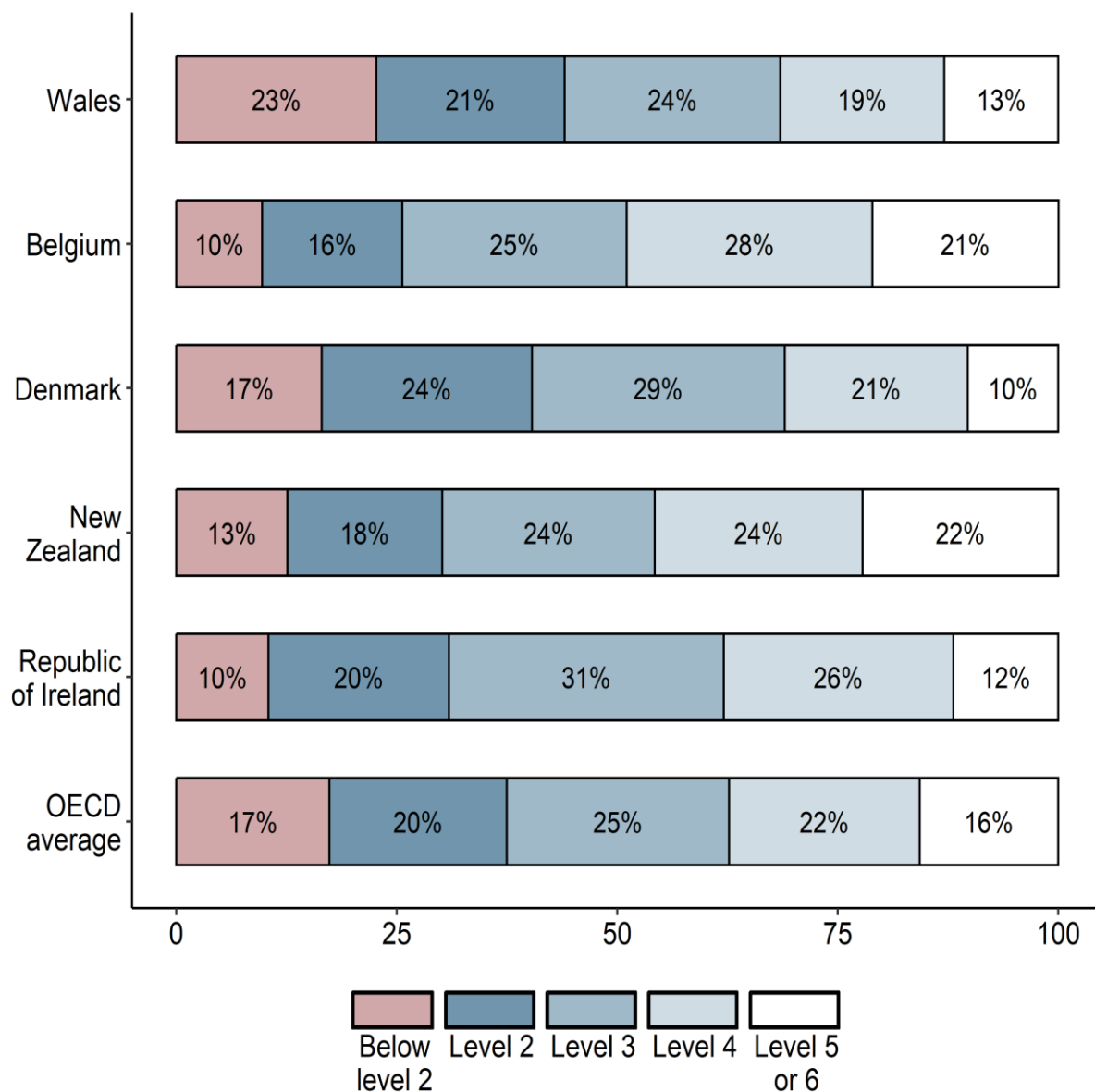
Base: All participating learners with ESCS data in the countries included.

Asterisks () indicate significant differences between percentage of learners in comparator countries or the OECD average compared with the percentage of learners in Wales.*

Individual percentages may not total 100% due to rounding.

Source: OECD PISA database for 2025

Appendix Figure C.4 Percentage of learners in ESCS Quartile 4 performing at each mathematics proficiency level in Wales, comparator countries and the OECD average



Country	Below Level 2	Level 2	Level 3	Level 4	Level 5 or Level 6
Wales	23%	21%	24%	19%	13%
Belgium	* 10%	* 16%	25%	* 28%	* 21%
Denmark	* 17%	24%	29%	21%	10%
New Zealand	* 13%	18%	24%	* 24%	* 22%

Country	Below Level 2	Level 2	Level 3	Level 4	Level 5 or Level 6
Republic of Ireland	* 10%	20%	* 31%	* 26%	12%
OECD average	* 17%	20%	25%	22%	16%

Base: All participating learners with ESCS data in the countries included.

Asterisks () indicate significant differences between percentage of learners in comparator countries or the OECD average compared with the percentage of learners in Wales.*

Individual percentages may not total 100% due to rounding.

Source: OECD PISA database for 2025

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