Lesson 1.1
Pre-Unit Assessment
Lesson Overview

Students’ Initial Explanations

Students are introduced to their role as geologists and the problem they will investigate throughout the Changing Landforms unit: how the edge of a particular cliff got to be closer to a flagpole than it used to be. Students write initial explanations of what they think ocean waves could do to a landform over many years. Students’ written explanations serve as a Pre-Unit Assessment for formative purposes, designed to reveal students’ initial understanding of the unit’s core content, both unit-specific science concepts and the crosscutting concept of Scale, Proportion, and Quantity, prior to instruction. As such, students’ explanations offer a baseline from which to measure growth of understanding over the course of the unit. These explanations can also provide the teacher with insight into students’ thinking as they begin this unit. This three-dimensional assessment will allow the teacher to draw connections to students’ experiences and to watch for preconceptions that might get in the way of students’ understanding. After students write their initial explanations, they read the book Landform Postcards to become familiar with what a landform is and to learn about different types of landforms. The purpose of this lesson is to introduce the unit, to allow students to demonstrate their current understanding of how landforms change, and to provide a shared understanding of landforms.

Anchor Phenomenon: The cliff where Oceanside Recreation Center is situated appears to be receding.

Students learn:

- A landform is a feature of Earth’s surface, such as a mountain, a cliff, or a valley.
- A geologist is a scientist who studies the solid part of Earth.
- Reflecting on what you understand and don’t understand allows you to prepare for learning new things.
Partner Reading

Students read the book *Landform Postcards* to learn about different types of landforms.

Instructional Guide

1. **Introduce *Landform Postcards***. Hold up a copy of the book and remind students of the recreation center’s disappearing cliff, and that cliffs are landforms.

   Today, you will read a book called *Landform Postcards* to learn more about landforms. Learning more about landforms will help you as you investigate the cliff landform that the Oceanside Recreation Center is on.

2. **Introduce and post the Chapter 1 Question.**

   As you read about different types of landforms in this book, I’d like you to think about the landform you are investigating—the recreation center’s cliff. Keep the following question in mind: *How did the edge of the cliff get to be so close to the flagpole?*

   On the classroom wall, post the Chapter 1 Question under the Unit Question.

3. **Introduce the Partner Reading Guidelines.** Let students know that they will read the book with a partner. Point out the guidelines that you posted on the wall and review them with the class. If Partner Reading is an unfamiliar activity for your students, let them know they can refer to the guidelines as they read.

4. **Designate partners and distribute books.** Distribute one copy of *Landform Postcards* to each pair of students.

5. **Discuss the landforms contained in the book.** Turn to page 3 of *Landform Postcards* and read aloud the different landforms as students follow along in their books.

   Are any of these landforms familiar to you? Have you ever visited or observed pictures of any of these landforms?

   Accept all responses.
6. Read pages 4–5 aloud. Point out and discuss the word observe.

The book says that Annie’s grandfather is a geologist. He thinks it would be fun for Annie to observe landforms as she travels with her family. What do you think it means to observe something?

Accept all responses.

7. Connect observations to the work of geologists.

Geologists make observations as they study the solid part of Earth, and you will make observations as you read more about different types of landforms.

8. Have partners read the rest of the book.

9. Return to key vocabulary from the book. When students have finished reading, regain their attention. Explain that you want to look back at an important science word from the book.

10. Discuss the word landform.

- Put the word in context. Together, turn to page 4. Read the first paragraph on the page, focusing on the idea that landforms are parts of Earth’s surface.

- Discuss the meaning of the word. Ask questions to help students think more deeply about the word, such as What types of landforms did you read about in the book? Can you find landforms anywhere on Earth? [Yes.] and What observations did you make about landforms? [They are different heights, colors, and sizes. Some are near water.]

- Discuss other examples. Have students give another example of a landform they’ve observed in their own lives.

- Give the science meaning of the word. Explain that a landform is a feature of Earth’s surface, such as a mountain, a cliff, or a valley.

11. Post the landform vocabulary card on the classroom wall.

12. Point to the Chapter 1 Question posted on the wall.

Based on what you read about landforms, do you have any new ideas about how the edge of the cliff got to be so close to the flagpole?

Accept all responses.

13. Collect all books and conclude the lesson. Let students know that in the next lesson, they will investigate what landforms are made of.
Teacher Support

Background

About the Book: Landform Postcards

Landform Postcards is written from the perspective of a girl who is taking a road trip with her family. Her grandfather is a geologist, and she writes him postcards about the interesting landforms she sees around the United States. The book includes reproductions of the postcards she writes, along with beautiful photos of peninsulas, mountains, canyons, and more. The postcards and photo captions provide some basic information about various kinds of landforms and model the process of asking questions about natural phenomena. The final four pages of the book include more photos for students to explore, providing evidence that landforms are made of rock. This book sets the context for the unit by offering a friendly introduction to landforms and encouraging students to notice and ask questions about landforms in the world around them.

Rationale

Literacy Note: Partner Reading

Throughout this unit, we suggest that students read the books with a partner. This allows students time to apply and practice the reading strategies they’re learning, keeps them focused on the task at hand, and provides opportunities for them to assist each other with reading. Of course, you can use any effective reading procedures you’ve already established with your class. Before reading this first book in the unit, you may need to provide instruction on how to read with a partner by using the Partner Reading Guidelines (provided in Digital Resources) or your own guidelines. Establishing procedures takes time at first, but will pay off in terms of student learning and management of the lessons. Over time, students gain practice working together and will need fewer reminders about reading together effectively.

Rationale

Literacy Note: Modeling Reading

Teacher modeling is an important component of teaching students to read informational texts effectively. As an expert reader, you already understand how to read these texts effectively and can use your expertise to model and make explicit your thinking processes for students. Think aloud as you read part of the text and model thinking about landforms. The goal of modeling is to help engage all students in deep and curious reading. The more you model how to read science text purposefully, the more successful you will be in motivating students to use the same strategies.

Rationale

Pedagogical Goals: Chapter Questions

Posting questions on the wall throughout the unit is a valuable way to guide students’ investigations and help them build on previous knowledge and experience. In each chapter, you will pose a Chapter Question that asks students to think about the problem they are trying to solve. Chapter Questions are designed to build on one another throughout the unit. As students come to understand more and more about the nature of the problem and think more deeply about science ideas, they will be able to answer the Chapter Questions with greater detail and sophistication.
Partner Reading

Students read the book *Landform Postcards* to learn about different types of landforms.

**Instructional Guide**

1. Introduce *Landform Postcards*. Hold up a copy of the book and remind students of the recreation center’s disappearing cliff, and that cliffs are landforms.

   Hoy leerán un libro llamado *Postales de accidentes geográficos* para aprender más acerca de los accidentes geográficos. Aprender más acerca de los accidentes geográficos les ayudará mientras investigan el accidente geográfico del acantilado sobre el cual está el Centro de Recreo Oceanside.

2. Introduce and post the Chapter 1 Question.

   Mientras leen sobre diferentes tipos de accidentes geográficos en este libro, me gustaría que pensaran en el accidente geográfico que están investigando: el acantilado del centro de recreo. Tengan en cuenta la pregunta siguiente: ¿Cómo es que el borde del acantilado llegó a estar tan cerca del palo de bandera?

   On the classroom wall, post the Chapter 1 Question under the Unit Question.

3. Introduce the Partner Reading Guidelines. Let students know that they will read the book with a partner. Point out the guidelines that you posted on the wall and review them with the class. If Partner Reading is an unfamiliar activity for your students, let them know they can refer to the guidelines as they read.

4. Designate partners and distribute books. Distribute one copy of *Landform Postcards* to each pair of students.

5. Discuss the landforms contained in the book. Turn to page 3 of *Landform Postcards* and read aloud the different landforms as students follow along in their books.

   ¿Alguno de estos accidentes geográficos les resulta familiar? ¿Han visitado u observado fotografías de alguno de estos accidentes geográficos?

   Accept all responses.
6. Read pages 4–5 aloud. Point out and discuss the word *observe*.

Accept all responses.

7. Connect observations to the work of geologists.

Accept all responses.

8. Have partners read the rest of the book.

9. Return to key vocabulary from the book. When students have finished reading, regain their attention. Explain that you want to look back at an important science word from the book.

10. Discuss the word *landform*.

- **Put the word in context.** Together, turn to page 4. Read the first paragraph on the page, focusing on the idea that landforms are parts of Earth’s surface.

- **Discuss the meaning of the word.** Ask questions to help students think more deeply about the word, such as *What types of landforms did you read about in the book? Can you find landforms anywhere on Earth?* [Yes.] and *What observations did you make about landforms?* [They are different heights, colors, and sizes. Some are near water.]

- **Discuss other examples.** Have students give another example of a landform they’ve observed in their own lives.

- **Give the science meaning of the word.** Explain that a landform is a feature of Earth’s surface, such as a mountain, a cliff, or a valley.

11. Post the *landform* vocabulary card on the classroom wall.

12. Point to the Chapter 1 Question posted on the wall.

Accept all responses.

13. Collect all books and conclude the lesson. Let students know that in the next lesson, they will investigate what landforms are made of.
Teacher Support

Background

About the Book: *Landform Postcards*

*Landform Postcards* is written from the perspective of a girl who is taking a road trip with her family. Her grandfather is a geologist, and she writes him postcards about the interesting landforms she sees around the United States. The book includes reproductions of the postcards she writes, along with beautiful photos of peninsulas, mountains, canyons, and more. The postcards and photo captions provide some basic information about various kinds of landforms and model the process of asking questions about natural phenomena. The final four pages of the book include more photos for students to explore, providing evidence that landforms are made of rock. This book sets the context for the unit by offering a friendly introduction to landforms and encouraging students to notice and ask questions about landforms in the world around them.

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