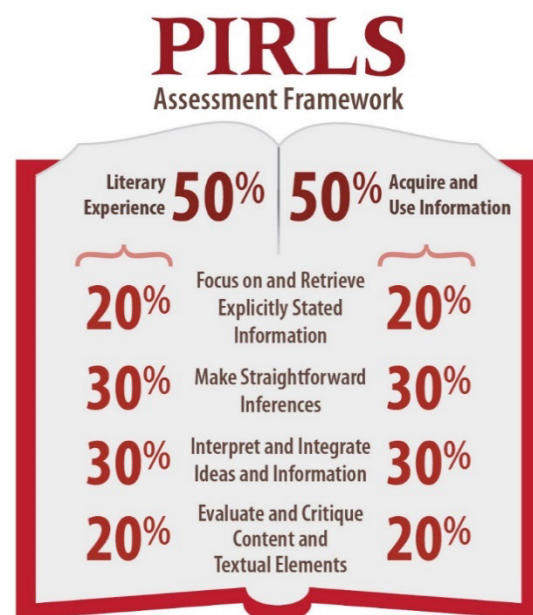## SECTION 3

Relative Achievement in Reading Purposes and Comprehension Processes

Published as Chapter 1 in the *PIRLS 2021 Assessment Frameworks*, the PIRLS 2021 Reading Assessment Framework provided the guidelines for developing the assessment content. Since the inception of PIRLS in 2001, the assessment framework has been organized according to two overarching purposes for reading:

- For literary experience
- To acquire and use information

As shown below, the framework also describes four cross-cutting reading comprehension processes: retrieving, straightforward inferencing, interpreting and integrating, and evaluating and critiquing. The illustration includes the targeted weights of coverage, showing that PIRLS should involve 50 percent literary texts and 50 percent informational texts as well as 20 percent, 30 percent, 30 percent, and 20 percent of the four cross-cutting reading comprehension processes.

From country to country, as a result of the curriculum or other factors, students might have relative strengths and weaknesses in reading literary compared to informational texts. The next part of this section of the report shows countries' relative achievement in reading literary texts compared to reading informational texts in PIRLS 2021. The second part of this section presents the relative achievement results for two broad comprehension processes— 1) retrieving and straightforward inferencing and 2) interpreting, integrating, and evaluating.

PIRLS
Assessment Framework

| Literary Experience | 50% | 50% | Acquire and Use Information |

20%	Focus on and Retrieve Explicitly Stated Information	20%
30%	Make Straightforward Inferences	30%
30%	Interpret and Integrate Ideas and Information	30%
20%	Evaluate and Critique Content and Textual Elements	20%

For information about how the subscales for the reading purposes and comprehension processes were created, see Chapter 11 in *Methods and Procedures: PIRLS 2021 Technical Report*. The results in the purpose and process subscales are presented to provide a more nuanced view of overall reading achievement. The comparison between overall reading achievement and particular subscales may indicate countries' relative strengths and weaknesses within overall reading. However, the subscales are based on only half the assessment items, making them somewhat less robust than the overall reading achievement results based on the entire scale. The subscale trend results are not reported here because they are less stable than the overall trend results and could be even further influenced by COVID-19 to an unknown degree.

Relative Achievement in Reading Purposes

Young students read for a wide variety of reasons and encounter a wide variety of texts with different content and in different formats. However, whether their reasons for reading are for interest, entertainment, or learning, much of the reading done by young students both in and out of school can be broadly described as either reading stories (with a plot and characters often in a narrative structure) or reading materials that provide information. As young students develop their literacy skills and are increasingly required to read to learn across the curriculum, reading to acquire information could become more frequent.

The International Benchmarks section of the report includes a description of the texts used to assess the literary and informational purposes, as well as videos of example texts and items.

Exhibits 3.1 and 3.2 show relative average achievement in literary and informational purposes in comparison to average achievement overall. Starting at the top of the exhibits, the results are organized according to the extent that countries had relatively higher achievement in the informational purpose (and lower in literary) compared to their overall achievement, followed by countries with little difference in achievement between the two purposes in the middle of the exhibit, and countries with relatively higher achievement in the literary purpose (and lower in informational) compared to their overall achievement at the bottom.

Exhibit 3.1: Relative Average Achievement in Reading Purposes

Assessed Fourth Grade Students at the End of the School Year

⋈ Assessed one year later than originally scheduled

Country	Overall PIRLS Average Scale Score	Literary		Informational		Difference	
		Average Scale Score	Difference from Overall PIRLS Score	Average Scale Score	Difference from Overall PIRLS Score	Purpose Score Lower than Overall PIRLS Score	Purpose Score Higher than Overall PIRLS Score
Macao SAR	536 (1.3)	525 (1.3)	-10 (1.2) ▼	547 (1.5)	12 (0.7) ▲		
[2] † Hong Kong SAR	573 (2.7)	564 (2.7)	-8 (0.9) ▼	582 (2.7)	10 (1.1) ▲		
Chinese Taipei	544 (2.2)	533 (2.1)	-11 (0.8) ▼	549 (2.2)	6 (0.8) ▲		
[2] Ψ Egypt	378 (5.4)	372 (5.1)	-6 (1.7) ▼	382 (5.4)	4 (1.5) ▲		
Oman	429 (3.7)	425 (3.8)	-4 (1.7) ▼	432 (3.8)	3 (1.2) ▲		
Jordan	381 (5.4)	378 (5.5)	-3 (1.2) ▼	384 (5.8)	3 (1.5) ▲		
[2] Kosovo	421 (3.1)	418 (2.9)	-3 (1.5)	423 (3.1)	3 (1.3) ▲		
[2] Turkiye	496 (3.4)	495 (3.6)	-2 (0.8) ▼	498 (3.4)	2 (0.8) ▲		
Finland	549 (2.4)	547 (2.6)	-2 (0.8) ▼	550 (2.6)	1 (0.9)		
[2] † Brazil ⋈	419 (5.3)	418 (5.2)	-1 (1.5)	421 (5.4)	2 (1.5)		
Russian Federation	567 (3.6)	566 (3.6)	-1 (1.0)	568 (3.8)	1 (0.9)		
Norway (5)	539 (2.0)	538 (2.0)	-1 (0.7)	540 (2.1)	1 (0.7) ▲		
[2] Italy	537 (2.2)	536 (2.5)	-1 (1.5)	538 (2.1)	1 (0.9)		
Spain	521 (2.2)	520 (2.2)	-1 (1.0)	522 (2.4)	0 (0.7)		
England ⋈	558 (2.5)	558 (2.4)	1 (1.0)	559 (2.5)	1 (0.9)		
[2] Portugal	520 (2.3)	520 (2.3)	0 (0.9)	520 (2.3)	0 (0.6)		
≡ Netherlands	527 (2.5)	528 (2.8)	1 (1.6)	528 (2.9)	1 (1.4)		
Czech Republic	540 (2.3)	540 (2.5)	0 (0.7)	540 (2.5)	0 (1.0)		
† Slovak Republic	529 (2.7)	530 (2.6)	1 (1.6)	530 (2.6)	1 (1.4)		
Iran, Islamic Rep. of ⋈	413 (4.9)	413 (5.0)	0 (1.1)	412 (4.8)	-1 (1.3)		
Belgium (Flemish)	511 (2.3)	511 (2.7)	1 (1.0)	510 (2.3)	-1 (0.9)		
Azerbaijan	440 (3.6)	441 (3.5)	0 (1.0)	439 (3.6)	-1 (1.4)		
[2] Sweden	544 (2.1)	545 (2.5)	2 (1.5)	544 (2.1)	0 (0.9)		
Malta	515 (2.7)	516 (2.8)	2 (1.3)	514 (2.8)	-1 (0.9)		
† New Zealand	521 (2.3)	523 (2.4)	2 (1.2)	521 (2.5)	-1 (1.1)		
Slovenia	520 (1.9)	522 (2.1)	2 (1.6)	519 (2.1)	-1 (0.8)		
North Macedonia	442 (5.3)	442 (5.4)	0 (1.7)	439 (5.6)	-3 (1.1) ▼		
Poland	549 (2.2)	552 (2.3)	3 (1.5)	548 (2.2)	-1 (1.2)		
Australia ⋈	540 (2.2)	543 (2.4)	3 (1.2) ▲	539 (2.3)	-1 (1.0)		
Uzbekistan	437 (2.9)	438 (3.0)	1 (1.3)	434 (2.9)	-3 (0.9) ▼		
France	514 (2.5)	516 (2.4)	2 (1.3)	511 (2.6)	-2 (1.3)		
[3] Singapore	587 (3.1)	591 (3.2)	4 (0.9) ▲	586 (3.1)	-1 (0.8)		
Austria	530 (2.2)	533 (2.1)	3 (1.6)	527 (2.6)	-2 (1.0) ▼		
Bulgaria	540 (3.0)	544 (3.3)	4 (1.3) ▲	538 (3.1)	-2 (1.1) ▼		
[3] Serbia	514 (2.8)	518 (2.9)	4 (1.4) ▲	511 (2.5)	-2 (1.3)		
[2] Albania	513 (3.1)	516 (3.3)	3 (1.3) ▲	509 (3.2)	-4 (1.8) ▼		
[3] Israel ⋈	510 (2.2)	515 (2.8)	5 (1.4) ▲	508 (2.3)	-2 (0.9) ▼		
Germany	524 (2.1)	529 (2.4)	5 (1.0) ▲	522 (2.1)	-2 (1.1) ▼		
[3] Montenegro	487 (1.6)	491 (1.9)	4 (1.4) ▲	483 (1.9)	-4 (1.0) ▼		
[2] Belgium (French)	494 (2.7)	499 (2.6)	5 (1.5) ▲	490 (2.4)	-4 (1.0) ▼		
[2] † Denmark	539 (2.2)	546 (2.6)	7 (1.7) ▲	536 (2.1)	-3 (0.8) ▼		
Cyprus	511 (2.9)	517 (2.8)	6 (0.8) ▲	505 (2.9)	-6 (0.6) ▼		
Ж South Africa ⋈	288 (4.4)	293 (4.5)	5 (1.6) ▲	279 (4.6)	-10 (1.3) ▼		
Benchmarking Participants							
Moscow City, Russian Federation	598 (2.1)	597 (1.9)	-1 (1.4)	600 (1.9)	2 (1.0)		
South Africa (6) ⋈	384 (4.5)	382 (4.6)	-2 (1.2)	384 (4.7)	0 (1.1)		
[2] British Columbia, Canada	535 (3.5)	537 (3.6)	1 (0.9)	535 (3.6)	0 (1.0)		
[2] Newfoundland & Labrador, Canada	523 (3.2)	526 (3.4)	3 (1.3)	523 (3.1)	0 (1.1)		
[3] ≡ Alberta, Canada	539 (3.6)	541 (3.4)	2 (1.1) ▲	537 (3.9)	-2 (1.1)		

▲ Purpose score significantly higher than overall PIRLS score

▼ Purpose score significantly lower than overall PIRLS score

🔴 Literary Reading
⬛ Informational Reading

( ) Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.
See Appendix A.2 for population coverage notes 1, 2, and 3. See Appendix A.5 for sampling guidelines and sampling participation notes †, ‡, and ≡.
Ψ Reservations about reliability because the percentage of students with achievement too low for estimation exceeds 15% but does not exceed 25%.
Ж Reservations about reliability because the percentage of students with achievement too low for estimation exceeds 25%.
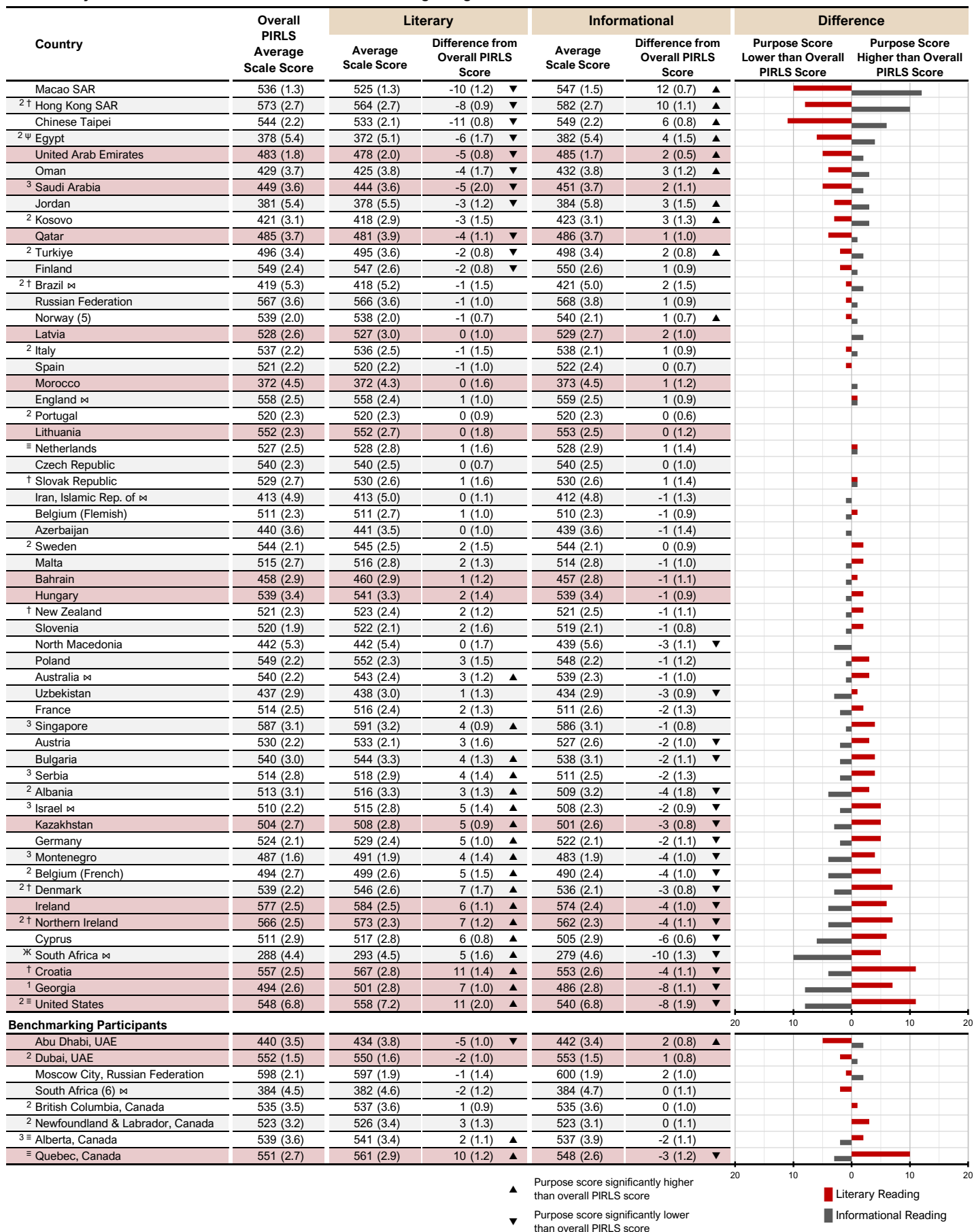Issues identified in Albania's data quality led to reduced comparability and framework coverage.

Exhibit 3.2: Relative Average Achievement in Reading Purposes

Assessed Fourth Grade Students at the End of the School Year

⋈ Assessed one year later than originally scheduled

🟫 **Delayed Assessment of Fourth Grade Cohort at the Beginning of Fifth Grade**

Country	Overall PIRLS Average Scale Score	Literary		Informational		Difference	
		Average Scale Score	Difference from Overall PIRLS Score	Average Scale Score	Difference from Overall PIRLS Score	Purpose Score Lower than Overall PIRLS Score	Purpose Score Higher than Overall PIRLS Score
Macao SAR	536 (1.3)	525 (1.3)	-10 (1.2) ▼	547 (1.5)	12 (0.7) ▲		
[2†] Hong Kong SAR	573 (2.7)	564 (2.7)	-8 (0.9) ▼	582 (2.7)	10 (1.1) ▲		
Chinese Taipei	544 (2.2)	533 (2.1)	-11 (0.8) ▼	549 (2.2)	6 (0.8) ▲		
[2 Ψ] Egypt	378 (5.4)	372 (5.1)	-6 (1.7) ▼	382 (5.4)	4 (1.5) ▲		
United Arab Emirates	483 (1.8)	478 (2.0)	-5 (0.8) ▼	485 (1.7)	2 (0.5) ▲		
Oman	429 (3.7)	425 (3.8)	-4 (1.7) ▼	432 (3.8)	3 (1.2) ▲		
[3] Saudi Arabia	449 (3.6)	444 (3.6)	-5 (2.0) ▼	451 (3.7)	2 (1.1)		
Jordan	381 (5.4)	378 (5.5)	-3 (1.2) ▼	384 (5.8)	3 (1.5) ▲		
[2] Kosovo	421 (3.1)	418 (2.9)	-3 (1.5) ▼	423 (3.1)	3 (1.3) ▲		
Qatar	485 (3.7)	481 (3.9)	-4 (1.1) ▼	486 (3.7)	1 (1.1)		
[2] Türkiye	496 (3.4)	495 (3.6)	-2 (0.8) ▼	498 (3.4)	2 (0.8) ▲		
Finland	549 (2.4)	547 (2.6)	-2 (0.8) ▼	550 (2.6)	1 (0.9)		
[2†] Brazil ⋈	419 (5.3)	418 (5.2)	-1 (1.5)	421 (5.0)	2 (1.5)		
Russian Federation	567 (3.6)	566 (3.6)	-1 (1.0)	568 (3.8)	1 (0.9)		
Norway (5)	539 (2.0)	538 (2.0)	-1 (0.7)	540 (2.1)	1 (0.7) ▲		
Latvia	528 (2.6)	527 (3.0)	0 (1.0)	529 (2.7)	2 (1.0)		
[2] Italy	537 (2.2)	536 (2.5)	-1 (1.5)	538 (2.1)	1 (0.9)		
Spain	521 (2.2)	520 (2.2)	-1 (1.0)	522 (2.4)	0 (0.7)		
Morocco	372 (4.5)	372 (4.3)	0 (1.6)	373 (4.5)	1 (1.2)		
England ⋈	558 (2.5)	558 (2.4)	1 (1.0)	559 (2.5)	1 (0.9)		
[2] Portugal	520 (2.3)	520 (2.3)	0 (0.9)	520 (2.3)	0 (0.6)		
Lithuania	552 (2.3)	552 (2.7)	0 (1.8)	553 (2.5)	0 (1.2)		
[≡] Netherlands	527 (2.5)	528 (2.8)	1 (1.6)	528 (2.9)	1 (1.4)		
Czech Republic	540 (2.3)	540 (2.5)	0 (0.7)	540 (2.5)	0 (1.0)		
[†] Slovak Republic	529 (2.7)	530 (2.6)	1 (1.6)	530 (2.6)	1 (1.4)		
Iran, Islamic Rep. of ⋈	413 (4.9)	413 (5.0)	0 (1.1)	412 (4.8)	-1 (1.3)		
Belgium (Flemish)	511 (2.3)	511 (2.7)	1 (1.0)	510 (2.3)	-1 (0.9)		
Azerbaijan	440 (3.6)	441 (3.5)	0 (1.0)	439 (3.6)	-1 (1.4)		
[2] Sweden	544 (2.1)	545 (2.5)	2 (1.5)	544 (2.1)	0 (0.9)		
Malta	515 (2.7)	516 (2.8)	2 (1.3)	514 (2.8)	-1 (1.0)		
Bahrain	458 (2.9)	460 (2.9)	1 (1.2)	457 (2.8)	-1 (1.1)		
Hungary	539 (3.4)	541 (3.3)	2 (1.4)	539 (3.4)	-1 (0.9)		
[†] New Zealand	521 (2.3)	523 (2.4)	2 (1.2)	521 (2.5)	-1 (1.1)		
Slovenia	520 (1.9)	522 (2.1)	2 (1.6)	519 (2.1)	-1 (0.8)		
North Macedonia	442 (5.3)	442 (5.4)	0 (1.7)	439 (5.6)	-3 (1.1) ▼		
Poland	549 (2.2)	552 (2.3)	3 (1.5)	548 (2.2)	-1 (1.2)		
Australia ⋈	540 (2.2)	543 (2.4)	3 (1.2) ▲	539 (2.3)	-1 (1.0)		
Uzbekistan	437 (2.9)	438 (3.0)	1 (1.3)	434 (2.9)	-3 (0.9) ▼		
France	514 (2.5)	516 (2.4)	2 (1.3)	511 (2.6)	-2 (1.3)		
[3] Singapore	587 (3.1)	591 (3.2)	4 (0.9) ▲	586 (3.1)	-1 (0.8)		
Austria	530 (2.2)	533 (2.1)	3 (1.6)	527 (2.6)	-2 (1.0) ▼		
Bulgaria	540 (3.0)	544 (3.3)	4 (1.3) ▲	538 (3.1)	-2 (1.1) ▼		
[3] Serbia	514 (2.8)	518 (2.9)	4 (1.4) ▲	511 (2.5)	-2 (1.3)		
[2] Albania	513 (3.1)	516 (3.3)	3 (1.3) ▲	509 (3.4)	-4 (1.8) ▼		
[3] Israel ⋈	510 (2.2)	515 (2.8)	5 (1.4) ▲	508 (2.3)	-2 (0.9) ▼		
Kazakhstan	504 (2.7)	508 (2.8)	5 (0.9) ▲	501 (2.6)	-3 (0.8) ▼		
Germany	524 (2.1)	529 (2.4)	5 (1.0) ▲	522 (2.1)	-2 (1.1) ▼		
[3] Montenegro	487 (1.6)	491 (1.9)	4 (1.4) ▲	483 (1.9)	-4 (1.0) ▼		
[2] Belgium (French)	494 (2.7)	499 (2.6)	5 (1.5) ▲	490 (2.4)	-4 (1.0) ▼		
[2†] Denmark	539 (2.2)	546 (2.6)	7 (1.7) ▲	536 (2.1)	-3 (0.8) ▼		
Ireland	577 (2.5)	584 (2.5)	6 (1.1) ▲	574 (2.4)	-4 (1.0) ▼		
[2†] Northern Ireland	566 (2.5)	573 (2.3)	7 (1.2) ▲	562 (2.3)	-4 (1.1) ▼		
Cyprus	511 (2.9)	517 (2.8)	6 (0.8) ▲	505 (2.9)	-6 (0.6) ▼		
[Ж] South Africa ⋈	288 (4.4)	293 (4.5)	5 (1.6) ▲	279 (4.6)	-10 (1.3) ▼		
[†] Croatia	557 (2.5)	567 (2.8)	11 (1.4) ▲	553 (2.6)	-4 (1.1) ▼		
[1] Georgia	494 (2.6)	501 (2.8)	7 (1.0) ▲	486 (2.8)	-8 (1.1) ▼		
[2 ≡] United States	548 (6.8)	558 (7.2)	11 (2.0) ▲	540 (6.8)	-8 (1.9) ▼		

| | | | | | | 20 10 0 10 20 | |

Benchmarking Participants

Country	Overall PIRLS Average Scale Score	Average Scale Score	Difference from Overall PIRLS Score	Average Scale Score	Difference from Overall PIRLS Score		
Abu Dhabi, UAE	440 (3.5)	434 (3.8)	-5 (1.0)	442 (3.4)	2 (0.8) ▲		
[2] Dubai, UAE	552 (1.5)	550 (1.6)	-2 (1.0)	553 (1.5)	1 (0.8)		
Moscow City, Russian Federation	598 (2.1)	597 (1.9)	-1 (1.4)	600 (1.9)	2 (1.0)		
South Africa (6) ⋈	384 (4.5)	382 (4.6)	-2 (1.2)	384 (4.7)	0 (1.1)		
[2] British Columbia, Canada	535 (3.5)	537 (3.6)	1 (0.9)	535 (3.6)	0 (1.0)		
[2] Newfoundland & Labrador, Canada	523 (3.2)	526 (3.4)	3 (1.3)	523 (3.1)	0 (1.1)		
[3 ≡] Alberta, Canada	539 (3.6)	541 (3.4)	2 (1.1) ▲	537 (3.9)	-2 (1.1)		
[≡] Quebec, Canada	551 (2.7)	561 (2.9)	10 (1.2) ▲	548 (2.6)	-3 (1.2) ▼		

| | | | | | | 20 10 0 10 20 | |

▲ Purpose score significantly higher than overall PIRLS score

▼ Purpose score significantly lower than overall PIRLS score

■ Literary Reading (red)
■ Informational Reading (gray)

( ) Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.
See Appendix A.2 for population coverage notes 1, 2, and 3. See Appendix A.5 for sampling guidelines and sampling participation notes †, ‡, and ≡.
Ψ Reservations about reliability because the percentage of students with achievement too low for estimation exceeds 15% but does not exceed 25%.
Ж Reservations about reliability because the percentage of students with achievement too low for estimation exceeds 25%.
Issues identified in Albania's data quality led to reduced comparability and framework coverage.

TIMSS & PIRLS International Study Center
Lynch School of Education
BOSTON COLLEGE

IEA

Exhibit 3.1 shows only the results for the 43 countries and 5 benchmarking participants that assessed PIRLS 2021 at the end of the fourth grade school year. However, this discussion about relative strengths and weaknesses in reading literary texts compared to strengths in weaknesses in reading informational texts will be based on Exhibit 3.2 which presents the results for all 57 countries and 8 benchmarking entities that participated in PIRLS 2021, including the 14 countries and 3 benchmarking entities that needed to delay data collection until the beginning of the fifth grade and have comparably older students (half a year older on average, highlighted in pink).

Looking at the top of the exhibit under the informational column, the data show that 9 countries had higher relative achievement (at least 2 score points) based on the informational materials than on the PIRLS 2021 assessment as a whole. Although three East Asian countries, Macao SAR, Hong Kong SAR, and Chinese Taipei had differences from overall reading ranging from 6 to 12 scale score points, most of the differences were rather small (1 to 4 points).

The lower portion of the exhibit shows that 18 countries had a relative strength in the literary purpose, nearly double the number with a relative strength in the informational purpose. Also, by means of the differences being defined relative to the overall, a relative strength in the literary purpose will often be accompanied by a relative weakness in the informational purpose. Twenty-three of the 57 countries in Exhibit 3.2 had both a relative strength in one purpose and a relative weakness in the other, while 11 countries had only a relative strength or a weakness in one purpose.

Many countries (23) did not display a relative strength or weakness in reading achievement for either purpose. However, the prevalence of relative strength in the literary purpose is consistent with a reading curriculum that begins with stories in the early grades and then transitions to reading about science, history, and geography as students move to the upper grades.

Relative Achievement in Comprehension Processes

Exhibits 3.3 and 3.4 present relative achievement for two reading comprehension processes: 1) retrieving and straightforward inferencing and 2) interpreting, integrating, and evaluating. More specifically:

- **Retrieving and Straightforward Inferencing** (often related to a small portion of the text) is based on combining the items categorized as "focus on and retrieve explicitly stated information" and "make straightforward inferences" (50% of the items)

- **Interpreting, Integrating, and Evaluating** (often related to larger portions or the entire text) is based on combining the items categorized as "interpret and integrate ideas and information" and "evaluate and critique content and textual elements" (50% of the items)

Exhibits 3.3 and 3.4 show relative average achievement in the more straightforward processes and in the more integrative comprehension processes compared to average reading achievement overall. The results are organized according to the extent that countries had relatively higher achievement in the interpreting/integrating/evaluating comprehension processes than their average achievement overall (top of the exhibit) and to the extent that countries had relatively higher achievement in the retrieving/inferencing processes than in their overall achievement (bottom of the exhibit). Countries in the middle of the exhibit had little difference in average achievement between the more integrative and the more straightforward comprehension processes, with average achievement in both subdomains being very similar to average reading achievement overall.

Exhibit 3.3 presents the results for the 43 countries and 5 benchmarking entities that assessed their students at the end of the fourth grade school year. However, this discussion will be based on Exhibit 3.4 with the results for all 57 countries and 8 benchmarking entities that participated in PIRLS 2021, including the 14 countries and 3 benchmarking entities that delayed assessment until the fall of the fifth grade (shown in pink).

Looking at the top of the graph in Exhibit 3.4, the data show 15 countries with a relative strength in the interpreting/integrating/evaluating comprehension processes (3 to 8 scale score points) compared to their reading achievement overall. A few more countries (18) had a relative weakness in the retrieving/inferencing comprehension processes. These relative differences provide an interesting source for country-level analyses conducted by experts of their respective education systems. Such analyses could focus on curricular differences that may provide information about how these strengths and weaknesses can be explained.

The lower portion of the exhibit shows that 10 countries had a relative strength in the retrieving/straightforward inferencing processes compared to their overall achievement, with 16 having a relative weakness (at least 2 scale score points) in the interpreting/integrating/evaluating comprehension processes.

Exhibit 3.3: Relative Average Achievement in Comprehension Processes

Assessed Fourth Grade Students at the End of the School Year

⋈ Assessed one year later than originally scheduled

Country	Overall PIRLS Average Scale Score	Retrieving and Straightforward Inferencing		Interpreting, Integrating, and Evaluating		Difference	
		Average Scale Score	Difference from Overall PIRLS Score	Average Scale Score	Difference from Overall PIRLS Score	Process Score Lower than Overall PIRLS Score	Process Score Higher than Overall PIRLS Score
Australia ⋈	540 (2.2)	534 (2.4)	-6 (1.1) ▼	547 (2.3)	7 (1.0) ▲		
² Albania	513 (3.1)	508 (3.4)	-4 (2.2) ▼	518 (3.1)	5 (1.9) ▲		
Oman	429 (3.7)	426 (3.6)	-4 (0.9) ▼	433 (3.9)	4 (1.6) ▲		
³ Singapore	587 (3.1)	584 (3.0)	-3 (0.7) ▼	591 (3.2)	4 (0.5) ▲		
Poland	549 (2.2)	545 (2.2)	-4 (1.2) ▼	552 (2.0)	3 (1.1) ▲		
³ Montenegro	487 (1.6)	484 (1.9)	-3 (1.3) ▼	491 (2.4)	4 (1.8) ▲		
England ⋈	558 (2.5)	554 (2.4)	-3 (0.9) ▼	561 (2.5)	4 (1.4) ▲		
³ Serbia	514 (2.8)	510 (3.0)	-3 (1.4) ▼	516 (2.7)	3 (1.4) ▲		
² Ψ Egypt	378 (5.4)	376 (5.4)	-2 (0.9) ▼	380 (5.1)	2 (1.4)		
³ Israel ⋈	510 (2.2)	508 (2.3)	-2 (0.9) ▼	512 (2.7)	2 (1.4)		
Cyprus	511 (2.9)	509 (2.5)	-2 (1.1) ▼	512 (3.3)	2 (1.1)		
≡ Netherlands	527 (2.5)	527 (2.8)	-1 (1.6)	529 (2.6)	2 (1.0)		
² † Brazil ⋈	419 (5.3)	418 (5.2)	-1 (2.2)	420 (5.1)	1 (2.1)		
† New Zealand	521 (2.3)	521 (2.3)	-1 (0.8)	522 (2.4)	1 (1.0)		
² Italy	537 (2.2)	537 (2.4)	0 (1.2)	538 (2.2)	1 (0.7)		
² † Denmark	539 (2.2)	539 (2.1)	0 (1.0)	540 (2.2)	1 (1.1)		
² Portugal	520 (2.3)	520 (2.3)	0 (0.8)	520 (2.1)	0 (0.8)		
Russian Federation	567 (3.6)	568 (3.8)	1 (1.4)	568 (3.8)	1 (1.3)		
Bulgaria	540 (3.0)	541 (3.1)	1 (1.5)	541 (3.1)	1 (1.6)		
Slovenia	520 (1.9)	520 (1.9)	0 (0.7)	519 (1.8)	0 (0.9)		
Belgium (Flemish)	511 (2.3)	511 (2.2)	0 (0.8)	510 (2.3)	0 (0.7)		
Finland	549 (2.4)	550 (2.6)	1 (0.8)	549 (2.4)	0 (0.8)		
† Slovak Republic	529 (2.7)	530 (2.6)	1 (1.3)	529 (2.6)	0 (1.1)		
Spain	521 (2.2)	522 (2.3)	1 (0.9)	520 (2.2)	-1 (0.8)		
Malta	515 (2.7)	515 (2.9)	1 (1.0)	513 (2.9)	-1 (1.2)		
Norway (5)	539 (2.0)	540 (2.0)	1 (0.7)	538 (2.4)	-1 (1.2)		
Germany	524 (2.1)	525 (2.1)	1 (0.7)	522 (2.0)	-2 (0.8) ▼		
Jordan	381 (5.4)	381 (5.3)	1 (1.9)	379 (5.5)	-2 (1.6)		
Iran, Islamic Rep. of ⋈	413 (4.9)	414 (4.7)	1 (1.4)	411 (4.7)	-2 (1.1) ▼		
² Sweden	544 (2.1)	546 (2.3)	2 (1.2)	542 (2.2)	-1 (1.0)		
Austria	530 (2.2)	532 (2.4)	2 (0.9) ▲	528 (2.2)	-2 (0.8) ▼		
Chinese Taipei	544 (2.2)	546 (2.1)	2 (0.7) ▲	542 (2.2)	-2 (0.6) ▼		
² Belgium (French)	494 (2.7)	497 (2.4)	2 (1.6)	492 (2.4)	-2 (1.6)		
North Macedonia	442 (5.3)	443 (5.4)	1 (1.1)	439 (6.0)	-3 (1.3) ▼		
² † Hong Kong SAR	573 (2.7)	577 (2.9)	4 (1.4) ▲	572 (2.7)	0 (1.3)		
² Türkiye	496 (3.4)	499 (3.6)	3 (1.4) ▲	494 (3.4)	-2 (1.2) ▼		
Czech Republic	540 (2.3)	542 (2.5)	3 (0.9) ▲	537 (2.4)	-3 (0.7) ▼		
Macao SAR	536 (1.3)	541 (1.0)	5 (1.3) ▲	534 (1.1)	-2 (1.1)		
France	514 (2.5)	519 (2.8)	5 (1.4) ▲	510 (2.6)	-4 (1.1) ▼		
Ж South Africa ⋈	288 (4.4)	290 (4.5)	2 (1.1)	279 (4.5)	-9 (1.0) ▼		
Uzbekistan	437 (2.9)	441 (2.9)	4 (1.3) ▲	430 (3.2)	-7 (1.5) ▼		
² Kosovo	421 (3.1)	424 (3.0)	4 (1.4) ▲	412 (3.1)	-9 (1.2) ▼		
Azerbaijan	440 (3.6)	446 (3.7)	6 (1.1) ▲	431 (3.7)	-10 (1.2) ▼		
Benchmarking Participants							
² British Columbia, Canada	535 (3.5)	532 (3.8)	-3 (1.2) ▼	540 (3.6)	4 (0.8) ▲		
³ ≡ Alberta, Canada	539 (3.6)	537 (3.6)	-2 (1.1)	543 (3.6)	5 (1.1) ▲		
² Newfoundland & Labrador, Canada	523 (3.2)	522 (3.3)	-1 (2.0)	526 (3.3)	2 (2.0)		
Moscow City, Russian Federation	598 (2.1)	602 (2.0)	4 (1.1) ▲	597 (1.9)	-1 (0.9)		
South Africa (6) ⋈	384 (4.5)	386 (4.5)	1 (1.1)	381 (4.5)	-3 (1.5) ▼		

▲ Process score significantly higher than overall PIRLS score

▼ Process score significantly lower than overall PIRLS score

🟥 Retrieving and Straightforward Inferencing

⬛ Interpreting, Integrating, and Evaluating

( ) Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.
See Appendix A.2 for population coverage notes 1, 2, and 3. See Appendix A.5 for sampling guidelines and sampling participation notes †, ‡, and ≡.
Ψ Reservations about reliability because the percentage of students with achievement too low for estimation exceeds 15% but does not exceed 25%.
Ж Reservations about reliability because the percentage of students with achievement too low for estimation exceeds 25%.
Issues identified in Albania's data quality led to reduced comparability and framework coverage.

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RELATIVE ACHIEVEMENT IN READING PURPOSES AND COMPREHENSION PROCESSES
PIRLS 2021 INTERNATIONAL RESULTS IN READING   63

Exhibit 3.4: Relative Average Achievement in Comprehension Processes

Assessed Fourth Grade Students at the End of the School Year

⋈   Assessed one year later than originally scheduled

▨ *Delayed Assessment of Fourth Grade Cohort at the Beginning of Fifth Grade*

Country	Overall PIRLS Average Scale Score	Retrieving and Straightforward Inferencing		Interpreting, Integrating, and Evaluating		Difference	
		Average Scale Score	Difference from Overall PIRLS Score	Average Scale Score	Difference from Overall PIRLS Score	Process Score Lower than Overall PIRLS Score	Process Score Higher than Overall PIRLS Score
[2 ≡] United States	548 (6.8)	539 (6.1)	-8 (2.2) ▼	555 (7.1)	8 (2.6) ▲		
[2 †] Northern Ireland	566 (2.5)	558 (2.6)	-8 (1.5) ▼	573 (2.2)	8 (1.8) ▲		
Australia ⋈	540 (2.2)	534 (2.4)	-6 (1.1) ▼	547 (2.3)	7 (1.0) ▲		
[1] Georgia	494 (2.6)	489 (2.4)	-6 (1.2) ▼	500 (2.7)	6 (1.4) ▲		
Ireland	577 (2.5)	571 (2.3)	-6 (0.9) ▼	582 (2.7)	5 (1.9) ▲		
[2] Albania	513 (3.1)	508 (3.4)	-4 (2.2) ▼	518 (3.1)	5 (1.9) ▲		
[†] Croatia	557 (2.5)	552 (2.6)	-4 (1.4) ▼	561 (2.7)	5 (1.2) ▲		
Oman	429 (3.7)	426 (3.6)	-4 (0.9) ▼	433 (3.9)	4 (1.6) ▲		
Latvia	528 (2.6)	525 (2.7)	-3 (1.0) ▼	532 (2.7)	4 (1.4) ▲		
[3] Singapore	587 (3.1)	584 (3.0)	-3 (0.7) ▼	591 (3.2)	4 (0.5) ▲		
Poland	549 (2.2)	545 (2.2)	-4 (1.2) ▼	552 (2.0)	3 (1.1) ▲		
[3] Montenegro	487 (1.6)	484 (1.9)	-3 (1.3) ▼	491 (2.4)	4 (1.8) ▲		
England ⋈	558 (2.5)	554 (2.4)	-3 (0.9) ▼	561 (2.5)	4 (1.4) ▲		
[3] Serbia	514 (2.8)	510 (3.0)	-3 (1.4) ▼	516 (2.7)	3 (1.4) ▲		
Bahrain	458 (2.9)	456 (2.9)	-3 (0.8) ▼	462 (3.0)	3 (0.9) ▲		
[2 Ψ] Egypt	378 (5.4)	376 (5.4)	-2 (0.9) ▼	380 (5.1)	2 (1.4)		
[3] Israel ⋈	510 (2.2)	508 (2.3)	-2 (0.9) ▼	512 (2.7)	2 (1.4)		
Cyprus	511 (2.9)	509 (2.5)	-2 (1.1) ▼	512 (3.3)	2 (1.1)		
Hungary	539 (3.4)	538 (3.4)	-1 (1.4)	541 (3.3)	2 (1.2)		
[≡] Netherlands	527 (2.5)	527 (2.8)	-1 (1.6)	529 (2.6)	2 (1.0)		
[2 †] Brazil ⋈	419 (5.3)	418 (5.2)	-1 (2.2)	420 (5.3)	1 (2.1)		
[†] New Zealand	521 (2.3)	521 (2.3)	-1 (0.8)	522 (2.4)	1 (1.0)		
[2] Italy	537 (2.2)	537 (2.4)	0 (1.2)	538 (2.2)	1 (0.7)		
[2 †] Denmark	539 (2.2)	539 (2.1)	0 (1.0)	540 (2.2)	1 (1.1)		
[2] Portugal	520 (2.3)	520 (2.3)	0 (0.8)	520 (2.1)	0 (0.8)		
Russian Federation	567 (3.6)	568 (3.8)	1 (1.4)	568 (3.8)	1 (1.3)		
Bulgaria	540 (3.0)	541 (3.1)	1 (1.5)	541 (3.1)	1 (1.6)		
Slovenia	520 (1.9)	520 (1.9)	0 (0.7)	519 (1.8)	0 (0.9)		
Belgium (Flemish)	511 (2.3)	511 (2.2)	0 (0.8)	510 (2.3)	0 (0.7)		
Finland	549 (2.4)	550 (2.6)	1 (0.8)	549 (2.4)	0 (0.8)		
[†] Slovak Republic	529 (2.7)	530 (2.6)	1 (1.3)	529 (2.6)	0 (1.1)		
Spain	521 (2.2)	522 (2.3)	1 (0.9)	520 (2.2)	-1 (0.8)		
Malta	515 (2.7)	515 (2.9)	1 (1.0)	513 (2.9)	-1 (1.2)		
United Arab Emirates	483 (1.8)	484 (1.8)	1 (0.6)	482 (1.9)	-1 (0.6) ▼		
Norway (5)	539 (2.0)	540 (2.0)	1 (0.7)	538 (2.4)	-1 (1.2)		
Germany	524 (2.1)	525 (2.1)	1 (0.7)	522 (2.0)	-2 (0.8) ▼		
Jordan	381 (5.4)	381 (5.3)	1 (1.9)	379 (5.5)	-2 (1.6)		
Kazakhstan	504 (2.7)	505 (2.6)	2 (0.9)	502 (2.7)	-2 (0.7) ▼		
Lithuania	552 (2.3)	554 (2.5)	2 (1.3)	551 (2.7)	-1 (1.3)		
Iran, Islamic Rep. of ⋈	413 (4.9)	414 (4.7)	1 (1.4)	411 (4.7)	-2 (1.1)		
[2] Sweden	544 (2.1)	546 (2.3)	2 (1.2)	542 (2.2)	-1 (1.0)		
Austria	530 (2.2)	532 (2.4)	2 (0.9) ▲	528 (2.2)	-2 (0.8) ▼		
Qatar	485 (3.7)	486 (3.7)	1 (1.2)	482 (3.8)	-3 (1.1) ▼		
Chinese Taipei	544 (2.2)	546 (2.1)	2 (0.7) ▲	542 (2.2)	-2 (0.6) ▼		
[2] Belgium (French)	494 (2.7)	497 (2.4)	2 (1.6)	492 (2.4)	-2 (1.6)		
North Macedonia	442 (5.3)	443 (5.4)	1 (1.1)	439 (6.0)	-3 (1.3) ▼		
[2 †] Hong Kong SAR	573 (2.7)	577 (2.9)	4 (1.4) ▲	572 (2.6)	0 (1.3)		
[2] Turkiye	496 (3.4)	499 (3.6)	3 (1.4) ▲	494 (3.4)	-2 (1.2) ▼		
Czech Republic	540 (2.3)	542 (2.5)	3 (0.9) ▲	537 (2.4)	-3 (0.7) ▼		
[3] Saudi Arabia	449 (3.6)	450 (3.4)	2 (1.3)	443 (3.8)	-5 (1.6) ▼		
Macao SAR	536 (1.3)	541 (1.0)	5 (1.3) ▲	534 (1.1)	-2 (1.1)		
Morocco	372 (4.5)	374 (4.1)	1 (1.7)	366 (4.7)	-6 (1.7) ▼		
France	514 (2.5)	519 (2.8)	5 (1.4) ▲	510 (2.6)	-4 (1.1) ▼		
[Ж] South Africa ⋈	288 (4.4)	290 (4.5)	2 (1.1)	279 (4.5)	-9 (1.0) ▼		
Uzbekistan	437 (2.9)	441 (2.9)	4 (1.3) ▲	430 (3.2)	-7 (1.5) ▼		
[2] Kosovo	421 (3.1)	424 (3.0)	4 (1.4) ▲	412 (3.1)	-9 (1.2) ▼		
Azerbaijan	440 (3.6)	446 (3.7)	6 (1.1) ▲	431 (3.7)	-10 (1.2) ▼		
Benchmarking Participants							
[2] British Columbia, Canada	535 (3.5)	532 (3.8)	-3 (1.2) ▼	540 (3.6)	4 (0.8) ▲		
[3 ≡] Alberta, Canada	539 (3.6)	537 (3.6)	-2 (1.1)	543 (3.6)	5 (1.1) ▲		
[2] Dubai, UAE	552 (1.5)	550 (1.6)	-2 (1.0)	554 (1.8)	2 (0.8) ▲		
[2] Newfoundland & Labrador, Canada	523 (3.2)	522 (3.3)	-1 (2.0)	526 (3.3)	2 (2.0)		
[≡] Quebec, Canada	551 (2.7)	551 (2.6)	0 (0.9)	552 (2.5)	1 (1.3)		
Abu Dhabi, UAE	440 (3.5)	441 (3.6)	1 (1.0)	438 (3.8)	-1 (1.4)		
Moscow City, Russian Federation	598 (2.1)	602 (2.0)	4 (1.1) ▲	597 (1.9)	-1 (0.9)		
South Africa (6) ⋈	384 (4.5)	386 (4.5)	1 (1.1)	381 (4.5)	-3 (1.5) ▼		

Difference chart scale: 20 10 0 10 20

▲   Process score significantly higher than overall PIRLS score

▼   Process score significantly lower than overall PIRLS score

🟥 Retrieving and Straightforward Inferencing

⬛ Interpreting, Integrating, and Evaluating

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Ψ Reservations about reliability because the percentage of students with achievement too low for estimation exceeds 15% but does not exceed 25%.
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