Lesson 3.4

What Spins?
Lesson Overview

Students begin to notice a pattern to the sun’s position in the sky at different times and start to investigate why that pattern exists. The teacher presents data from an observation of the sky conducted in the evening, just before sunset, and the class adds this data point to the Sky Mural. The class reflects on the three observations posted to the Sky Mural and the emerging pattern of where the sun is in the sky at different times. Students begin a new investigation of why the pattern of the sun in different places at different times exists. The teacher leads students in a Shared Reading of the first half of *What Spins?* and partners continue reading the book together while practicing the strategy of making predictions. Students practice spinning their bodies as a firsthand investigation of how facing different directions impacts what can be seen. The purpose of this lesson is for students to recognize the emerging pattern of the sun’s position in the sky and to begin to develop an understanding of how Earth’s spin relates to that pattern.

**Anchor Phenomenon:** Sai observed the sky change from daytime to nighttime.

**Investigative Phenomenon:** The sun is in a different place at different times of the day.

**Students learn:**

- The sun looks like it is in different places in the sky at different times.
- The sun makes an arc-like pattern in the sky throughout the day.
- Earth spins.
Reading: What Spins?

The teacher leads a Shared Reading of the first half of What Spins? Partners read and make predictions about the other half.

Instructional Guide

1. Introduce the new Investigation Question.

We have observed that the sun is in different places in the sky at different times. We also know that after sunset it is nighttime. During the daytime we cannot see the sun in the sky at all.

Point to the Investigation Question on the board.

We can investigate to figure out why the sun looks like it is in different places at different times. Now we will work to answer the question Why do we see the sun in different places in the sky during the daytime, and then not at all during the nighttime?

Invite students to share their initial ideas about this question.

2. Introduce What Spins?

Remember that scientists like us read to help figure out answers to our questions. Reading this book will help us gather more information to answer our question about why we see the sun in different places in the sky at different times.

If students suggested that the sun makes a pattern in the sky because it is moving, use that idea to motivate reading the text.

One idea we had about why we see the sun in different places in the sky is because the sun moves. That makes a lot of sense, because when we are standing still and something moves, we see it go from one place to another.

This book may help us think about why it can look like something is moving, even when it is actually standing still.
3. Display the front cover of the *What Spins?* big book. Read the title and invite students to share what they notice on the cover.

4. Begin reading and pause at the end of page 8. Invite students to respond to the questions you have read aloud on this page.

5. Continue reading and pause at the end of page 11 to review and make predictions.

   - Remember that an important way that readers learn from a book is to make predictions. When you make a prediction, you use what you already know to decide what you think might happen.
   - On these pages, the spinning kid sees a bench and then a slide. I know that he sees different things as he is spinning. I predict he will see another different thing in the park, maybe a climbing structure or flowers, as he continues to spin.
   - As we read, we can check to see if the predictions we made before reading match what we read in the book.

6. Continue reading and pause at the end of page 12.

   - On this page, the spinning kid sees some trees. The trees he sees now are different from the bench and the slide that he saw when he started spinning. My prediction matches what I read in the book.

7. Introduce Partner Reading Guidelines. Let students know they will read the rest of the book with a partner. Point to the Partner Reading Guidelines you posted before class. Explain that these guidelines will help students make sense of the book as they read with their partners.

8. Model the Partner Reading Guidelines. Invite a volunteer to be your reading partner. Read each guideline aloud and model the corresponding behavior with a partner.
   - Sit next to your partner.
   - Put the book between you.
   - Take turns.
   - Read in a quiet voice.
   - Work together to read and understand. (Explained further in Step 9.)

9. Set a purpose for reading.

   - Before you turn each page, pause with your partner to make a prediction about what you might read on the next page. This will help you understand what you are reading.
   - As you read, think about why we see the sun in different places in the sky during the daytime and then not at all during the nighttime.

11. On-the-Fly Assessment: Students read pages 13–23 and make predictions with partners. Circulate to listen as students make predictions. As students share their predictions with partners, pose the following question.

> What do you already know that makes you think that?

12. Gather students in the discussion area and lead a discussion of text.

> Why did the boy on the tire swing see different things when he was spinning?
> [When he was spinning, his body moved to face different directions, so he saw different things.]

Have students turn to page 23 in their *What Spins?* student books.

> What did the girl see in the sky?
> [The sun. The stars. The sun in different places in the sky at different times.]

> What have we seen in the sky when we have gone outside to make and record our observations of the sky?
> [The sun in different places in the sky at different times.]

13. Revisit the purpose for reading.

> We read this book to help us understand why we see the sun in different places in the sky at different times. What does the book tell us about why we see the sun in different places in the sky at different times?
> [Earth spins.]

Embedded Formative Assessment

On-the-Fly Assessment 9: Making Predictions

Look for: The focal comprehension strategy in this unit is making predictions by using prior knowledge and/or information gathered from the text in order to think ahead. As students are sharing what they predict they will read on the next page, listen for and make note of individual students or partners who reference prior knowledge or information from the text to support their predictions. For example, a student might say something such as I predict that the boy will see the trees after he sees the slide. I think that because he saw the trees right after he saw the slide the first time. It is a pattern.

Now what? If students are not attending to pictures and the words they read to make and support their predictions, provide an explicit reminder (e.g., Think about what the kid has already observed when he was spinning. What did he observe after he saw the slide the first time? Do you notice any patterns?) If additional student practice is necessary, ask students to turn back several pages in the book and support them in observing a pattern (e.g. The kid sees a bench, a slide, some trees, and his friends. Then it repeats. He sees a bench, then a slide, then some trees. It happens over and over again in a pattern.) Remind students to use what was just read, and what they see in the pictures to help them make their predictions.

Teacher Support

Background

About the Book: What Spins?
What Spins? is an illustrated book that introduces students to the idea that Earth spins, just as merry-go-rounds, fans, and other familiar things do. There are some differences in how Earth spins. For example, the merry-go-round starts and stops, but Earth never stops spinning. The book then explores the idea of seeing a pattern because you are spinning. As he spins, a child on a tire swing sees a bench, a slide, some trees, some friends, and then the bench again. Similarly, a child looking out the window each day sees sunrise, a bright daytime sky, stars, and then sunrise again as she spins on planet Earth. What Spins? is a Partner Read that presents a fundamental concept, using simple language, familiar examples, supportive photos, and a repetitive structure that mirrors the patterns caused by Earth’s spin.

Rationale

Literacy Note: Partner Reading Routine
Partner Reading is a way for students to become more independent with their reading and practice fluency and comprehension with texts that have minimal unknown words. In this lesson, students will be engaging in a Partner Read. Therefore, it is important that you take time to instruct students explicitly on the process. If you have already established your own process, you may wish to use that. If you have not, however, we encourage you to use the one provided for you here. When engaging in Partner Reading, you can choose one of several different approaches, depending on your students. Possible options are:

- Partner A reads a page, then Partner B reads the next page.
- Partner A reads a page, then Partner B reads the same page (Echo Reading).
• Partners read aloud each page together (Choral Reading).
Reading: What Spins?

The teacher leads a Shared Reading of the first half of *What Spins?* Partners read and make predictions about the other half.

### Instructional Guide

1. **Introduce the new Investigation Question.**

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   Hemos observado que el sol está en diferentes lugares del cielo a diferentes horas. También sabemos que después de la puesta de sol son las horas nocturnas. Durante las horas nocturnas no podemos ver el sol en el cielo en absoluto.
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   Point to the Investigation Question on the board.

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   Podemos investigar para averiguar por qué el sol parece como si estuviera en diferentes lugares a diferentes horas. Ahora trabajaremos para responder la pregunta ¿Por qué vemos el sol en diferentes lugares del cielo durante las horas diurnas, y luego no lo vemos en absoluto durante las horas nocturnas?
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   Invite students to share their initial ideas about this question.

2. **Introduce What Spins?**

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   Recuerden que los científicos como nosotros leemos para averiguar respuestas a nuestras preguntas. Leer este libro nos ayudará a reunir más información para responder nuestra pregunta sobre por qué vemos el sol en diferentes lugares del cielo a diferentes horas.
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   If students suggested that the sun makes a pattern in the sky because it is moving, use that idea to motivate reading the text.

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   Una idea que tuvimos sobre por qué vemos el sol en diferentes lugares del cielo es porque el sol se mueve. Eso tiene mucho sentido, porque cuando estamos inmóviles y algo se mueve, lo vemos ir de un lugar a otro.
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   Este libro tal vez nos ayude a pensar en por qué puede parecer como que algo se está moviendo, aunque en realidad está inmóvil.
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3. Display the front cover of the *What Spins?* big book. Read the title and invite students to share what they notice on the cover.

4. Begin reading and pause at the end of page 8. Invite students to respond to the questions you have read aloud on this page.

5. Continue reading and pause at the end of page 11 to review and make predictions.

Recuerden que una manera importante en la que los lectores aprenden de un libro es haciendo predicciones. Cuando hacen una predicción, usan lo que ya saben para decidir lo que piensan que podría pasar.

En estas páginas, el niño que gira ve una banca y luego un tobogán. Sé que él ve diferentes cosas mientras está girando. Predigo que verá otra cosa diferente en el parque, tal vez una estructura para escalar o flores, mientras continúa girando.

Mientras leemos, podemos revisar para ver si las predicciones que hicimos antes de leer coinciden con lo que leímos en el libro.

6. Continue reading and pause at the end of page 12.

En esta página, el niño que gira ve algunos árboles. Los árboles que ve ahora son diferentes a la banca y el tobogán que veía cuando comenzó a girar. Mi predicción coincide con lo que leí en el libro.

7. Introduce Partner Reading Guidelines. Let students know they will read the rest of the book with a partner. Point to the Partner Reading Guidelines you posted before class. Explain that these guidelines will help students make sense of the book as they read with their partners.

8. Model the Partner Reading Guidelines. Invite a volunteer to be your reading partner. Read each guideline aloud and model the corresponding behavior with a partner.

   • Sit next to your partner.
   • Put the book between you.
   • Take turns.
   • Read in a quiet voice.
   • Work together to read and understand. (Explained further in Step 9.)

9. Set a purpose for reading.

Lean en parejas y, antes de que pasen cada página, hagan una pausa para hacer una predicción sobre lo que podrían leer en la siguiente página. Esto les ayudará a entender lo que están leyendo.

11. On-the-Fly Assessment: Students read pages 13–23 and make predictions with partners. Circulate to listen as students make predictions. As students share their predictions with partners, pose the following question.

¿Qué saben ya que les hace pensar eso?

12. Gather students in the discussion area and lead a discussion of text.

¿Por qué el niño en el columpio de llanta veía diferentes cosas cuando estaba girando?
[Cuando estaba girando, su cuerpo se movía y así miraba hacia diferentes direcciones, así que veía diferentes cosas].

¿Qué veía la niña en el cielo?
[El sol. Las estrellas. El sol en diferentes lugares del cielo a diferentes horas].

¿Qué hemos visto en el cielo cuando hemos salido a hacer y apuntar nuestras observaciones del cielo?
[El sol en diferentes lugares del cielo a diferentes horas].

13. Revisit the purpose for reading.

Leímos este libro para ayudarnos a entender por qué vemos el sol en diferentes lugares del cielo a diferentes horas. ¿Qué nos dice el libro sobre por qué vemos el sol en diferentes lugares del cielo a diferentes horas?
[La Tierra gira].

Embedded Formative Assessment

On-the-Fly Assessment 9: Making Predictions

Look for: The focal comprehension strategy in this unit is making predictions by using prior knowledge and/or information gathered from the text in order to think ahead. As students are sharing what they predict they will read on the next page, listen for and make note of individual students or partners who reference prior knowledge or information from the text to support their predictions. For example, a student might say something such as I predict that the boy will see the trees after he sees the slide. I think that because he saw the trees right after he saw the slide the first time. It is a pattern.

Now what? If students are not attending to pictures and the words they read to make and support their predictions, provide an explicit reminder (e.g., Think about what the kid has already observed when he was spinning. What did he observe after he saw the slide the first time? Do you notice any patterns?) If additional student practice is necessary, ask students to turn back several pages in the book and support them in observing a pattern (e.g. The kid sees a bench, a slide, some trees, and his friends. Then it repeats. He sees a bench, then a slide, then some trees. It happens over and over again in a pattern.) Remind students to use what was just read, and what they see in the pictures to help them make their predictions.

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