Lesson 4.3
Explaining the Sun’s Repeating Pattern
Lesson Overview

Students construct an understanding of why we observe the sun make the same pattern in the sky every day. First, students reflect on what they have discovered about the pattern the sun makes in the sky every day. Students are introduced to the next Investigation Question, which prompts them to investigate why the sun follows the same pattern in the sky every day. Then, the class revisits What Spins? to gather additional information that might help them answer their new question. Students return to the Mount Nose Role-Play, during which they construct an understanding of the effect of Earth’s continuous spin on what we see in the sky day after day. Finally, to support reflecting on what they have learned so far about the sun’s daily pattern, students engage in a Shared Listening routine to make predictions about where the sun will be in the sky if they observe again at the same times that they have during their sky observations. The purpose of this lesson is for students to construct their understanding that we see the sun make the same pattern in the sky every day because Earth is always spinning.

**Predicted Phenomenon:** The pattern of the sun in the sky when Sai and his grandma talk on the phone tomorrow.

**Investigative Phenomenon:** The sun in the sky in the daytime.

**Students learn:**

- Earth is always spinning.
- Scientists search for cause-and-effect relationships to explain natural events.
Revisiting What Spins?

The class rereads *What Spins?* to gather information about the sun’s repeating pattern.

Instructional Guide

1. Gather students in the discussion area.

2. Reintroduce the *What Spins?* big book. Remind students that scientists read to figure out answers to their questions. Let students know that sometimes scientists return to the same books with a different purpose.

   We are going to return to *What Spins?* to see if we can learn anything new that will help us explain why the sun follows the same pattern in the sky every day.

3. Read through page 6 and then pause. Refer to the text on page 6.

   Earth spins slowly. It takes a whole day to spin around once.

   What do you think we see in the sky when Earth spins around once?

   Accept all responses.


   What do you predict the boy will see next? Why do you think so?  
   [The boy will see the trees again because what he sees repeats and because he has gone all the way around.]

   The boy on the swing is seeing things repeat over and over again. Why do you think he is seeing the same things repeat?  
   [Because he is spinning over and over again.]

5. Continue reading and then pause on page 21. Have students predict.
6. Read the rest of the book and then pause on page 23. Have students describe the pattern.

What do you predict this girl will see out her window next? Why do you think so?
[She will see the sun. After nighttime, it is daytime. The pattern repeats.]

These are small pictures of what the girl sees out her window at different times of the day. Is there a pattern to what the girl sees out her window?
[Yes, first she sees the sun low in the sky, then the sun high in the sky, then the stars, and then the stars again. Then it starts over—she sees the sun low in the sky, then the sun high in the sky, then the stars, and then the stars again.]

What do you think the girl would see after the last picture?
[The stars.]

The boy on the tire swing kept seeing the same things because he kept spinning, coming around to face the same things over and over again. The things this girl sees in her window repeat. Why do you think she sees the same things repeat?

Accept all responses.

7. Have students return to their seats.

Teacher Support

Rationale

Literacy Note: Rereading

In this lesson, you will reread What Spins? as a class for a different purpose—to gather new information that might help students explain why the sun follows the same pattern in the sky every day. Invite students to take on some of the reading with you and to read familiar words and phrases along with you from their own copies of the book. You’ll model using the strategy of making predictions and encourage students to engage in that practice as well. Engaging in this rereading prepares students to focus on key ideas and details that might support their upcoming investigation using the Mount Nose Role-Play.
Revisiting What Spins?

The class rereads *What Spins?* to gather information about the sun’s repeating pattern.

Instructional Guide

1. Gather students in the discussion area.

2. Reintroduce the *What Spins?* big book. Remind students that scientists read to figure out answers to their questions. Let students know that sometimes scientists return to the same books with a different purpose.

   Volvamos a ¿Qué gira? para ver si podemos aprender algo nuevo que nos ayude a explicar por qué el sol sigue el mismo patrón en el cielo cada día.

3. Read through page 6 and then pause. Refer to the text on page 6.

   La Tierra gira lentamente. Necesita un día entero para girar una vez.

   ¿Qué piensan que vemos en el cielo cuando la Tierra gira una vez?

   Accept all responses.


   ¿Qué predicen que el niño verá a continuación? ¿Por qué piensan eso?
   [El niño verá los árboles de nuevo porque lo que ve se repite y porque ha dado toda la vuelta].

   El niño en el columpio está viendo que las cosas se repiten una y otra vez. ¿Por qué creen que está viendo que las mismas cosas se repiten?
   [Porque está girando una y otra vez].

5. Continue reading and then pause on page 21. Have students predict.
6. Read the rest of the book and then pause on page 23. Have students describe the pattern.

¿Qué predicen que verá esta niña por su ventana a continuación? ¿Por qué piensan eso?
[El niño ve el sol. Después de las horas nocturnas, son las horas diurnas. El patrón se repite].

Estos son dibujos pequeños de lo que ve la niña por su ventana a diferentes horas del día. ¿Hay un patrón de lo que ve la niña por su ventana?
[Sí, primero ve el sol en la parte baja del cielo, luego el sol en lo alto del cielo, luego las estrellas y luego las estrellas de nuevo. Luego comienza de nuevo: ve el sol en la parte baja del cielo, luego el sol en lo alto del cielo, luego las estrellas y luego las estrellas de nuevo].

¿Ustedes qué piensan que vería la niña después del último dibujo?
[Las estrellas].

El niño en el columpio de llanta siguió viendo las mismas cosas porque siguió girando, dando la vuelta para mirar hacia las mismas cosas una y otra vez. Las cosas que esta niña ve en su ventana se repiten. ¿Por qué piensan que ella ve que las mismas cosas se repiten?

Accept all responses.

7. Have students return to their seats.

Teacher Support

Rationale

Literacy Note: Rereading
In this lesson, you will reread *What Spins?* as a class for a different purpose—to gather new information that might help students explain why the sun follows the same pattern in the sky every day. Invite students to take on some of the reading with you and to read familiar words and phrases along with you from their own copies of the book. You’ll model using the strategy of making predictions and encourage students to engage in that practice as well. Engaging in this rereading prepares students to focus on key ideas and details that might support their upcoming investigation using the Mount Nose Role-Play.