



# An Introduction to Using the Resources for *The Giant Tooth Mystery*

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Reading Comprehension  
Resource Pack 2



# Introduction

This resource pack is based on IEA's Progress in International Reading Literacy Study (PIRLS) and uses the PIRLS materials to support the best practices for teaching reading comprehension in a classroom. It accompanies the book [\*Putting PIRLS to Use in Classrooms Across the Globe\*](#), which is part of the IEA Research for Educators series.

PIRLS is directed by the [TIMSS & PIRLS International Study Center](#) at Boston College and is conducted every five years since 2001. PIRLS provides international data on reading comprehension of students in their fourth year of schooling. In PIRLS 2011, students from 49 participating countries and nine benchmarking entities were tested in their language of instruction, using two out of 10 different reading passages.

The passage *The Giant Tooth Mystery* with corresponding questions is a part of PIRLS 2011. It is an informational text intended for reading to acquire and use information and is based on the [PIRLS 2011 Reading Framework](#), which describes the major purposes of reading and processes of comprehension to be tested at the fourth grade.

More strategies can be found in the book *Putting PIRLS to Use in Classrooms Across the Globe*, which draws on PIRLS data to provide resources for teaching reading comprehension. The book gives practical guidance on how teachers can help students learn reading skills and contains examples from five PIRLS countries on teaching multilingual classrooms.

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## Intended Use

The primary purpose of the resource pack is to serve as an international learning resource for insights into students' progress and strategies for teaching reading comprehension. It is meant to be used for classroom instruction and can be incorporated as a learning activity.

The passage *The Giant Tooth Mystery* with corresponding questions and the related scoring guide are useful as a starting point for classroom discussion and to address students' needs in reading comprehension processes. The scoring guide provides correct answers for multiple choice questions (MC) and points to the evidence that needs to be considered in deciding about correctness of the responses to the constructed response questions (CR) with some useful examples included. The international averages displayed for each question illustrate how challenging the questions were overall for students in 2011.

When using the passage as an evaluation, the results should be used in a formative way for helping you identify and focus on the processes that your students are having difficulties with. Please note that a direct comparison and placement of your class results to the international PIRLS 2011 tables based on this single passage is not possible.

### ***Suggested Instructions for Testing Based on International Procedures Used in PIRLS 2011***

In the case of using the passage and the related questions in the classroom, please adhere to the timing and testing procedure indicated below, including reading directions to your students and supervising the testing session.

#### **You will need the following testing materials:**

- The reading passage *The Giant Tooth Mystery* and corresponding questions
- A stopwatch, timer, or watch
- A supply of pens or pencils
- And in case some of your students finish early, activity sheets and/or books

#### **Testing procedure and timing**

Allow at least 10 minutes for preparations, distribution of reading materials, and reading of the instructions. Students should have 40 minutes for reading the passage and answering the questions.

#### **Directions to be read to the students:**

- In this test, you will read a story and answer questions about what you have read. You may find some parts easy and you may find some parts difficult.
- You will be asked to answer different types of questions. Some questions will be multiple choice and other questions will be short answer.
- If you are not sure about the answer to a question, fill in the circle next to the answer you think is best, and move on to the next question.
- As you work through the questions, you can look back at the passage you have read to help you answer the questions.
- You will have 40 minutes to complete the test. Do your best to answer all the questions. If you cannot answer a question, move on to the next one.

#### **Supervising the Testing Session**

- Make sure students understand the instructions and time restraints of the test. You may answer any questions students have about these matters.
- Do not answer questions about the content of the test questions or provide any specific information or answers about any test question. The best response to any such requests is, "I am sorry, I can't answer any questions. Just do your best to answer the question."
- All electronic devices, such as cell phones, portable computers, photo or video cameras, must be stored away for the duration of the test administration.
- While students are working, move around the room to see that they are following directions and answering questions in the appropriate section.
- If a student completes the test early, he/she may use the time to review his/her answers to the questions. You may also provide activity sheets or books for students to work on during this time.

## Questions and Scoring Information

This Scoring Guide section provides a brief overview of the process of comprehension behind each question, followed by a detailed overview of how to score your students' responses. In addition, it includes information from PIRLS data showing which of the questions proved to be challenging for students globally in 2011.

After students have read the passage and have answered the accompanying questions, the scoring guide provides the key for giving students feedback. When providing feedback, use the scoring guide to identify the questions that were difficult for the students to answer. After identifying the difficult questions, you can then use the information provided in the scoring guide to identify the specific process or processes of reading comprehension to address. Then you can refer to chapter 3 of the book *Putting PIRLS to Use in Classrooms Across the Globe* for strategies and suggestions on how to address these processes in the classroom.

If your country took part in PIRLS 2011, you can find the related national results in the extract document *Item Statistics* included in this pack.

For your information, the *Item Statistics* document provides an overview of the international and national averages of students who answered each question correctly.

If you would like more information or would like to view the complete *Item Statistics* from PIRLS 2011, please use the following link:

<https://timssandpirls.bc.edu/pirls2011/international-database.html>

## Scoring Guide

**Please note:** the abbreviation MC is used after the question number to identify multiple choice questions and the abbreviation CR is used to identify constructed response questions.

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### The Giant Tooth Mystery, Question 1 (MC)

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**Process: Focus on and Retrieve Explicitly Stated Information and Ideas**

International Average: 75% correct

**1. What is a fossil?**

**Correct answer:** C. The remains of very old living things

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### Giant Tooth Mystery, Question 2 (CR)

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**Process: Make Straightforward Inferences**

International Average: 53% correct

**2. According to the article, why did some people long ago believe in giants?**

#### 1 – Acceptable Response

The response demonstrates the understanding that people long ago believed in giants because they found huge bones/skeletons/fossils.

*Some students use the word 'giant' as a synonym for 'big' or 'huge'. Such responses should be credited only where the meaning is made clear.*

##### Examples:

- They found bones too big to belong to something they knew.
- They found giant bones that were too big to be from the biggest hippo.
- They found really big bones.
- The bones were so big they must be from giants.

#### 0 – Unacceptable Response

The response does not demonstrate the understanding that people long ago believed in giants because they found huge bones/skeletons/fossils.

##### Examples:

- Giants are really big.
  - They found giant bones. (Please note that the use of 'giant' is ambiguous.)
  - They found things that must belong to giants.
  - They found dinosaur bones.
  - They found bones from giants.
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### *The Giant Tooth Mystery, Question 3 (MC)*

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**Process: Focus on and Retrieve Explicitly Stated Information and Ideas**

International Average: 71% correct

**3. Where did Bernard Palissy find fossils?**

**Correct answer:** B. In the clay

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### *Giant Tooth Mystery, Question 4 (CR)*

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**Process: Interpret and Integrate Ideas and Information**

International Average: 25% correct

**4. What was Bernard Palissy's new idea?**

#### **1 – Acceptable Response**

The response demonstrates the understanding that Palissy's new idea was that some fossils belonged to animals that no longer lived on earth, had completely disappeared, or were extinct.

##### **Examples:**

- Fossils could be from extinct animals.
- Some belonged to creatures no longer living on earth.
- His idea was that some animals had completely disappeared!

#### **0 – Unacceptable Response**

The response does not demonstrate the understanding of Palissy's new idea. It might relate to Palissy's idea that fossils once belonged to living creatures or may state a fact about Palissy's work.

##### **Examples:**

- Fossils were from the remains of living creatures. Reptiles were extinct.
  - He found fossils in his clay.
  - He was a famous pottery maker.
  - He studied fossils.
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### *The Giant Tooth Mystery, Question 5 (MC)*

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**Process: Make Straightforward Inferences**

International Average: 54% correct

**5. Why was Bernard Palissy put into prison?**

**Correct answer:** A. People were not open to new ideas.

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### The Giant Tooth Mystery, Question 6 (MC)

**Process: Focus on and Retrieve Explicitly Stated Information and Ideas**

International Average: 68% correct

**6. Who found the fossil tooth in England?**

**Correct answer:** B. Mary Ann Mantell

### The Giant Tooth Mystery, Question 7 (MC)

**Process: Make Straightforward Inferences**

International Average: 57% correct

**7. What did Gideon Mantell know about reptiles that made the fossil tooth puzzling?**

**Correct answer:** D. Reptiles gulped their food.

### Giant Tooth Mystery, Question 8 (CR)

**Process: Interpret and Integrate Ideas and Information**

International Average: 34% correct

**8. Gideon Mantell thought the tooth might have belonged to different types of animals. Complete the table to show what made him think this.**

Type of animal	What made him think this
A plant eater	The tooth was flat with ridges
A giant creature	
A reptile	

*Each of the two parts of this question will be scored separately in its own 1-point coding block.*

The entire question, with acceptable responses for each of the two parts and the corresponding coding blocks, should look like this:

Type of animal	What made him think this
A plant eater	The tooth was flat with ridges
A giant creature	The response identifies the large size of the fossil tooth (as big as an elephant's tooth)
A reptile	The response indicates that: 1. the rock in which it was found was the kind of rock where reptile fossils were found/it was found where reptiles had lived, OR 2. the fossil tooth was similar to/looked like an iguana/reptile tooth

## A GIANT CREATURE

### 1 – Acceptable Response

The response shows an understanding of the characteristics that indicate the fossil tooth could belong to a giant creature.

Type of animal	What made him think this
A plant eater	The tooth was flat with ridges
A giant creature	The response identifies the large size of the fossil tooth (as big as an elephant's tooth)
A reptile	The response indicates that: 1. the rock in which it was found was the kind of rock where reptile fossils were found/it was found where reptiles had lived, OR 2. the fossil tooth was similar to/looked like an iguana/reptile tooth

### 0 – Unacceptable Response

The response does not show an understanding of the characteristics that indicate the fossil tooth could belong to a giant creature. It may refer to the text at the beginning of the passage about fossils in general, rather than to Gideon's hypotheses about the fossil tooth.

#### Examples:

- Some thought the big bones came from large animals.
- It was worn down.
- It looked like an elephant's tooth. *(Please note that this is an inaccurate response. The text states, "it looked nothing like an elephant's tooth.")*

## A REPTILE

### 1 – Acceptable Response

The response shows an understanding of the characteristics that indicate the fossil tooth could belong to a reptile.

Type of animal	What made him think this
A plant eater	The tooth was flat with ridges
A giant creature	The response identifies the large size of the fossil tooth (as big as an elephant's tooth)
A reptile	The response indicates that: 1. the rock in which it was found was the kind of rock where reptile fossils were found/it was found where reptiles had lived, OR 2. the fossil tooth was similar to/looked like an iguana/reptile tooth

### 0 – Unacceptable Response

The response does not show an understanding of the characteristics that indicate the fossil tooth could belong to a reptile.

#### Examples:

- It eats plants.
- Reptiles gulped their food.



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### The Giant Tooth Mystery, Question 9 (MC)

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**Process:** Make Straightforward Inferences

International Average: 58% correct

**9. Why did Gideon Mantell take the tooth to a museum?**

**Correct answer:** C. To hear what scientists thought of his idea.

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### Giant Tooth Mystery, Question 10 (CR)

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**Process:** Interpret and Integrate Ideas and Information

International Average: 34% correct

**10. A scientist showed Gideon Mantell an iguana tooth. Why was this important to Gideon Mantell?**

#### 1 – Acceptable Response

The response demonstrates the understanding that the iguana tooth provided evidence that supported Gideon Mantell's theory that the fossil tooth might have belonged to a giant reptile.

**Examples:**

- The iguana tooth showed his fossil could be from a reptile.
- It helped him find out what type of animal the tooth belonged to.
- The tooth proved he was right.
- It gave him proof for what he thought all along.

*Or, the response demonstrates a more general understanding that the iguana tooth looked like the fossil tooth.*

**Examples:**

- The iguana tooth looked like the fossil tooth.
- He could see that they looked the same.
- He could tell it was the same one.
- He had spent years looking for a matching tooth.
- It was flat and had ridges.

#### 0 – Unacceptable Response

The response does not demonstrate the understanding of the significance of the iguana tooth.

**Examples:**

- He wanted to be famous.
  - He thought it would be interesting to see an iguana's tooth.
  - He wanted to learn more about reptiles.
  - It showed he was clever. *(Please note that this response is too vague as it focuses on his personal characteristics rather than his discovery.)*
  - He wanted to compare the teeth. *(Please note that this response fails to indicate the significance of the comparison.)*
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### The Giant Tooth Mystery, Question 11 (MC)

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**Process: Focus on and Retrieve Explicitly Stated Information and Ideas**

International Average: 57% correct

**11. What did Gideon Mantell use when trying to figure out what the Iguanodon looked like?**

**Correct answer:** A. Bones he collected.

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### Giant Tooth Mystery, Question 12 (CR)

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**Process: Examine and Evaluate Content, Language, and Textual Elements**

International Average: Complete Comprehension: 10% correct  
Partial Comprehension: 12% correct

**12. Look at the two pictures of the Iguanodon. What do they help you to understand?**

#### 2 – Complete Comprehension

The response demonstrates the understanding that the pictures show the changes in scientific ideas, or that the pictures show different people's ideas about the Iguanodon.

**Examples:**

- That scientists today think the Iguanodon looked different than Gideon Mantell did
- To show how people's ideas about what the Iguanodon looked like changed.
- To show that different people had different ideas about what it looked like.
- How different the ideas were.
- Gideon Mantell thought the bones showed the Iguanodon walked on all four legs, but later scientists changed their minds.

*Or, the response indicates that the pictures illustrate the mistakes that Gideon Mantell or other people might have made.*

**Examples:**

- To show that Gideon got some things wrong.
- That people sometimes make mistakes.

#### 1 – Partial Comprehension

The response demonstrates a more general understanding that the Iguanodons looked different in the two pictures.

**Examples:**

- To show they look different.

*Or, the response describes a difference between the two pictures without reference to changes in scientific ideas or what different people might have believed.*

**Example:**

- One has 4 legs, the other has 2.

*Or, the response provides an explicit reference to one of the pictures without reference to changes in scientific ideas or what different people might have believed.*

**Example:**

- That Gideon thought it had a horn.

**0 – No Comprehension**

The response does not demonstrate an understanding of the purpose of the illustrations. It may describe a specific feature from one of the pictures, or give a description of what the illustrations have in common.

*Or, the response may provide an inaccurate interpretation that the Iguanodon itself changed in appearance over time, rather than people's ideas.*

**Examples:**

- To show what they looked like.
- They help you understand how the Iguanodon changed over the years.
- They show me they ate plants.
- They had 4 legs.

**Giant Tooth Mystery, Question 13 (CR)****Process: Interpret and Integrate Ideas and Information**

International Average: 49% correct

**13. Later discoveries proved that Gideon Mantell was wrong about what the Iguanodon looked like. Fill in the blanks to complete the table.**

What Gideon Mantell thought the Iguanodon looked like	What scientists today think the Iguanodon looked like
The Iguanodon walked on four legs	
	The Iguanodon had a spike on its thumb
The Iguanodon was 100 feet long	

*Each of the three parts of this question will be scored separately in its own 1-point coding block.*

The entire question, with acceptable responses for each of the three parts and the corresponding coding blocks, should look like this:

What Gideon Mantell thought the Iguanodon looked like	What scientists today think the Iguanodon looked like
The Iguanodon walked on four legs	The Iguanodon (sometimes) walked/ stood on two/ hind legs
The Iguanodon had a horn (on its head/face/nose) OR, the spike was on its head/face/nose	The Iguanodon had a spike on its thumb
The Iguanodon was 100 feet long	The Iguanodon was 30 feet (9 metres) long

**1 – Acceptable Response**

The response shows an understanding of the difference in the way that Gideon Mantell and scientists today think the Iguanodon walked or stood.

What Gideon Mantell thought the Iguanodon looked like	What scientists today think the Iguanodon looked like
The Iguanodon walked on four legs	The Iguanodon (sometimes) walked/ stood on two/ hind legs
The Iguanodon had a horn (on its head/face/nose) OR, the spike was on its head/face/nose	<b>The Iguanodon had a spike on its thumb</b>
<b>The Iguanodon was 100 feet long</b>	The Iguanodon was 30 feet (9 metres) long

### 0 – Unacceptable Response

The response does not show an understanding of the way scientists today think the Iguanodon walked or stood.

#### Examples:

- two
- It stood.

### 1 – Acceptable Response

The response shows an understanding of the difference in where Gideon Mantell and scientists today think the Iguanodon had a spike.

What Gideon Mantell thought the Iguanodon looked like	What scientists today think the Iguanodon looked like
<b>The Iguanodon walked on four legs</b>	The Iguanodon (sometimes) walked/ stood on two/ hind legs
The Iguanodon had a horn (on its head/face/nose) OR, the spike was on its head/face/nose	<b>The Iguanodon had a spike on its thumb</b>
<b>The Iguanodon was 100 feet long</b>	The Iguanodon was 30 feet (9 metres) long

### 0 – Unacceptable Response

The response does not show an understanding of where Gideon Mantell thought the Iguanodon had a spike.

#### Examples:

- horn on its thumb
- spike on its back
- did not have a spike on its thumb

### 1 – Acceptable Response

The response shows an understanding of the difference in what Mantell and scientists today think was the length of the Iguanodon.

What Gideon Mantell thought the Iguanodon looked like	What scientists today think the Iguanodon looked like
<b>The Iguanodon walked on four legs</b>	The Iguanodon (sometimes) walked/ stood on two/ hind legs
The Iguanodon had a horn (on its head/face/nose) OR, the spike was on its head/face/nose	<b>The Iguanodon had a spike on its thumb</b>
<b>The Iguanodon was 100 feet long</b>	The Iguanodon was 30 feet (9 metres) long

### 0 – Unacceptable Response

The response does not show an understanding of how long scientists today think the Iguanodon was.

**Examples:**

- It was not 100 feet long.
  - 5 feet long
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***The Giant Tooth Mystery, Question 14 (MC)***

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**Process: Make Straightforward Inferences**

International Average: 52% correct

**14. What were found that showed Gideon was wrong about what the Iguanodon looked like?**

**Correct answer:** D. Whole skeletons.

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