CHAPTER 3

PIRLS 2026 Assessment Design

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Overview

PIRLS is an international large-scale assessment of fourth-grade students' reading achievement. Conducted on a five-year cycle since 2001, with each assessment linked to those preceding it, PIRLS provides regular and timely data on trends in students' reading literacy on a common achievement scale.

The PIRLS assessment design uses a matrix-sampling technique to lessen the burden on individual students while ensuring coverage of a broad range of reading texts. Each text and its accompanying questions (known as items) and online informational reading task is assigned to a block, and the blocks are then systematically distributed among individual student booklets. The PIRLS 2026 assessment consists of 18 blocks, half assessing reading for literary experience ("literary") and half assessing reading to acquire and use information ("informational"). Under the group adaptive design, one-third of the blocks are relatively difficult, one-third are of medium difficulty, and one-third are relatively easy.

To minimize the assessment burden on individual students, each student is presented with two assessment blocks, one literary and one informational, according to a systematic booklet assembly and rotation procedure described in the next section. Following data collection, student responses to the assessment items are placed on the PIRLS reading achievement scale using item response theory methods that provide an overall picture of the assessment results for each country.[1,2]

PIRLS uses a group adaptive assessment design to better match assessment difficulty to student ability in each participating country. Using different test forms (booklets) to balance respondent burden and content coverage, the group adaptive design adjusts the sampling of booklets in each country to provide better coverage of the diverse range of ability distributions encountered in such assessments.

The group adaptive design improves the match between assessment difficulty and student ability in each country's population by allowing a greater proportion of more difficult booklets in countries with relatively high achievement and a greater proportion of less difficult booklets in countries with relatively low achievement. Accordingly, this design increases the information obtained from the assessment while maintaining standard test administration procedures and time requirements.[3] This proportional distribution approach can also be applied within a country if the country has clearly defined subpopulations that differ substantially in student achievement.

PIRLS 2026 emphasizes a fully digital delivery format for an operationally efficient and more engaging assessment. Increasingly, online texts, such as websites, are included in school curricula, and the internet is a central way that many students acquire information in and out of school. Online informational reading tasks were first introduced in PIRLS 2016 as an extension of the reading framework. They were reported in PIRLS 2021 as part of the overall reading scale as PIRLS transitioned to a digital assessment. PIRLS 2026 further incorporates this online content in the PIRLS reading assessment framework in recognition that reading literacy encompasses a variety of text forms and requires skill development in both digital and non- digital environments. Accordingly, the PIRLS 2026 group adaptive assessment design includes online informational reading tasks as part of the acquire and use information purpose.

Similar to previous PIRLS assessments, PIRLS 2026 includes a series of context questionnaires to gather information about community, home, and school contexts for developing reading literacy.

Student Population Assessed

PIRLS assesses students' reading achievement in their fourth year of formal schooling. This student population was chosen for PIRLS since its inception in 2001 because it is an important transition point in children's development as readers. Typically, at this point, students have mastered the basics of learning to read and are now reading to learn.

PIRLS defines the fourth year of formal schooling according to the International Standard Classification of Education (ISCED) developed by UNESCO.[4] The ISCED classification provides an international standard for describing levels of schooling across countries. It covers the full range of schooling, from early childhood education (Level 0) to doctoral or equivalent level study (Level 8). The target population for PIRLS is defined as follows:

> *The PIRLS target grade should be the grade that represents four years of schooling, counting from the first year of ISCED Level 1.*

ISCED Level 1 corresponds to primary education, or the first stage of basic education, and is considered the first stage of formal schooling. The PIRLS target grade is four years after the beginning of Level 1, which is the fourth grade in most countries. However, given the linguistic and cognitive demands of reading, PIRLS wants to avoid assessing very young children. Thus, if the average age of fourth-grade students at the time of testing is expected to be less than 9.5 years, PIRLS recommends that countries assess students in the next higher grade (i.e., fifth grade).

Reporting Reading Achievement

PIRLS is designed to provide a comprehensive picture of the students' reading achievement in each participating country. This includes achievement by reading purpose and comprehension process as well as overall reading achievement (as defined in Chapter 1), which requires a wide range of reading material that fourth-grade students encounter in school and their everyday lives, including a range of static text types and formats, while also incorporating dynamic graphics and video.

The PIRLS reading achievement scale provides a common metric on which countries can compare their fourth-grade students' progress in reading over time from assessment to assessment. The PIRLS achievement scale was established in 2001 so that 100 points on the scale corresponded to one standard deviation across all the countries that participated in 2001, and the scale midpoint of 500 was located at the mean of this international achievement distribution. Using texts and items that were administered in both the 2001 and 2006 assessments as a basis for linking the two sets of assessment results, the PIRLS 2006 data were also placed on this scale so that countries could gauge changes in students' reading achievement since 2001. Using similar procedures, the PIRLS 2011, PIRLS 2016, and PIRLS 2021 data were placed on the PIRLS scale, each linked to the previous cycle, as will be the data from PIRLS 2026. This will enable countries that have participated in PIRLS since its inception to have comparable achievement data from each of the six PIRLS administration cycles and depict performance changes over 25 years.

The PIRLS reading achievement scale is an overall measure of reading proficiency which includes reading purposes and comprehension processes. In addition to the overall scale, PIRLS 2026 also provides separate achievement scales on the same metric for the subscales describing reading purposes and comprehension processes. More specifically, there are two subscales for reading purposes:

- reading for literary experience
- reading to acquire and use information

There also are two subscales for processes of reading comprehension:

- retrieving and straightforward inferencing
- interpreting, integrating, and evaluating

The *retrieving and straightforward inferencing* subscale combines items from the *focus on and retrieve explicitly stated information* and *make straightforward inferences comprehension* processes. Similarly, the *interpreting, integrating, and evaluating* scale is based on items from the *interpret and integrate ideas and information* and *evaluate* and *critique content and textual elements* processes (as described in Chapter 1).

PIRLS 2026 Group Adaptive Design

The PIRLS 2026 assessment design preserves the main aspects of the PIRLS 2021 group adaptive design with three levels of text block difficulty within each of the two subscales for reading purposes. The PIRLS 2021 group adaptive design reduced item level non-response and provided a more precise measurement of student reading achievement. The adaptive design is

expected to increase student motivation and reduce item-level nonresponse to enable a more precise measurement of student reading achievement. The design combines three levels of block difficulty—difficult, medium, and easy—into two levels of booklet difficulty. More difficult booklets are composed of two difficult blocks or one medium and one difficult block, while less difficult booklets consist of an easy and a medium block or two easy blocks. Each country administers the set of booklets that represents the entire PIRLS 2026 assessment, but the balance of more difficult and less difficult booklets varies with the expected reading achievement level of the students in the country.

PIRLS 2026 Assessment Blocks

Of the 18 blocks included in the PIRLS 2026 group adaptive design, 14 were administered previously in PIRLS 2021 and are brought forward for 2026 to support the measurement of trends. In addition, four new blocks will be developed for first-time use in PIRLS 2026. Exhibit 1 shows how the existing trend and new blocks fit into the purpose-by-difficulty scheme.

Exhibit 1 also includes a label for each block to illustrate more clearly the assignment of blocks to booklets. The block labels in PIRLS 2026 are based on the reading purposes (Lit for literary and Inf for informational), block difficulty levels (D for difficult, M for medium, and E for easy) and a sequential number (1, 2, or 3). Of the four new blocks for PIRLS 2026, there is one new literary block in each of the three difficulty levels. The fourth one is an easy informational block.

Exhibit 1: Reading Purpose and Difficulty Level for PIRLS 2026 Text Blocks

Reading Purpose	Difficulty Level	Block Label
Literary	Difficult	LitD1 (16)
		LitD2 (26)
		LitD3 (21)
	Medium	**LitM1 (26)**
		LitM2 (21)
		LitM3 (16)
	Easy	LitE1 (11)
		LitE2 (26)
		LitE3 (16)

Exhibit 1: Reading Purpose and Difficulty Level for PIRLS 2026 Text Blocks (Continued)

Reading Purpose	Difficulty Level	Block Label
Informational	Difficult	InfD1 (16)
		InfD2 (21)
		InfD3 (21)
	Medium	*InfM1 (16)*
		InfM2 (21)
		InfM3 (16)
	Easy	InfE1 (11)
		InfE2 (26)
		InfE3 (16)

* The number in parentheses is the assessment year in which the text was first introduced. To maintain assessment integrity, the PIRLS 2026 framework intentionally withholds passage names. This prevents inadvertent disclosure of assessment materials through titles or keywords. In today's digital age, even seemingly innocuous titles can lead to specific texts being found online. The omission of passage names ensures fairness and prevents bias.

Text Block Difficulty Levels

For the design to be effective, there must be distinct differences between the average item difficulties of the blocks assigned to a difficulty level and the average difficulties of blocks in the other levels. The difficulty goals in terms of average percent correct across the student population of all countries are 40% for the difficult blocks, 60% for the medium blocks, and 80% for the easy blocks. Meeting these targets is an evolutionary process that started in PIRLS 2021 as older blocks were replaced with new ones. Exhibit 2 shows the average difficulty achieved in PIRLS 2021 across the three block-difficulty levels based on the trend blocks and the new blocks introduced in 2021. The estimated difficulty is an average percentage correct aggregated across all blocks of a particular difficulty level. The difficulty estimates for PIRLS 2021 are based on the digital assessment in PIRLS 2021. The projections were used to estimate the contribution of countries with a paper-based administration in PIRLS 2021 rather than the digital assessment administration.

As only the new texts and items could be purposefully developed to meet the difficulty targets, the achieved outcomes in 2021 were a first step towards reaching the targets. The development of the new text and item sets for PIRLS 2026 will aim to get closer to the stated targets, as shown in the last column of Exhibit 2.

Exhibit 2: Average Difficulty of Text Blocks in PIRLS 2021 and Target Difficulty for PIRLS 2026

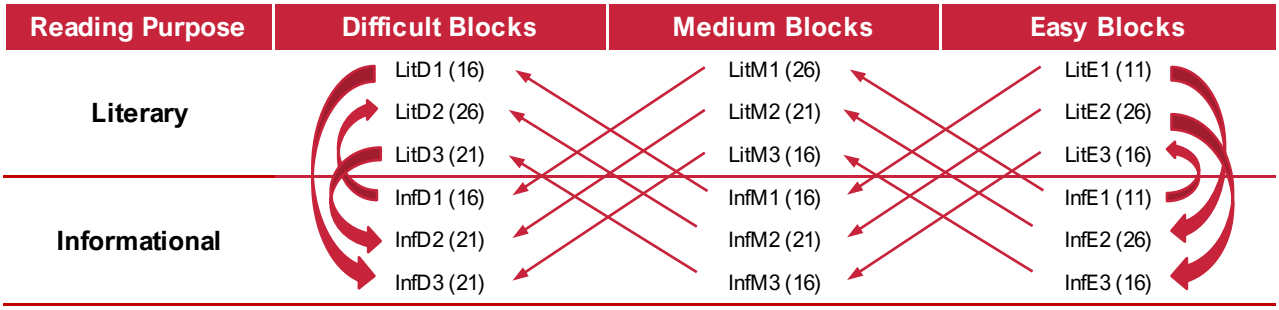
Block Difficulty Level	Average Difficulty in PIRLS 2021	Target Difficulty for PIRLS 2026
Difficult	47%	45%
Medium	58%	58%
Easy	69%	74%

Booklet Design

In the PIRLS assessment, each student is randomly assigned a test booklet consisting of two text blocks, one literary and one informational. In PIRLS 2026, the 18 blocks are arranged into 18 booklets, with each block appearing in two booklets. Exhibit 3 summarizes the block pairs that make up each booklet. All difficult blocks are paired with either another difficult block or a medium block, while all easy blocks are paired with either another easy block or a medium block. All medium blocks are paired with either a difficult block or an easy block. In addition, all new blocks are paired with a trend block to maximize the number of students presented with a new block.

In Exhibit 3, the directions of the arrows show which block comes first in the booklet. For example, an arrow points from block InfM1 to LitD1, indicating that these two blocks share a booklet, with InfM1 preceding LitD1. Note that when blocks of different difficulty levels are paired in the same booklet, the easier of the two always comes first.

Exhibit 3: Block Pairings for Each Assessment Booklet



The 18 booklets are divided into two levels of difficulty, as follows:

- more difficult booklets (9), composed of either two difficult blocks or one medium and one difficult block; and
- less difficult booklets (9), composed of either two easy blocks or one easy and one medium block.

Exhibit 4 shows the block assignments and order (Part 1 or Part 2) for the 18 booklets, with booklets 1 through 9 being the more difficult booklets and booklets 10 through 18 being the less difficult ones.

Exhibit 4: Block Assignments for PIRLS 2026 Assessment Booklets (with Block Labels)

Student Assessment Booklets		Part 1	Part 2
More Difficult Booklets	Booklet 1	InfM1 (16)	LitD1 (16)
	Booklet 2	LitD3 (21)	InfD2 (21)
	Booklet 3	LitM1 (26)	InfD1 (16)
	Booklet 4	InfM2 (21)	LitD2 (26)
	Booklet 5	LitD1 (16)	InfD3 (21)
	Booklet 6	LitM2 (21)	InfD2 (21)
	Booklet 7	InfM3 (16)	LitD3 (21)
	Booklet 8	InfD1 (16)	LitD2 (26)
	Booklet 9	LitM3 (16)	InfD3 (21)
Less Difficult Booklets	Booklet 10	LitE1 (11)	InfM1 (16)
	Booklet 11	InfE2 (26)	LitM2 (21)
	Booklet 12	InfE1 (11)	LitE3 (16)
	Booklet 13	LitE2 (26)	InfM2 (21)
	Booklet 14	InfE3 (16)	LitM3 (16)
	Booklet 15	LitE1 (11)	InfE2 (26)
	Booklet 16	LitE3 (16)	InfM3 (16)
	Booklet 17	InfE1 (11)	LitM1 (26)
	Booklet 18	LitE2 (26)	InfE3 (16)

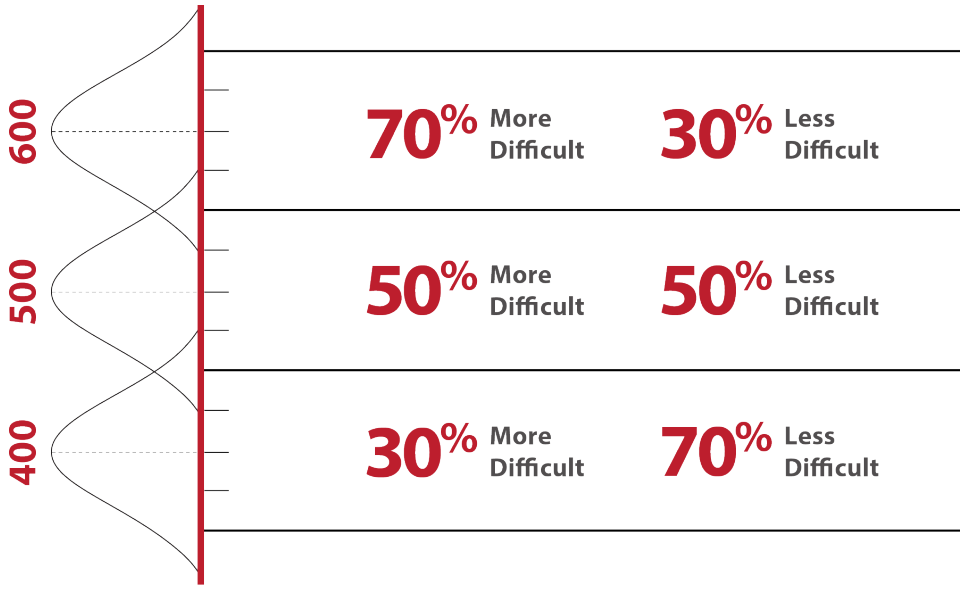
Booklet Assignment within Countries

All 18 booklets are distributed in every country, ensuring that all countries administer the same assessment, but with varying proportions of the more and less difficult booklets depending on the average reading ability of each country's student population. This average reading ability is estimated based on performance in prior PIRLS assessments, or from the field test for countries participating for the first time. Higher-performing countries will assign proportionally more of the more difficult booklets, while lower-performing countries will assign proportionally more of the less difficult booklets, with the goal of a better match between assessment difficulty and student ability in each country.

Exhibit 5 illustrates the differential booklet assignment plans for higher, medium, and lower performing countries. Countries with an average performance of 550 or higher on the PIRLS achievement scale would assign proportionally more of the more difficult booklets (e.g., 70%), and fewer of the less difficult booklets (e.g., 30%). Countries with average performance of 450 or lower on the PIRLS scale would assign proportionally more of the less difficult booklets (e.g., 70%) and fewer of the more difficult booklets (e.g., 30%). Countries with performance between 450 and 550 would assign equal proportions of the more and less difficult booklets. For new countries

participating in PIRLS 2026, the booklet assignment plans are based on their performance in the PIRLS 2026 field test. Other, more extreme, proportions may be considered on a country-by-country basis. The group adaptive design aims to improve measurement accuracy in countries participating in PIRLS by allowing booklets that vary in difficulty to be assigned at country-specific rates.

Exhibit 5: PIRLS 2026 Booklet Assignment Plan for Higher, Middle, and Lower Performing Countries



While the PIRLS 2026 group adaptive design was developed to provide a better match between assessment difficulty and student ability at the country level, it is possible to apply the group adaptive approach for subgroups within a country, provided the country has clearly defined subpopulations that are known to differ substantially in student achievement.

IEA's within-school sampling software (WinW3S) assigns booklets to individual students within each school. The 18 booklets are distributed among the students in sampled classes using a systematic random assignment process that ensures that the proportions of more and less difficult booklets conform to the rates established for the country.

Student Testing Time

As summarized in Exhibit 6, each student participating in PIRLS completes one student achievement booklet consisting of two parts, followed by a student questionnaire. The individual student response time for the PIRLS 2026 assessment is the same as in previous PIRLS cycles.[5,6] The PIRLS administration consists of two 40-minute sessions, one for each part, separated by a short break, and then a 30-minute session for the student questionnaire.

Exhibit 6: PIRLS 2026 Student Testing Time

Activity	Testing Time
Student Achievement Booklet – Part 1	40 minutes
Break	
Student Achievement Booklet – Part 2	40 minutes
Break	
Student Questionnaire	30 minutes

References

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