CHAPTER 14

Using Scale Anchoring to Interpret the PIRLS 2021 Achievement Results

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Introduction

The PIRLS 2021 achievement results are summarized using item response theory (IRT) scaling and reported on the PIRLS trend achievement scale (as described in Chapter 11). Average achievement scores for most countries are clustered around a score of 500 and rarely ranging below 400 or above 575. Country-level average scores provide information about how fourth grade students' reading achievement compares across countries and whether achievement is improving or declining over time. However, average achievement is only one part of the picture, and the range of reading achievement within countries is of high relevance to policy makers.

To provide as much information as possible for policy and curriculum reform, it is important to understand the reading competencies associated with different ranges of scores on the PIRLS reading achievement scale. For example, what does it mean for a country to have an average achievement of 513 or 426? Are all students narrowly located around 513? Perhaps there are groups of students in that country with an expected achievement beyond 600 score points, while other groups have a much lower average closer to 400.

This chapter describes an approach of central importance to characterize the variability of student achievement within and across countries: the PIRLS International Benchmarks of Reading Achievement. These benchmarks help contextualize PIRLS results by providing information about what students know and can do at different points along the PIRLS achievement scale. More specifically, PIRLS identified four points along the PIRLS reading achievement scale to use as International Benchmarks of Reading Achievement—Advanced International Benchmark (625), High International Benchmark (550), Intermediate International Benchmark (475), and Low International Benchmark (400).

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The TIMSS & PIRLS International Study Center worked with the PIRLS 2021 Reading Development Group (RDG) to conduct a scale anchoring exercise to describe student competencies at each of the benchmarks based on the PIRLS 2021 results. To reflect the PIRLS 2021 Reading Assessment Framework, scale anchoring was conducted separately for each reading purpose—Literary and Informational. An important feature of the scale anchoring method is that it yields descriptions of the reading competencies demonstrated by students reaching each of the International Benchmarks on the PIRLS scale.

This chapter details the scale anchoring procedures followed to describe student performance at the International Benchmarks for PIRLS 2021. In brief, scale anchoring involved identifying items that students located at each of the International Benchmarks tend to answer correctly with a certain level of likelihood. In PIRLS, that threshold is that at least 50 percent of students (65% for multiple-choice items) located at the benchmark were expected to answer the item correctly, based on the data. The criterion of 50 or 65 percent ensured that the majority of the students that just reached a benchmark are expected to be able to answer items correctly that are associated with that benchmark. Students with a higher achievement would be expected to answer these items correctly at a higher rate. Students located at the next lower benchmark would have a somewhat lower likelihood (lower than 50%) to get the item correct, and students at a higher benchmark would have a higher likelihood (say, 81%, for example) to produce a correct response. Items anchored in that way (minimum of 50% for constructed-response items and 65% for multiple-choice items anchoring at a benchmark) then were examined for content to determine the reading comprehension skills and strategies demonstrated by students who are located on the scale at or above that benchmark. Items anchored at each International Benchmark should represent the typical performance of students reaching (scoring at or above) that benchmark.

Based on the analysis, the RDG summarized the detailed list of item competencies in a brief description of achievement at each International Benchmark. Additionally, because the International Benchmark descriptions consider the difficulty of the PIRLS texts—easy, medium, and difficult (according to the group adaptive design)—and other characteristics, separate descriptions were also developed for the Literary and Informational texts administered in PIRLS 2021. Thus, the scale anchoring procedure yielded a content-referenced interpretation of the achievement results in consideration of the PIRLS 2021 Reading Assessment Framework.

Classifying the Items

To identify the items that anchored at each International Benchmark (i.e., the items that students at each benchmark answered correctly at a rate of at least 50% or 65%), the TIMSS & PIRLS International Study Center used the item response theory (IRT) parameters estimated as part of the PIRLS 2021 achievement scaling. As described in Chapter 10, the probability of a correct or

incorrect response to each item can be determined for a respondent with a certain ability, given the item's characteristics. In IRT, these item-specific effects are referred to as item parameters. The IRT model provides an item-level probability model in a formal mathematical description—an item function—describing how the probability of a correct response depends on the ability and the item parameters.

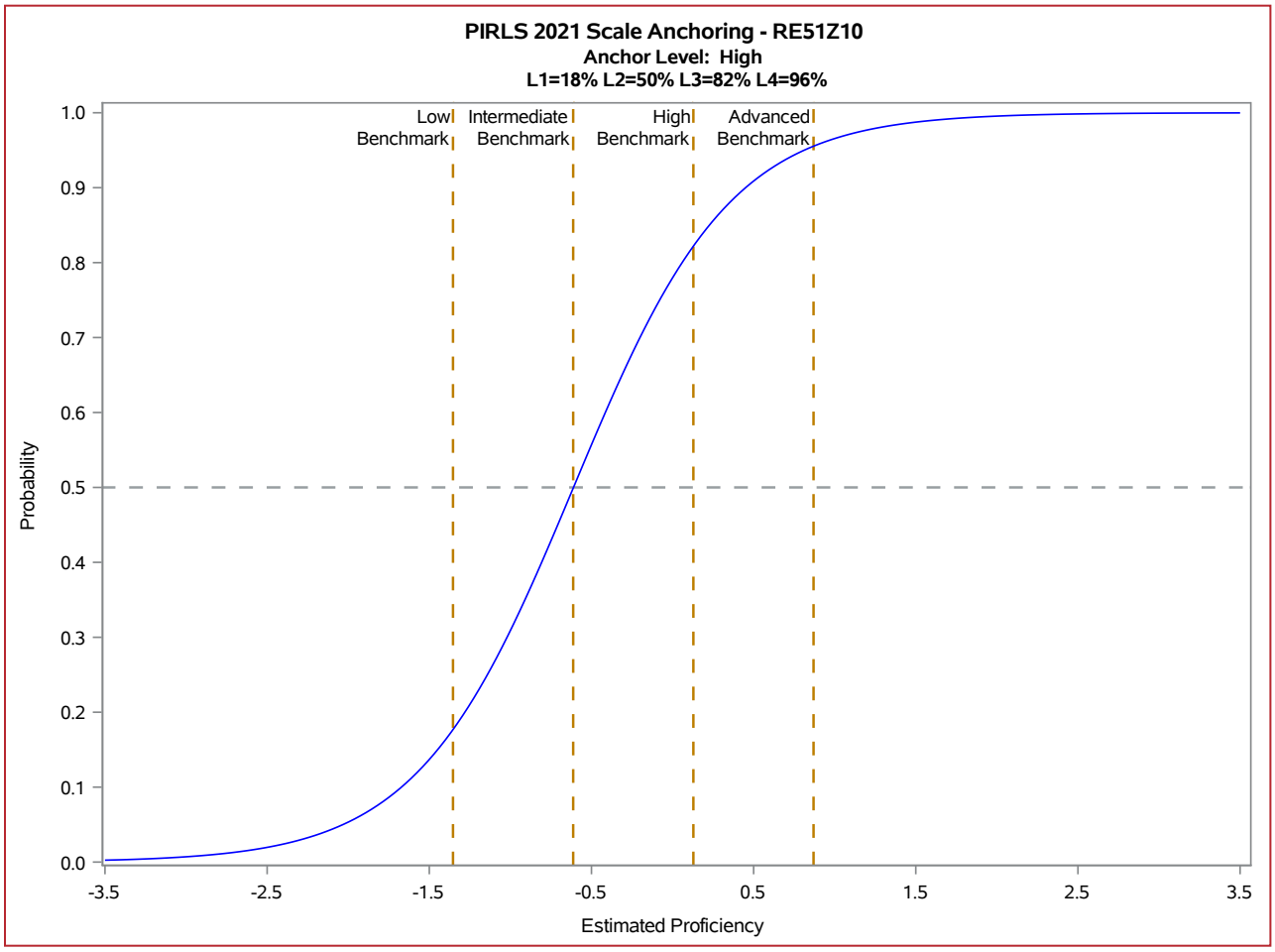
All PIRLS 2021 items, both paper and digital, were included in the analysis. For each item, the probability of a correct response was computed for each International Benchmark, given the item's parameters (item parameters are reported in Chapter 11). The paper data was used to validate the IRT-based scale anchoring approach used for the first time in 2021. The digital data was used to provide the information for writing the benchmark descriptions for PIRLS 2021, given that future PIRLS assessments will be fully digital.

As a first step, ability values in the IRT logit metric were derived for each International Benchmark. Using the ability values on the IRT metric was convenient to enable conducting the analysis on the same metric as the item parameters, and was accomplished using the linear transformation of proficiency scores for trend measurement described in Chapter 10 and provided in Chapter 11.

The second step involved computing the item-level probabilities of answering each item correctly at each benchmark. For multiple-choice items and constructed-response items worth 1 point, it was a straightforward matter of computing the probabilities using item probability functions for two- and three-parameter IRT models (see Chapter 10). For constructed-response items scored for partial and full credit, up to 3 points, probabilities were computed for receiving partial credit (1 point or 2 points) as well as for students receiving full credit (2 points or 3 points) using the Generalized Partial Credit Model item probability function that was the basis for scaling these items.

To illustrate the procedure, an example item characteristic function for a 1-point constructed-response item is shown in Exhibit 14.1. Vertical reference lines indicate the location of each International Benchmark in the logit metric corresponding to the probability of answering the item correctly.

Exhibit 14.1: **Example Item Characteristic Function for Scale Anchoring Analysis**



The third step included applying the criteria described below to identify the items that anchored at each benchmark. The criteria for identifying anchor items considers performance at adjacent benchmarks and entails the delineation of sets of items that students at each International Benchmark are likely to answer correctly and that discriminate between one benchmark and the next. These criteria help ensure that the descriptions of performance at each benchmark reflect demonstrably different accomplishments by students reaching each successively higher benchmark.

For multiple-choice items, a probability of 0.65, or 65 percent expected correct answers, was used as the criterion for anchoring at each benchmark being analyzed, since students would be likely (about two-thirds of the time) to answer the item correctly. In addition, a criterion of less than 50 percent correct answers was used for the next lower benchmark, because with this response probability, students were more likely to have answered the item incorrectly than correctly. A

somewhat less strict criterion was used for the constructed-response items, because students had much less scope for guessing. For constructed-response items, the criterion of a probability of 0.50 of answering correctly (50% expected correct answers) was used without any discrimination criterion for the next lower benchmark.

Using multiple-choice items as an example, the criteria for each benchmark are as follows:

- A multiple-choice item anchored at the Low International Benchmark (400) if students at the ability level corresponding to 400 scale score points had at least 65 percent correct, according to the IRT model. Because this was the lowest benchmark described, there were no further criteria.
- A multiple-choice item anchored at the Intermediate International Benchmark (475) if students at the ability level corresponding to 475 scale score points had at least 65 percent correct answers, according to the IRT model, and if the students at the Low International Benchmark had less than 50 percent.
- A multiple-choice item anchored at the High International Benchmark (550) if students at the ability level corresponding to 550 scale score points had at least 65 percent correct answers, according to the IRT model, and if the students at the Intermediate International Benchmark had less than 50 percent.
- A multiple-choice item anchored at the Advanced International Benchmark (625) if students at the ability level corresponding to 625 scale score points had at least 65 percent correct answers, according to the IRT model, and if the students at the High International Benchmark had less than 50 percent.

To include all of the multiple-choice items in the anchoring process and provide information about comprehension processes that might not otherwise have been represented by many anchor items, the concept of items that "almost anchored" was used. These were items that met slightly less stringent criteria for the IRT probabilities. The criteria to identify multiple-choice items that almost anchored were between 60 and 65 percent expected correct answers and less than 50 percent at the next lowest benchmark. To be completely inclusive for all items, items that met only the 60 to 65 criterion (regardless of the probability at the next lower point) were also identified. The categories of items were mutually exclusive, and ensured that all of the items were available to inform the descriptions of student achievement at the anchor levels.

A multiple-choice item was considered to be "too difficult" to anchor if the Advanced Benchmark ability had less than 60 percent answering correctly. A constructed-response item was considered to be too difficult to anchor with less than 50 percent answering correctly at the advanced level.

Exhibit 14.2 presents the number of PIRLS 2021 items that anchored at each International Benchmark by text, reading purpose, and overall.

Exhibit 14.2: **Number of Items Anchoring and Almost Anchoring at Each International Benchmark**

Text		Low (400)	Intermediate (475)	High (550)	Advanced (625)	Above Advanced
Literary Texts						
Difficult	Shiny Straw	0	3	11	5	0
	Oliver and the Griffin	1	2	8	7	1
	The Ink Drinker	1	3	9	8	1
Medium	The Empty Pot	2	5	10	2	1
	Pemba Sherpa	4	7	5	4	0
	Ostrich and the Hat	1	6	10	2	2
Easy	The Summer My Father was 10	4	6	4	1	0
	Library Mouse	6	10	4	1	0
	Learning a New Language	3	7	6	2	0
Literary Total		**22**	**49**	**67**	**32**	**5**
Informational Texts						
Difficult	Where's the Honey?	1	1	4	11	0
	Icelandic Horses	1	2	7	8	1
	The World's Bank for Seeds	0	4	5	8	2
Medium	Sharks	1	3	7	4	1
	How Did We Learn to Fly?	2	8	6	2	1
	Marie Curie-Prize Winning Scientist	0	6	7	5	3
Easy	Training a Deaf Polar Bear	1	7	8	0	0
	Hungry Plant	4	6	6	0	0
	The Amazing Octopus	3	7	8	2	0
ePIRLS Tasks	Rainforests	1	3	9	6	0
	The Legend of Troy	1	4	8	5	0
	Zebra and Wildebeest Migration	0	7	13	5	0
	Oceans	1	8	8	3	3
	Voyages of Discovery	1	0	12	7	4
Informational Total		**17**	**66**	**108**	**66**	**15**
Total		**39**	**115**	**175**	**98**	**20**

It should be noted that the different score points of a partial credit item can anchor at different benchmarks, typically at a higher benchmark for full credit (2 of 2 points or 3 of 3 points), and a lower benchmark for partial credit (1 of 2 or 3 points or 2 of 3 points), but sometimes both anchored at the same level.

The paper results were compared to the PIRLS 2016 scale anchoring results to ensure there was no unusual change in the levels at which the trend items, administered in both PIRLS 2016 and PIRLS 2021, benchmarked. Although some changes are expected given the presence of new items and new 2021 data, the linking of 2021 and 2016 data provides stability of the anchoring. Across all items from the 12 texts also administered in PIRLS 2016 or PIRLS Literacy 2016, on average, there was 83 percent agreement in anchor level between the PIRLS 2016 scale anchoring analysis and the PIRLS 2021 scale anchoring analysis. Due to the reasons outlined in Chapter 12, the digital items cannot be expected to anchor at the same level as their paper-based counterparts.

Writing the Scale Anchoring Descriptions

Scale anchoring was conducted online with the RDG in July 2022, and again in December 2022 with a smaller working group to confirm the results. In preparation for the meeting, staff at the TIMSS & PIRLS International Study Center created detailed documentation for each item that included the item description, framework classification, answer key or scoring guide, and secure status ("trend" if being retained in PIRLS 2026, or "restricted use" if being released from the assessment), along with the scale anchoring analysis results, and international average percent correct.

The item descriptions provide a short summary of the student competencies demonstrated by a correct (or partially correct) response to each item. The descriptions for trend items were obtained from previous assessment cycles, and new descriptions were drafted for the items assessed for the first time in 2021. In some cases, it was not possible to develop a meaningful description for a partial credit item, so it was excluded for conducting the scale anchoring exercise. Any trend items excluded from scale anchoring in PIRLS 2016 also were excluded for PIRLS 2021.

An example of the scale anchoring documentation for an item at the Intermediate Benchmark is presented in Appendix 14A. The items, scoring guides, and documentation were grouped by reading purpose then by International Benchmark. The final categorization was by the anchoring criteria the items met—items that anchored, followed by items that almost anchored, then by items that met only the 60 to 65 percent criteria.

At the scale anchoring meeting, the RDG 1) worked through each item to finalize the description of the student competencies demonstrated by a correct (or partially correct) response, 2) summarized the proficiency demonstrated by students reaching each International Benchmark for publication in the PIRLS 2021 International Report, 3) developed descriptions for the texts

utilized in PIRLS 2021 at each level of text difficulty within each reading purpose, and 4) selected example items that supported the benchmark descriptions and illustrated the types of items answered correctly by students at each of the four benchmarks.

Appendix 14B contains the scale anchoring descriptions for the PIRLS 2021 Literary items, and Appendix 14C contains the scale anchoring descriptions for the PIRLS 2021 Informational items.

Appendix 14A: Sample Page from the PIRLS 2021 Scale Anchoring Materials

ID RE21Y07	Shiny Straw	Block_Seq: Y_07

7. Because Shiny Straw was bored, what did she want to do?

(A) become the best hunter

(B) see humans close up

(C) find things to laugh at

(D) become a collector

Passage Difficulty
Difficult

Purpose
Literary Experience

Process
Focus On & Retrieve

Points
1 of 1

Format
MC

Key
B

Secure Status
Restricted Use

2021 Scale Anchoring Description
Retrieve and recognize a character's plan of action

		Expected Percent Correct at International Benchmark Levels				
	Int'l Avg Percent Correct	Low (400)	Intermediate (475)	High (550)	Advanced (625)	Anchor Level
Digital	76	48	69	86	94	Intermediate

Appendix 14B: PIRLS 2021 Scale Anchoring – Literary Item Descriptions

Literary Items at Low International Benchmark (400)	
Learning a New Language	
R_01	Make a straightforward inference about the narrator
R_02	Locate explicitly stated information at the beginning of the text
R_03	Retrieve and reproduce an explicitly stated detail
Library Mouse	
M_01	Locate explicitly stated information at the beginning of the text
M_05	Recognize and retrieve an explicitly stated detail
M_06	Recognize and reproduce explicitly stated information
M_08	Locate and reproduce explicitly stated information
The Summer My Father Was 10	
U_01	Locate and reproduce explicitly stated information at the beginning of the text
U_02	Locate and recognize an explicitly stated action
U_11	Locate and reproduce 1 (of 2) pieces of explicitly stated information
U_13	Evaluate the whole story and recognize a central idea
Ostrich and the Hat	
T_01	Retrieve and reproduce an explicitly stated detail
Pemba Sherpa	
B_01	Retrieve and reproduce explicitly stated information about the central character
B_02	Retrieve the explicitly stated reason for a character's action

B_08	Make a straightforward inference about the purpose of a character's action
B_12	Make an inference to recognize the purpose of a character's action
The Empty Pot	
M_02	Locate and reproduce an explicit detail embedded in the introductory paragraph
M_09	Reproduce a straightforward reason for an action
The Ink Drinker	
D_01	Make a straightforward inference to support a given description of a character
Literary Items at Intermediate International Benchmark (475)	
Learning a New Language	
R_06	Make a straightforward inference about the reason for a character's feelings
R_07	Locate and reproduce an explicitly stated action of a character
R_08	Recognize a straightforward inference about a character's action
R_14	Recognize the explanation of an event
R_15	Determine the sequence of events of the whole story
Library Mouse	
M_03	Locate and reproduce an explicitly stated action of a character
M_04	Locate and reproduce an explicitly stated detail
M_07	Make a straightforward inference about a character's reaction
M_09	Make an inference about the reason for an event
M_10	Locate and reproduce 2 explicitly stated feelings of a character
M_12	Locate and reproduce an explicitly stated detail
M_13	Locate and make a straightforward inference about a character's action
M_14	Integrate evidence to make a causal inference

M_16	Locate and reproduce an explicitly stated action
M_18	Evaluate the whole story and recognize the central idea
The Summer My Father Was 10	
U_03	Make a straightforward inference about the reason for a situation
U_04	Locate and reproduce the reason for a situation
U_05	Locate and recognize an explicitly stated reason for a character's action
U_06	Locate and recognize the explicitly stated reason for a situation
U_09	Make a straightforward inference about the reason for a character's action
U_12	Determine the sequence of events of the whole story
Ostrich and the Hat	
T_03	Recognize and retrieve an explicitly stated detail
T_04	Interpret the author's purpose for using repetition
T_08	Recognize the purpose of an image
T_12	Interpret and integrate story events to determine the main lesson
Pemba Sherpa	
B_04	Make a straightforward inference about a reason for a character's action
B_05	Locate and recognize an embedded detail
B_06	Make a straightforward inference about the reason for an event
B_10	Recognize the meaning of a simile
B_11	Retrieve and recognize an explicitly stated cause of a character's action
B_13	Interpret story events to determine the cause of one of a character's stated feelings
B_17	Integrate ideas across the text to provide a character description or action

The Empty Pot	
M_01	Recognize explicit central information from the introductory paragraph
M_05	Retrieve, combine, and visualize a procedural sequence and recognize matching diagram
M_11	Locate and retrieve an explicitly stated feeling
M_13	Make a straightforward inference about a character's reaction to a situation
M_17	Locate and reproduce a straightforward story event as the cause of 1 (of 3) feeling
The Ink Drinker	
D_06	Integrate and interpret story events to provide 1 (of 2) actions that illustrates a description
D_11	Interpret story events to provide evidence for a given explanation
D_12	Locate and reproduce a character's stated feelings from the beginning of the story
Oliver and the Griffin	
O_01	Retrieve and recognize a character's expectations about a future event
O_02	Recognize and reproduce explicitly stated information
Shiny Straw	
Y_07	Retrieve and recognize a character's plan of action
Y_09	Locate a central event and make a straightforward inference to provide 1 (of 2) character action
Y_13	Interpret and integrate story events and character actions to describe or illustrate a character trait
Literary Items at High International Benchmark (550)	
Learning a New Language	
R_04	Make a straightforward inference to support a character's reaction
R_05	Make straightforward inferences to identify 3 (of 5) reasons for a character's feelings
R_09	Interpret the author's purpose for using repetition
R_11	Recognize an interpretation for a character's action

R_13	Integrate and interpret ideas to give a reason for a character's action
R_16	Interpret and integrate character actions to support a given character trait
The Summer My Father Was 10	
U_08	Make a straightforward inference about the reason for a character's action
U_11	Locate and reproduce 2 pieces of explicitly stated information
Ostrich and the Hat	
T_05	Make straightforward inferences to identify 3 (of 5) reasons for a character's feelings
T_06	Recognize a straightforward inference about the reason for a character's action
T_07	Recognize a straightforward inference about a character's reaction
T_09	Recognize the reason for a character's expectations
T_10	Make a straightforward inference about a character's thinking
T_11	Make a straightforward inference about the reason for an outcome
T_13	Interpret and integrate a character's actions to provide 1 (of 2) examples that supports a given feeling
T_14	Interpret and integrate information across the story to categorize 5 events
T_16	Integrate ideas across the text to provide a character description or trait
Pemba Sherpa	
B_03	Retrieve the explicitly stated reason for a character's action
B_07	Retrieve and reproduce an explicitly stated detail about the reason for an event
B_09	Locate and reproduce an explicit action from a sequence
B_14	Locate and integrate evidence to recognize a character's reaction
B_16	Locate and reproduce 1 (of 2) action to give a reason for a character's change in thinking
The Empty Pot	
M_03	Recognize the meaning of a metaphor central to the story

M_04	Make an inference from a specified point in the story to find evidence to support a given description of a character
M_06	Show understanding of a character by examining a series of the character's actions
M_07	Recognize the reason for characters' actions
M_08	Locate and retrieve an explicit action from a sequence
M_10	Interpret a possible motivation for characters' advice
M_14	Integrate evidence from across the text to interpret the reason for a situation
M_15	Evaluate a character's actions across the text to interpret his underlying values
M_16	Show understanding of the story plot by interpreting a character's hidden intention
M_17	Locate and reproduce events from different parts of the story as the cause of 2 (of 3) feelings
The Ink Drinker	
D_03	Locate and reproduce evidence from the beginning of the story to recognize one similarity between two characters
D_04	Locate and retrieve an explicitly stated detail
D_05	Locate and retrieve an explicitly stated detail
D_08	Recognize an explicitly stated action of a character
D_13	Locate and reproduce an example of figurative language to make a comparison
D_14	Recognize an interpretation of an event in the story
D_16	Evaluate the appropriateness of a given title and give a text-based reason
Oliver and the Griffin	
O_05	Locate and reproduce 1 (of 2) explicitly stated physical attribute of a character embedded in a longer description
O_06	Locate and retrieve dialogue that results in a given character emotion
O_07	Infer 2 physical characteristics from a description
O_08	Integrate ideas across text to interpret the reasons for a character's feelings

O_09	Interpret the reason for a character's reaction
O_10	Interpret and integrate a character's actions, including at least 1 character trait and 1 supporting action
O_12	Make a straightforward inference to recognize the reason for a character's action
O_13	Interpret and integrate story events to do 1 of the following: determine the reason for a character's inability to perform an action, identify another character's action that changes this, and show understanding of how this action changes another character's feelings
Shiny Straw	
Y_01	Infer from complex imagery how a character's appearance suggests her name
Y_02	Interpret and generalize to recognize a summary of a character's attributes
Y_04	Locate and retrieve an embedded detail
Y_05	Infer a character trait from a character's action
Y_06	Locate and retrieve information from a dialogue within a description of a character's actions
Y_08	Locate a relevant point in the story and make an inference about an event
Y_09	Locate a central event and make a straightforward inference to provide 2 character actions
Y_11	Locate a relevant part of the text and recognize the meaning of a metaphor
Y_12	Integrate story events to support a chosen character description with evidence
Literary Items at Advanced International Benchmark (625)	
Learning a New Language	
R_10	Make a straightforward inference about a character's action
R_17	Interpret and integrate story events to determine why a character's feelings changed
Ostrich and the Hat	
T_02	Recognize a straightforward inference about the reason for a situation
T_15	Evaluate the appropriateness of the story's title based on the events and characters' actions

Pemba Sherpa	
B_13	Interpret story events to determine the cause of two contradictory stated feelings
B_15	Interpret the reason for a character's words
B_16	Locate and reproduce 2 actions to give a reason for a character's change in thinking
B_17	Integrate ideas across the text to provide a character description and supporting action
The Empty Pot	
M_12	Interpret a character's hidden motivation in the context of the whole story
M_17	Locate and reproduce events from different parts of the story as the cause of each of 3 feelings
The Ink Drinker	
D_02	Recognize a straightforward inference about a character's reaction to a situation
D_06	Integrate and interpret story events to provide 2 actions that illustrate a description
D_07	Make a straightforward inference to support a character's reaction to a situation
D_09	Make a straightforward inference about a character's reaction to a situation
D_10	Evaluate the author's intent in putting part of the story in a different format
D_11	Interpret story events to provide evidence for a given explanation
D_12	Interpret and integrate story events to determine the reason for a character's change in feelings
Oliver and the Griffin	
O_03	Recognize that the author's choice of words raises suspense
O_05	Locate and reproduce 2 explicitly stated physical attributes of a character embedded in a longer description
O_10	Interpret and integrate a character's actions, including at least 1 character trait and 2 supporting actions
O_11	Understand the meaning of figurative language
O_13	Interpret and integrate story events to fully explain the implications of the central character's problem and its resolution

Shiny Straw	
Y_03	Infer an explanation by examining description and imagery
Y_10	Interpret the motivation for a character's words by providing an example from the story
Y_13	Interpret and integrate story events and character actions to describe a character with two supporting details from the text
Y_14	State a title preference based on evaluating story events and characters' actions and explain the choice in terms of the significance or central role of the character
Literary Items Above the Advanced International Benchmark (625)	
Ostrich and the Hat	
T_13	Interpret and integrate a character's actions to provide 2 examples that support a given feeling
T_16	Integrate ideas across the text to provide a character description and supporting action
The Empty Pot	
M_09	Contrast two situations in the story to give a reason for characters' actions
The Ink Drinker	
D_15	Evaluate the purpose of including a story within the story
Oliver and the Griffin	
O_04	Evaluate and reproduce 2 examples of character's words that convey an emotion

Appendix 14C: PIRLS 2021 Scale Anchoring – Informational Item Descriptions

Informational Items at Low International Benchmark (400)	
The Amazing Octopus	
Z_02	Retrieve and reproduce an explicitly stated detail
Z_06	Locate and reproduce 1 (of 2) actions
Hungry Plant	
H_01	Retrieve and reproduce an explicitly stated detail from the beginning of the text
H_02	Retrieve and recognize an explicitly stated detail from the beginning of the text
H_04	Make a straightforward inference about the relationship between two actions
H_05	Retrieve and recognize an explicitly stated detail
Training a Deaf Polar Bear	
P_03	Identify and reproduce essential information from the beginning of the text
How Did We Learn to Fly?	
E_01	Locate and reproduce explicitly stated information from the beginning of the text
E_12	Retrieve and reproduce an explicitly stated detail
Sharks	
K_01	Retrieve and reproduce 1 (of 2) piece of explicitly stated information when directed to the beginning of the text
Icelandic Horses	
I_01	Locate explicitly stated information at the beginning of the text
Where's the Honey?	
W_01	Retrieve and reproduce 1 (of 2) piece of information from the beginning of the text

Voyages of Discovery	
V_13	Retrieve and reproduce explicitly stated information
Oceans	
O_13	Make a straightforward inference to provide 1 (of 2) reasons
The Legend of Troy	
T_02	Make a straightforward inference about a reason
Rainforests	
R_02	Retrieve and reproduce explicitly stated information
Informational Items at Intermediate International Benchmark (475)	
The Amazing Octopus	
Z_06	Locate and reproduce 2 actions
Z_07	Make a straightforward inference to describe an action
Z_11	Retrieve and reproduce an explicitly stated detail
Z_12	Make a straightforward inference to provide 1 (of 2) actions
Z_13	Recognize a straightforward inference about an action
Z_14	Interpret and integrate information to provide 2 (of 3) examples of a central idea
Hungry Plant	
H_06	Retrieve and reproduce an explicitly stated detail
H_08	Make a straightforward inference to recognize an explanation
H_09	Retrieve and recognize an explicitly stated detail
H_12	Make a straightforward inference about an expectation
H_14	Retrieve and reproduce an explicitly stated detail
H_16	Interpret the whole text to recognize the reason for its title

Training a Deaf Polar Bear	
P_02	Interpret the effect of the author's word choice
P_04	Retrieve and reproduce an explicitly stated detail
P_05	Locate and infer an explanation from explicitly stated information
P_06	Retrieve and reproduce explicitly stated information
P_08	Retrieve and recognize an explicitly stated detail
P_10	Locate and integrate information to recognize the significance of an action
P_13	Retrieve and reproduce an explicitly stated detail
Marie Curie Prize-Winning Scientist	
C_02	Retrieve and recognize an explicitly stated detail from a timeline
C_04	Recognize explicitly stated information about the central character
C_05	Make a straightforward inference to provide 1 (of 2) reasons for a situation
C_07	Locate explicitly stated information to recognize 2 correct facts (from 4)
C_09	Recognize a straightforward inference about an event
C_10	Interpret and integrate information to provide 1 (of 2) of a character's achievements
How Did We Learn to Fly?	
E_02	Locate and reproduce explicitly stated information from the beginning of the text
E_03	Make an inference to recognize the reason for a situation
E_05	Retrieve and recognize an explicitly stated reason for an action
E_06	Retrieve and recognize an explicitly stated detail
E_10	Retrieve and reproduce an explicitly stated detail
E_11	Make a straightforward inference to recognize an explanation
E_14	Make a straightforward inference to provide 1 (of 2) comparison

E_15	Retrieve and reproduce an explicitly stated detail
Sharks	
K_01	Retrieve and reproduce 2 pieces of explicitly stated information when directed to the beginning of the text
K_02	Locate and reproduce 3 pieces of explicitly stated information
K_12	Interpret and integrate information from across different sections to partially complete a table (3/6 entries)
The World's Bank for Seeds	
N_01	Locate and reproduce an explicit detail in the introductory paragraph
N_04	Make a straightforward inference to provide an explanation
N_07	Recognize the reason for a situation
Icelandic Horses	
I_04	Integrate information to provide 1 (of 2) geographic characteristic
I_08	Retrieve and recognize an explicitly stated definition
Where's the Honey?	
W_06	Locate and recognize an explicitly stated detail
Oceans	
O_02	Recognize a straightforward inference about a central idea
O_06	Recognize an explicitly stated detail embedded in the text
O_08	Locate and reproduce 1 (of 2) explicitly stated differences
O_08	Locate and reproduce 2 (of 2) explicitly stated differences
O_09	Retrieve and reproduce explicitly stated information
O_10	Make a straightforward inference from the text, map, and video to provide 1 (of 2) descriptions
O_14	Make a straightforward inference from a list of Internet search results to recognize the most relevant website
Zebra and Wildebeest Migration	
Z_02	Locate and reproduce 1 (of 2) explicitly stated similarity

Z_04	Locate and recognize a reason for an action
Z_11	Locate and recognize an explicitly stated detail
Z_13	Locate and recognize explicitly stated information embedded in continuous text
Z_14	Make a straightforward inference to provide 1 (of 2) aspect of a situation
Z_20	Integrate evidence from the text to match 3 (of 4) defense strategies with the animal(s) that uses it
The Legend of Troy	
T_04	Interpret and integrate events to recognize the cause of an outcome
T_12	Locate and recognize information from a map
T_16	Retrieve explicitly stated information by navigating to a labeled section of an interactive diagram
Rainforests	
R_03	Integrate information from a web page to recognize 3 (of 4) connections
R_05	Evaluate the use of a map with interactive features to convey information
R_06	Check the contents of 3 pop up boxes to locate and reproduce an explicitly stated detail
Informational Items at High International Benchmark (550)	
The Amazing Octopus	
Z_01	Make straightforward inferences to distinguish 3 correct facts (from 5)
Z_03	Recognize the meaning of a figurative phrase
Z_04	Recognize an explicitly stated detail
Z_08	Recognize an explicitly stated detail
Z_10	Retrieve and reproduce an explicitly stated detail
Z_12	Make a straightforward inference to provide 2 actions
Z_14	Interpret and integrate information to provide 3 examples of a central idea
Z_15	Evaluate ideas and information to provide supporting evidence

Hungry Plant	
H_07	Make a straightforward inference about an explanation
H_10	Recognize the reason for an author's use of simile
H_11	Retrieve and reproduce an explicitly stated detail
H_13	Retrieve and recognize an explicitly stated detail
Training a Deaf Polar Bear	
P_01	Make a straightforward inference about the cause of a reaction
P_07	Make a straightforward inference to provide an explanation
P_09	Locate and recognize an explicitly stated detail
P_11	Locate and reproduce 1 (of 2) explicitly stated piece of information
P_11	Locate and reproduce 2 explicitly stated pieces of information
P_12	Retrieve and reproduce an explicitly stated detail
P_14	Integrate information to order a set of events
Marie Curie Prize-Winning Scientist	
C_05	Make a straightforward inference to provide 2 reasons for a situation
C_08	Recognize an explicitly stated detail
C_11	Recognize a straightforward inference about a character's actions
C_12	Make a straightforward inference about a character's contribution
How Did We Learn to Fly?	
E_04	Make a straightforward inference about an event
E_07	Locate and reproduce 1 (of 2) explicitly stated detail
E_07	Locate and reproduce 2 explicitly stated details
E_09	Evaluate how the use of an image conveys information

E_16	Integrate information across text to order a set of events
E_17	Integrate ideas across text to determine the main idea
Sharks	
K_03	Make straightforward inferences to recognize an explanation of a metaphor
K_05	Locate a text box with a heading and make a straightforward inference to provide an explanation
K_06	Locate a text box with a heading and make an inference to recognize the best explanation
K_07	Locate 1 (of 2) specified text box with a heading and make an interpretation to provide an explanation
K_09	Evaluate how the format and content of a diagram convey information
K_11	Locate and distinguish information from different sections of the text to make an inference
K_12	Interpret and integrate information across different sections to nearly complete a table (5 of 6 entries)
The World's Bank for Seeds	
N_08	Retrieve and recognize an explicitly stated detail
N_09	Make a straightforward inference to provide 1 (of 2) explanations
N_13	Evaluate information to provide one advantage and one disadvantage
Icelandic Horses	
I_03	Make a straightforward inference to provide 1 (of 2) explanation
I_05	Evaluate how the format of section headers conveys information
I_07	Interpret and integrate information to provide a causal explanation
I_09	Make a straightforward inference about the purpose of an action
I_10	Recognize the meaning conveyed by an image
I_11	Integrate information to provide a characteristic
I_13	Locate and reproduce an explicitly stated detail

Where's the Honey?	
W_01	Retrieve and reproduce 2 pieces of information from the beginning of the text
W_02	Locate and interpret 1 (of 2) beneficial action
W_04	Locate and reproduce 2 pieces of explicitly stated information from a text box
W_08	Make an inference to recognize the purpose for an action
Voyages of Discovery	
V_02	Recognize an explicitly stated detail
V_05	Recognize a straightforward inference to identify a reason
V_06	Evaluate content across multiple webpages to support a conclusion
V_07	Make a straightforward inference from a list of Internet search results to recognize the most relevant website
V_08	Recognize an explicitly stated reason
V_11	Recognize a straightforward inference about a central idea
V_14	Recognize explicitly stated information
V_15	Interpret and integrate information from two webpages to provide 1 (of 2) examples
V_16	Interpret and integrate information across webpages to provide an explanation
V_17	Interpret and integrate information on a webpage to distinguish 2 correct statements (from 5)
Oceans	
O_01	Make a straightforward inference from a list of Internet search results to recognize the most relevant website
O_03	Recognize a straightforward inference from the text and a map
O_04	Recognize a straightforward inference about a reason
O_05	Make a straightforward inference to provide a reason
O_07	Make a straightforward inference from a list of Internet search results to recognize the most relevant website
O_10	Make a straightforward inference from the text, map, and video to provide 2 descriptions

O_13	Make a straightforward inference to provide 2 reasons
O_18	Evaluate content across webpages to draw a conclusion and support it with 1 (of 2) reasons
Zebra and Wildebeest Migration	
Z_01	Make a straightforward inference from a list of Internet search results to recognize the most relevant website
Z_03	Evaluate the use of fact boxes containing both text and images to convey information
Z_05	Evaluate the use of an animated graphic to convey information
Z_06	Make a straightforward inference to provide a prediction
Z_07	Make a straightforward inference to recognize an action
Z_08	Locate and recognize an explicitly stated reason
Z_10	Evaluate the author's word choice to recognize its meaning
Z_12	Interpret and integrate visual and textual information across web pages to provide a contrast
Z_14	Make an inference to provide 2 contrasting aspects of a situation
Z_15	Locate and recognize an explicitly stated detail by navigating to a pop-up box
Z_17	Evaluate the substantive contribution of words relative to images across pages of a website
Z_18	Make an inference from a list of Internet search results to distinguish the most relevant website
Z_19	Interpret information to provide 1 (of 2) explanation
The Legend of Troy	
T_05	Interpret and integrate information from across a web page to provide contrasting views of an event
T_06	Make an inference to provide support for a claim
T_08	Make a straightforward inference to provide a comparison
T_10	Make a straightforward inference about a reason
T_11	Locate and recognize an explicitly stated detail

T_13	Interpret an integrate information to recognize how actions exemplify a principle
T_15	Integrate information to recognize a fact
T_17	Evaluate how the design of an interactive diagram supports content
Rainforests	
R_07	Interpret and integrate information across a web page to recognize 3 (of 4) characteristics
R_09	Integrate information to provide an explanation
R_10	Retrieve an explicitly stated detail embedded in continuous text
R_11	Make a straightforward inference to provide 1 (of 2) piece of supporting evidence
R_12	Make a straightforward inference to recognize a reason
R_13	Make a straightforward inference from a list of Internet search results to recognize the most relevant website
R_14	Evaluate content to draw a conclusion and support it with evidence
R_15	Locate and reproduce 2 pieces of explicitly stated information
R_16	Integrate information from multiple web pages to provide a causal outcome
Informational Items at Advanced International Benchmark (625)	
The Amazing Octopus	
Z_05	Locate and reproduce explicitly stated information
Z_09	Evaluate textual elements and content to support the writer's intent
Marie Curie Prize-Winning Scientist	
C_03	Evaluate the benefits of using a timeline to convey information
C_06	Make a straightforward inference to provide support for a statement
C_10	Interpret and integrate information to provide 2 of a character's achievements
C_13	Interpret and integrate information to provide one advantage and one disadvantage
C_14	Interpret and integrate information across the text to explain how a character overcame at least one difficulty

How Did We Learn to Fly?	
E_08	Interpret and recognize the significance of an invention
E_13	Locate and reproduce 1 characteristic
Sharks	
K_07	Locate 2 specified text boxes with headings and make interpretations to provide an explanation for each
K_08	Distinguish relevant information to make an inference about a scientific explanation
K_10	Integrate information from 3 text boxes to provide a sequence, or use information from fewer text boxes with supporting explanation
K_12	Interpret and integrate information across different sections to fully complete a table (5 of 6 entries)
The World's Bank for Seeds	
N_02	Make straightforward inferences to distinguish 3 correct statements (from 5) about a location
N_03	Recognize the best reason underlying the author's intent
N_05	Make a straightforward inference to provide an explanation
N_06	Make straightforward inferences to distinguish 3 correct reasons (from 5) about a central idea
N_09	Make a straightforward inference to provide 2 explanations
N_11	Evaluate the benefit of using a diagram to convey information
N_12	Interpret and integrate across the text to provide additional information
N_14	Interpret and integrate information across the text to provide an explanation
Icelandic Horses	
I_02	Make an inference about the reason for an action
I_03	Make a straightforward inference to provide 2 explanations
I_04	Interpret and integrate information to provide 2 geographic characteristics
I_06	Make an inference about the reason for a situation
I_07	Interpret and integrate information to provide 2 causal explanations

I_12	Distinguish relevant information to recognize an explicitly stated reason
I_14	Evaluate textual elements and content to show how they exemplify the writer's point of view
I_15	Interpret and integrate information to provide a causal explanation
Where's the Honey?	
W_02	Locate and interpret 2 mutually beneficial actions
W_03	Make a straightforward inference to recognize an explanation
W_05	Distinguish and recognize a paraphrase from the end of a specified text box
W_07	Locate information to connect 1 (of 3) action to its significance
W_07	Locate and integrate information to connect 2 actions (of 3) to their significance
W_07	Locate and integrate information to connect 3 actions to their significance in a sequence
W_09	Recognize the main message of a short narrative from a specified part of the text
W_10	Make an inference about the reason for an action
W_11	Locate and interpret relevant information in the context of the whole text
W_12	Locate and interpret information to recognize the reason for a situation
W_13	Evaluate ideas and information across the text to make a prediction
Voyages of Discovery	
V_01	Make a straightforward inference from a list of Internet search results to recognize the most relevant website
V_03	Interpret and Integrate information across the webpage to explain the writer's intent
V_09	Make straightforward inferences to distinguish 2 correct statements (from 5) about activities
V_10	Evaluate the writer's intent in using numbers in the text
V_12	Make an inference from a list of Internet search results to distinguish the most relevant website
V_15	Interpret and integrate information from two webpages to provide 2 examples

V_18	Integrate information from across three websites to match each of 4 pieces of information with its voyage
Oceans	
O_11	Interpret and integrate information to provide an explanation
O_16	Evaluate the writer's inclusion of a sentence to recognize its purpose
O_17	Make a straightforward inference to provide one example
Zebra and Wildebeest Migration	
Z_02	Integrate information from across a web page to compare 3 (of 4) actions
Z_09	Make a straightforward inference about the information provided in an animated graphic
Z_16	Integrate information by navigating to 2 pop-up boxes to compare and contrast actions
Z_19	Interpret information to provide 2 explanations
Z_20	Integrate information from across a web page to compare 4 actions
The Legend of Troy	
T_01	Make an inference from a list of Internet search results to distinguish the most relevant website
T_03	Evaluate the text to recognize how the author conveys meaning through repetition
T_09	Integrate information from the text to explain a phrase from the text
T_14	Evaluate language choices to show how they exemplify the writer's point of view
T_18	Integrate information from multiple web pages to order events chronologically
Rainforests	
R_01	Make a straightforward inference from a list of Internet search results to recognize the most relevant website
R_03	Integrate information from a web page to recognize 4 connections
R_04	Evaluate a web page to recognize why the title fits the content
R_07	Interpret and integrate information across a web page to recognize 4 characteristics
R_08	Evaluate the purpose of the structure of a visual display of information

R_11	Make a straightforward inference to provide 2 pieces of supporting evidence
Informational Items Above the Advanced International Benchmark (625)	
Marie Curie Prize-Winning Scientist	
C_01	Make straightforward inferences to distinguish 3 correct statements (from 5) about why a historical person was important
C_14	Interpret and integrate information across the text to explain how a character overcame two difficulties
C_15	Evaluate a character's actions across the text to identify a central contribution and give supporting evidence
Sharks	
K_10	Integrate information from 3 text boxes with headings to provide a sequence with supporting explanation
The World's Bank for Seeds	
N_10	Integrate information across text and a diagram to order a set of events
N_15	Explain how an example illustrates the central idea of the article
Icelandic Horses	
I_11	Interpret and integrate information to identify a characteristic and link it to its effect
Voyages of Discovery	
V_04	Interpret and integrate visual and textual information to provide an explanation
V_17	Interpret and integrate information on a webpage to distinguish 3 correct statements (from 5)
V_19	Integrate information from multiple websites to provide a similarity
V_20	Evaluate information across multiple websites to support a conclusion with evidence
Oceans	
O_12	Evaluate the use of an animated graphic to convey information
O_15	Interpret and integrate information from the webpage to recognize the meaning of a phrase from the text
O_18	Evaluate content across webpages to draw a conclusion and support it with 2 reasons