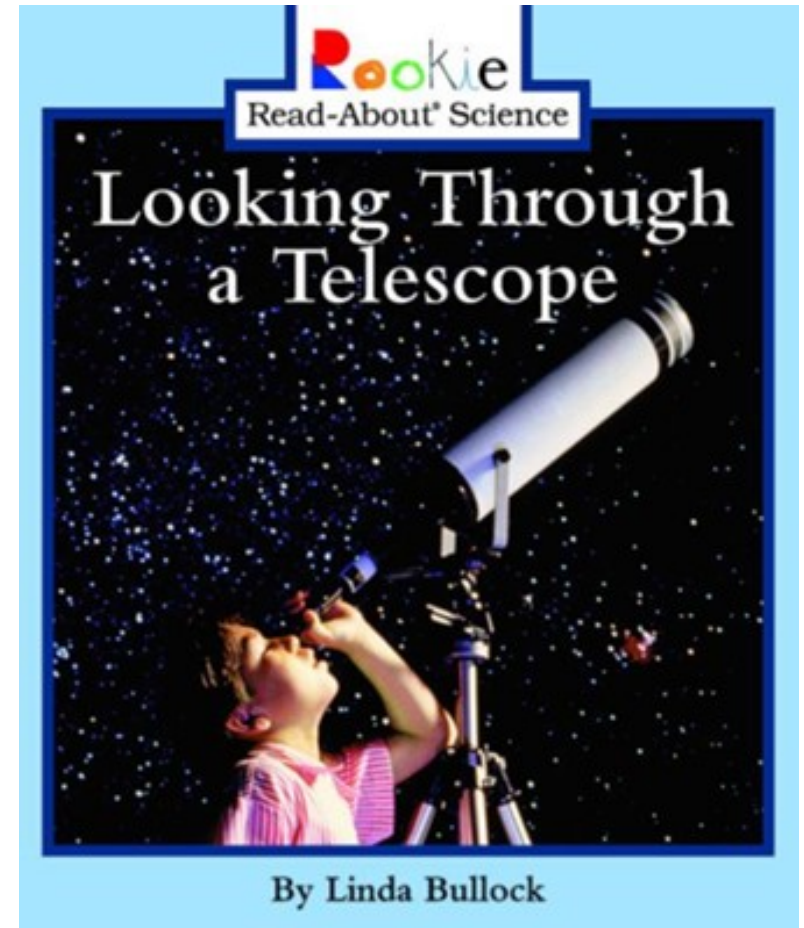


# Earth Science: Observable Patterns in the Earth, Moon, & Stars.

In this five week unit, students will have developed an understanding of the following concepts Universal Concept: Patterns, Unit Concept: Observable Patterns in the Earth, Sun, Moon, & Stars Enduring Understandings: Bodies in space move and change in appearance according to predictable patterns. Observations over time help us detect, describe, and predict patterns of movement and change in bodies in space.



## Outcomes for the Unit

### Learners Will:

1. 1.ESS1.1: Use observations or models of the sun, moon, and stars to describe patterns that can be predicted.
2. 1.ESS1.2: Observe natural objects in the sky that can be seen from Earth with the naked eye and recognize that a telescope, used as a tool, can provide greater detail of objects in the sky.
3. 1.ESS1.3: Analyze data to predict patterns between sunrise and sunset, and the change of seasons.
4. RI.1.1. Ask and answer questions about key details in a text.
5. RI.1.2. Identify the main topic and retell key details of a text.
6. RI.1.3. Describe the connection between two individuals, events, ideas, or pieces of information in a text.

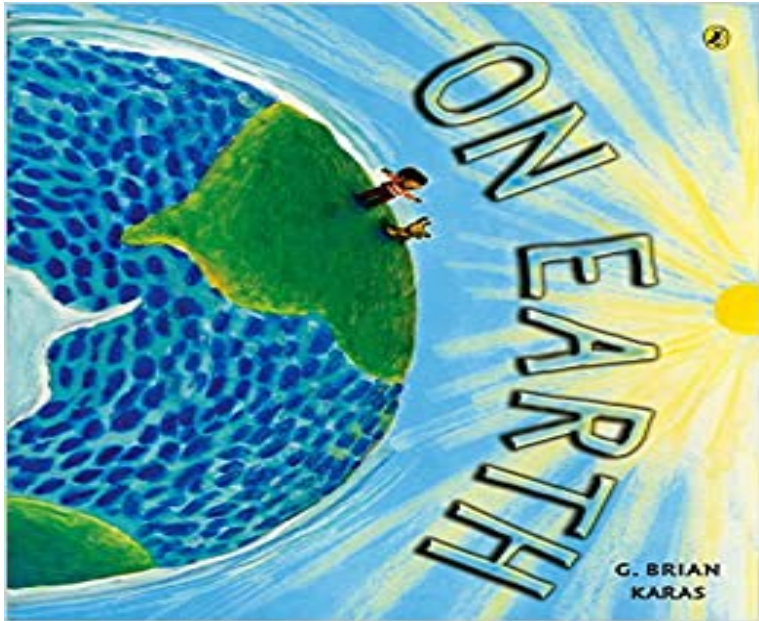
### Learners Will:

7. RI.1.4. Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.
8. RI.1.5. Know and use various text features (e.g., headings, tables of contents, glossaries, electronic menus, icons) to locate key facts or information in a text.
9. RI.1.6. Distinguish between information provided by pictures or other illustrations and information provided by the words in a text..
10. RI.1.7. Use the illustrations and details in a text to describe its key ideas.
11. RI.1.8. Identify the reasons an author gives to support points in a text and explain the application of this information with prompting as needed.
12. RI.1.9. Identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).
13. RI.1.10. With prompting and support, read informational texts at grade level text complexity or above.

**READ ALOUD CALENDAR FOR EARTH & SPACE UNIT- LESSONS ARE 35-40 MINUTES**

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Lesson 1:	Lesson 2:	Lesson 3:	Lesson 4:	Lesson 5:
<p>Lesson 6: <i>On Earth</i></p> <p>Daily Instructional Task: Students will write an informational piece on why the seasons change.</p>	<p>Lesson 7: <i>The Reason for the Seasons</i></p> <p>Daily Instructional Task: Students will write to tell what patterns will be observed in the four seasons.</p>	<p>Lesson 8: <i>The Reason for the Seasons</i></p> <p>Daily Instructional Task: Students will write an opinion piece that explains which author they think most clearly explains the causes of the changing season.</p>	<p>Lesson 9: <i>On Earth</i></p> <p>Daily Instructional Task: Students will create a brochure explaining the observable patterns in the day and night sky and the seasons they impact.</p>	<p>Lesson 10: <i>Starry Messenger</i></p> <p>Daily Instructional Task: Students will write an informational piece that explains how people's beliefs about the Earth and sun have changed over time for the local planetarium to display at their new exhibit.</p>
<p>Lesson 11: <i>Starry Messenger</i></p> <p>Daily Instructional Task:</p>	<p>Lesson 12: <i>Looking Through a Telescope</i></p> <p>Daily Instructional Task:</p>	<p>Lesson 13: <i>The Big Dipper</i></p> <p>Daily Instructional Task:</p>	<p>Lesson 14: <i>The Big Dipper</i></p> <p>Daily Instructional Task:</p>	<p>Lesson 15: Coyote Places the Stars</p> <p>Daily Instructional Task:</p>
Lesson 16: The Moon Book	<p>Lesson 17: Papa, Please Get the Moon For Me</p> <p>Daily Instructional Task: What happened to the moon in Papa, Please Get the Moon for Me? Why do you think that happened? Use what you learned about the moon in The Moon Book to inform your prediction.</p>	<p>Lesson 18: The Moon Book</p> <p>How the Moon Regained her Shape</p> <p>Daily Instructional Task: Write to explain why the shape of the moon appears to change.</p>	<p>Lesson 19: How the Moon Regained her Shape</p> <p>Daily Instructional Task: Write a letter to Monica explaining what is actually happening to the moon over the course of the story.</p>	<p>Lesson 20: Papa, Please Get the Moon For Me</p> <p>Daily Instructional Task: Write your own narrative story that describes the moon's phases.</p>
<p>Lesson 21: If You Decide to go to the Moon</p> <p>Daily Instructional Task: Your parents have won a choice of two different raffle tickets. One would send you on a trip through space, the other would get you a gigantic telescope. Would you rather make observations about earth space or get a gigantic telescope?</p>	<p>Culminating Task: You are an astronomer working for U.S. Space and Rocket Center. You have been asked to create a student friendly brochure that you will share with students during a school field trip that explains (1) observable patterns in the day and night sky, (2) the seasons that impact Earth, and (3) the phases of the moon. Use illustrations and descriptions to explain these observable patterns.</p>			

**Lesson 1 - On Earth - Reading 1, Question Sequence 1, Daily Task 1 - Answering Text-Dependent Questions, Independent Writing**



*On Earth* by G. Brian Karas (Strategy: Interactive Read Aloud, Third Reading) Lexile Level: 620L

**Learning Intentions:**

1. I am learning that the Earth moves around the sun in an orbit.
2. I am learning about patterns that occur in nature.

**Success Criteria:**

1. I can use vocabulary from the text to draw and label a picture that describes the Earth's orbit around the sun.

**Part 1:** Introduction of the vocabulary for this reading.

- revolve (explicit)
- orbit (explicit)
- gravity (implicit)

**Part 2:**

Page	Question	Student Response
<p>Teacher's Script: "This book tells us all about how the Earth moves. The Earth moves in different ways. Today, we're going to focus on one way the Earth moves. The word we're going to use to describe this movement is 'revolve'."</p> <p>Teacher's Note: Explicitly introduce this vocabulary word and the word "orbit". Then, begin the interactive read aloud.</p>		
Page 1	<p><b>Question 1:</b> What phrase did the author use to describe the Earth?</p> <p><b>Question 2:</b> What does the phrase tell us about the Earth?</p>	<p>The author said the Earth is "spinning like a merry go round."</p> <p>It tells us that the Earth moves. It spins around, like the way a merry go round does.</p>
Pages 3-4 The Earth spins...	<p><b>Question 3:</b> On this page, we learn more information about how the Earth moves from both the words and the illustrations. I'm going to read the sentence on this page again, and as I do I want you to look closely at the illustration...What do we know about how the Earth moves?</p>	<p>The Earth spins and circles the sun. The arrows point around the sun so I think the Earth moves around the sun.</p>

Page	Question	Student Response	Page	Question	Student Response
	<p><b>Think-Pair-Share</b> Think of a sentence that describes how the Earth moves. Then, tell it to your partner.</p> <p><b>Question 4:</b> Let's think more about this phrase – “the Earth...circles the sun in a great sweep”. What does “circles the sun” mean?</p> <p><b>Question 5:</b> How does the illustration help show how the Earth circles the sun?</p> <p>Teacher's Note: Some students may also want to talk about the arrows that show the Earth's rotation. If they do, let them know that we will pay attention to those arrows later when we talk about another way that the Earth moves.</p>	<p>It means the Earth goes in a circle around the sun.</p> <p>This is the Earth and this is the sun. These arrows point around the sun. The arrows look like they're going in a circle.</p>	<p>Pages 11-12 While we spin...</p>	<p><b>Question 6:</b> We talked about the word “orbit” before we started reading this book. We said it was an important word that we would need to know to understand this book. How does the author use the word “orbit” on this page?</p> <p><b>Question 7:</b> How do the illustrations on these pages help us understand what the word “orbit” means?</p>	<p>The author uses the word orbit to talk about how the Earth moves around the sun. The author says the Earth travels in an orbit around the sun.</p> <p>The illustration shows the Earth moving in a circle around the sun. The illustration also shows that in one year the Earth moves all the way around the sun in a circle.</p>
			<p>Pages 17-18 The Earth tilts...</p>	<p><b>Question 8:</b> What do we learn about the Earth's movement by looking at this illustration?</p> <p><b>Question 9:</b> This illustration reminds me of the one we looked at on pages 11-12. Let's compare these two illustrations. How are they similar? How are they different?</p>	<p>The Earth moves around the sun. The seasons change as the Earth moves around the sun.</p> <p>Both illustrations show the sun in the middle of the page and the Earth moving in a circle around it. One of them shows how each month the Earth moves a little bit more around the sun. The other one shows the different seasons that happen as the Earth moves around the sun.</p>

Page	Question	Student Response
Pages 23-24  We spin and...	<p><b>Question 6:</b> Here we read the word “revolve”, which we talked about before we started reading this book. What other word in this sentence gives us a clue about what the word “revolve” means?</p> <p><b>Question 7:</b> Given what you’ve learned so far in this text, use the word “revolve” in a sentence.</p>	<p>“we circle”</p> <p>The Earth revolves around the sun.</p>
Pages 27-28	<p>These are the final pages of the book. Let’s use what we’ve learned so far about the Earth and the sun to make some inferences about what we see on this page.</p> <p><b>Question 8:</b> What is this illustration showing us?</p>	<p>The Earth and other planets are revolving around the sun. All the planets in the solar system revolve around the sun.</p>

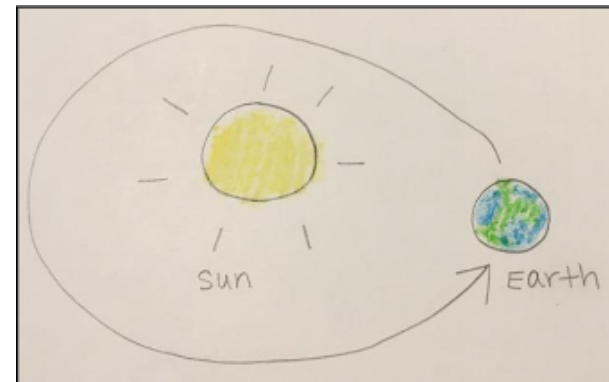
### Part 3: Daily Instructional Task

Draw and label a picture that illustrates the Earth and the sun. Your picture should help show how the Earth moves. Be sure to label your drawing with appropriate captions. Write an explanation of your drawing. Be sure to use the words “revolve” and “orbit” in your written explanation.

Students writing should include the following:

- Introduction of topic
- Supply facts about the Earth and the sun and Earth’s movement
- Use of vocabulary from the text
- Provides some sense of closure

Possible Student Response:

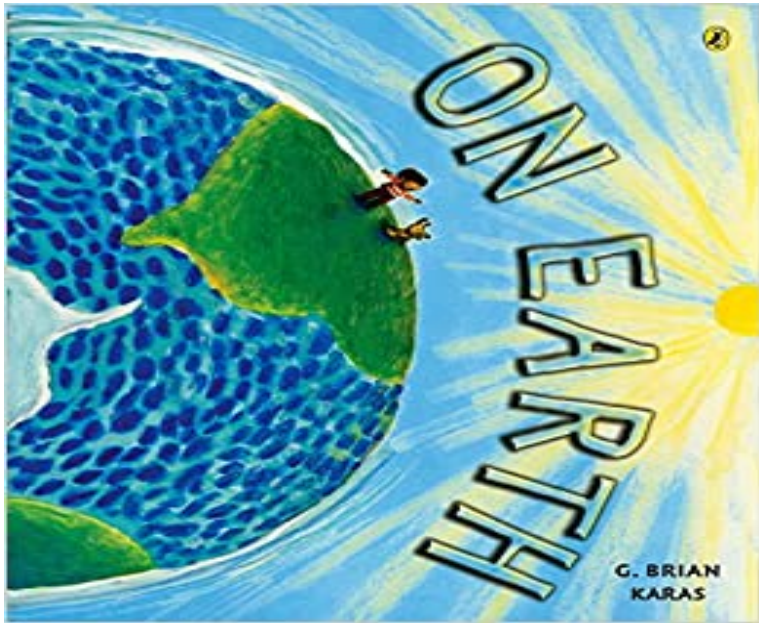


The Earth moves. The Earth revolves around the sun. That means it moves in a circle around the sun. This circle is called an orbit.

## Lesson 1 Rubric

	3	2	1
Accuracy of Writing	The writing, drawing and captions accurately shows how the Earth revolves around the sun by using facts and vocabulary from the text..	The writing, drawing and captions mostly show how the Earth revolves around the sun by using some facts and vocabulary from the text..	The writing, drawing and captions attempts to show how the Earth revolves around the sun by using few facts and vocabulary from the text..
Organization	The writing includes an introduction, facts, conclusion and unit vocabulary.	The writing includes 2 out of 3: an introduction, facts, conclusion and some unit vocabulary.	The writing includes 1 out of 3: an introduction, facts, conclusion and little to no unit vocabulary.
Capitalization	All sentences begin with a capital.	Most sentences begin with a capital.	Most sentences do not begin with a capital letter.
Usage	Each sentence has subject/predicate agreement.	Most sentences have subject/predicate agreement.	Few sentences have subject/predicate agreement.
End Punctuation	Every sentence ends with correct punctuation.	Most sentences end with correct punctuation.	Few sentences end with correct punctuation.
Total			

**Lesson 2 - On Earth - Reading 2, Question Sequence 2, Daily Task 2 - Answering Text-Dependent Questions, K-Q-L Chart, Independent Writing**



*On Earth* by G. Brian Karas (Strategy: Interactive Read Aloud, Third Reading) Lexile Level: 620L

**Learning Intentions:**

1. I am learning that the Earth rotates on an axis and that this rotation causes day and night

**Success Criteria:**

1. I can add to a K-Q-L chart about Earth's movement.
2. I can share my drawing of Earth's orbit and talk about it with a partner.

**Part 1:** Introduction of the vocabulary for this reading.

- rotate (explicit)
- spin (if students are unfamiliar with this word, teach it explicitly; otherwise use it to reinforce students' understanding of the meaning of "rotate")
- axis (explicit)
- tilts (implicit)
- equator (implicit)
- hemisphere (embedded)

The following words are reviewed during this reading:

- revolve
- orbit
- gravity

**Part 2:** Shared Writing

Today we are going to create a K-Q-L Chart together. As a class we will think about **what we know** about Earth's motion and day and night, as well as the **questions we might have** about how Earth moves and day and night. As we read, you will think about **what you've learned** from the text.

K-Q-L Chart <i>On Earth</i>		
What We Know About	Questions We Have About	What We've Learned About
<ul style="list-style-type: none"> <li>● Earth's Movement</li> <li>● Day and Night</li> </ul>	<ul style="list-style-type: none"> <li>● Earth's Movement</li> <li>● Day and Night</li> </ul>	<ul style="list-style-type: none"> <li>● Earth's Movement</li> <li>● Day and Night</li> </ul>
<p>During the day, the sun shines.</p> <p>At night, we see the moon.</p> <p>Earth moves around the sun.</p> <p>During the daytime it is warmer.</p> <p>During night time the temperature is cooler.</p>	<p>How does the Earth move?</p> <p>What causes day and night?</p>	



Page	Question	Student Response
<p>Teacher’s Script: “The first time we read this book we focused our thinking on how the Earth revolves around the sun. Today we’re going to read this book again and think about how the Earth moves in a different way. We’re going to learn about how the Earth rotates and how that rotation creates patterns in the day and night sky.”</p> <p>(Explicitly introduce “rotate” or “rotation” as a key vocabulary term for this reading.)</p>		
<p>Pages 3-4</p> <p>The Earth spins...</p>	<p>“Let’s think about text, text features, and illustrations on this page. I notice the illustration uses the label “rotation” (point to the label) and the label “axis” (point to the label). I can use the labels and the illustrations to help me determine that the Earth rotates when it spins on its axis.”</p> <p>Teacher’s Note: Use gestures with fingers to show spinning. If needed, prompt students to think about other objects they know that spin/rotate, i.e., a toy top, CDs or records, fidget spinners, merry go rounds, etc.</p>	
	<p><b>Question 1:</b> What’s the difference between the Earth’s rotation and the Earth’s revolution? How does the text help us understand that difference?</p>	<p>The Earth rotates on its axis. It spins around. The Earth revolves around the sun. That means it moves in a circle around the sun. The illustration has arrows that show the two movements Earth makes. The arrows show us that Earth rotates on its axis and revolves around the sun.</p>

Page	Question	Student Response
<p>Page 5</p> <p>We face the sun...</p>	<p><b>Question 2:</b> Let’s use what the text says to think about when we have day. What are some characteristics of daytime?</p>	<p>During daytime, we have light and warmth from the sun.</p>
<p>Pages 9-10</p> <p>At night we turn...</p>	<p><b>Question 3:</b> Let’s use the text and illustrations on this page to help us understand night. What happens during nighttime?</p> <p>Teacher’s Note: It may help to prompt students to point out different details in the illustration, like where the sun and moon are</p>	<p>Night happens when a part of the Earth turns away from the sun. The part of the Earth that faces the sun has daylight.</p>
<p>Pages 11-12</p> <p>While we spin...</p>	<p><b>Question 4:</b> What does this illustration show?</p> <p>Teacher’s Note: This can be an opportunity to review and reinforce the difference between “revolve” and “rotate”.</p> <p><b>Question 5:</b> What do we notice about the pictures of Earth on this page? Possible Probing Questions: How does the illustration of the</p>	<p>It shows the Earth revolving around the sun. It shows what the Earth looks like during each month as it revolves.</p> <p>Some of the Earths are dark and some are light. The illustrations show that the part of the Earth that is facing the sun is always light and the part that is facing away from the sun is always dark.</p>

Page	Question	Student Response
	<p>Earth in January look different from the one in April? In March? Or, what do you notice about how the author shows day and night in these illustrations?</p> <p><b>Question 6:</b> What motion causes Earth to have day and night?</p>	<p>Earth rotates, or spins, on its axis. When the Earth spins it is facing toward or away from the sun. This causes us to have day and night.</p>
Pages 15-16	<p><b>Question 7:</b> This illustration has a helpful detail related to day and night. What part of the illustration shows day and night?</p> <p><b>Question 8:</b> What would happen if the boy in this picture reached over and spun the globe?</p>	<p>The globe! The sun is shining through the window. The part of the globe that is facing the window and the sun is light up, like in daytime. The part of the globe that is facing away from the window is in the shadow. It's dark, like nighttime.</p> <p>If he spun the globe a different part of the globe would face the window and the light. A new part of the globe would have day.</p>

Page	Question	Student Response
Pages 19-20	<p><b>Question 9:</b> How does this illustration show day and night? What details help you?</p>	<p>The part of the earth that is facing toward the sun has light. There, it is day. People are at the beach playing in the water and reading a book. The side of the earth that is facing away from the sun is dark. There, it is night. There are stars and the lights on the bus are on. Those are details that show it is night time.</p>
Page 23  We spin and we circle...	<p><b>Question 10:</b> What language does the author use to describe the Earth's movement on this page?</p> <p><b>Question 11:</b> Which words have similar meanings?</p> <p><b>Question 12:</b> Why are these words important for understanding the pattern of day and night?</p>	<p>The Earth spins, circles, rotates, and revolves.</p> <p>Spin and rotate have similar meanings. So do circle and revolve.</p> <p>These words are important because they explain why we see the pattern of day and night. We have day and night because the earth rotates, or spins. If we didn't know these words, it would be difficult to describe the way the earth moves and why we have day and night.</p>

### Part 3:

#### Collaborative Task:

“We are going to learn more about Earth’s movement by rereading the text, *On Earth*. We’re also going to be thinking about day and night. We are going to create a K-Q-L Chart. As a class, we will think about what we know about Earth’s motion and day and night, as well as the questions we might have about how Earth moves and day and night. As we read, you will think about what you’ve learned from the text.”

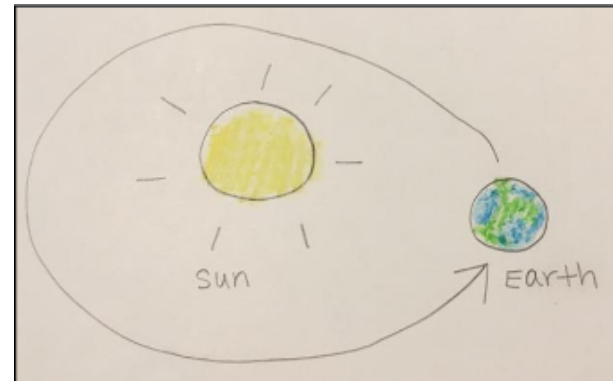
K-Q-L Chart <i>On Earth</i>		
What We Know About	Questions We Have About	What We’ve Learned About
<ul style="list-style-type: none"> <li>• Earth’s Movement</li> <li>• Day and Night</li> </ul>	<ul style="list-style-type: none"> <li>• Earth’s Movement</li> <li>• Day and Night</li> </ul>	<ul style="list-style-type: none"> <li>• Earth’s Movement</li> <li>• Day and Night</li> </ul>
<p>During the day, the sun shines.</p> <p>At night, we see the moon.</p> <p>Earth moves around the sun.</p> <p>During the day time it is warmer.</p> <p>During night time the temperature is cooler.</p>	<p>How does the Earth move?</p> <p>What causes day and night?</p>	<p>Planet Earth is constantly in motion.</p> <p>Earth spins on its axis.</p> <p>When Earth spins, the sun shines on different parts causing day and night.</p> <p>When we face the sun, it is light out and we have day.</p> <p>When we face away from the sun, it is dark and we have night.</p>

### Daily Instructional Task

Draw and label a picture that illustrates the Earth’s rotation. Your picture should show how the Earth’s rotation causes day and night. Be sure to label your picture with appropriate captions. Explain your drawing to a partner.

Oral explanation: This picture shows the sun and the Earth. This part of the Earth is facing the sun. It’s daytime on that part of the Earth. This part of the Earth is facing away from the sun so it has nighttime.

Possible Student Response:

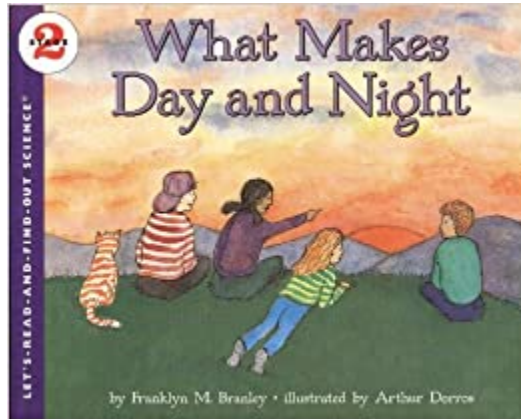


The Earth moves. The Earth revolves around the sun. That means it moves in a circle around the sun. This circle is called an orbit.

## Lesson 2 Rubric

	3	2	1
Accuracy of Writing	The writing, drawing and captions accurately shows how the Earth revolves around the sun by using facts and vocabulary from the text..	The writing, drawing and captions mostly show how the Earth revolves around the sun by using some facts and vocabulary from the text..	The writing, drawing and captions attempts to show how the Earth revolves around the sun by using few facts and vocabulary from the text..
Organization	The writing includes an introduction, facts, conclusion and unit vocabulary.	The writing includes 2 out of 3: an introduction, facts, conclusion and some unit vocabulary.	The writing includes 1 out of 3: an introduction, facts, conclusion and little to no unit vocabulary.
Capitalization	All sentences begin with a capital.	Most sentences begin with a capital.	Most sentences do not begin with a capital letter.
Usage	Each sentence has subject/predicate agreement.	Most sentences have subject/predicate agreement.	Few sentences have subject/predicate agreement.
End Punctuation	Every sentence ends with correct punctuation.	Most sentences end with correct punctuation.	Few sentences end with correct punctuation.
Total			

**Lesson 3 - What Makes Day and Night - Reading 1 (Pages 16-19), Question Sequence 1, Daily Task 3 - Answering Text-Dependent Questions, Independent Writing**



*What Makes Day and Night* Franklyn M. Branley (Strategy: Shared Reading) Lexile Level: 500L

**Learning Intentions:**

1. I am learning that the Earth rotates on an axis and that this rotation causes day and night.

**Success Criteria:**

1. I can identify key words and details in the text that describe the Earth's movement.
2. I can use text features to explain how the Earth's rotation creates the pattern of day and night.
3. I can share my drawing of Earth's orbit and talk about it with a partner.

**Part 1:** Introduction of Vocabulary for this reading

- motion (explicit)
- speed (embedded)
- photograph (embedded)
- shadow (embedded)
- sunrise (embedded)
- sunset (embedded)
- noontime (embedded)

- midnight (embedded)
- North Pole and South Pole (implicit)

The following words are reviewed during this reading:

- spin

**Part 2:**

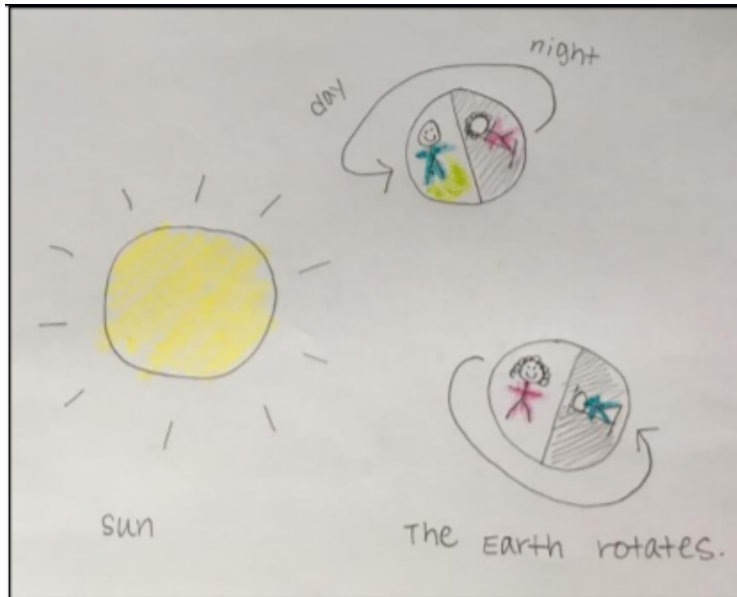
Page	Question	Student Response
Page 8	<p><b>Question 1:</b> How does the author describe the Earth?</p> <p><b>Question 2:</b> Think back to when we read the book <i>On Earth</i>. What is another word we've used for spinning?</p>	<p>The Earth is round like a ball and it is spinning.</p> <p>We've used the word rotates. Rotates means to spin.</p>
Page 10	<p><b>Question 3:</b> On this page, the author uses some more words to describe Earth. What are those words and what do they mean?</p> <p><b>Question 4:</b> Why don't we feel Earth spinning?</p>	<p>The author says that the Earth is always turning and that it spins smoothly, always at the same speed. That means that it never speeds up or slows down when it's spinning.</p> <p>We don't feel Earth moving because Earth spins smoothly. It always spins at the same speed and never stops turning.</p>

Page	Question	Student Response
Page 14	<p><b>Question 5:</b> How long does it take the Earth to spin around once?</p> <p><b>Question 6:</b> What happens when one half of the Earth is covered in light?</p> <p><b>Question 7:</b> Using what you know from On Earth and from this text, how are day and night created?</p>	<p>Earth spins around one time every twentyfour hours.</p> <p>The half of the Earth covered in light is having day, while the other half is dark and covered in Earth's shadow and having night.</p> <p>Day and night happen because the Earth rotates every twenty-four hours. As the Earth spins, it moves through light and darkness causing day and night.</p>
Pages 18-19	<p><b>Question 8- Turn and Talk:</b> The previous page says, "the Earth makes one complete turn." Using the text and illustrations on pages 18 and 19, explain to your partner what people on Earth experience during that one complete turn?</p> <p>Teacher's Note: For the illustrations on these pages, make sure students</p>	<p>People on Earth experience sunrise, noontime (daytime), sunset, and midnight (night). They move slowly from light to dark – from day to night – because the Earth spins, or rotates, slowly.</p> <p>They would experience the same pattern of day and night as people at A,</p>

Page	Question	Student Response
	<p>understand that they are looking down on the Earth from the north pole.</p> <p><b>Question 9:</b> Look again at the four pictures. What if people started at C? Would they experience the same pattern as people at A? Why or why not?</p>	<p>but in a different order. At C, those people would have sunset. Then in the second picture they would be at D and it would be night. Then in the third picture they would be at A and have sunrise. In the fourth picture they would have B and it would be day.</p>
	<p>After reading:</p> <p>Think-Pair-Share "I think that day and night are a pattern. Do you agree? Why or why not?"</p> <p>Teacher's Note: If students are unfamiliar with the word pattern, or need the term to be reinforced, the teacher may want to explicitly teach the meaning of the word "pattern" here before asking this question.</p>	<p>I agree. Day and night are a pattern because they always repeat in the same way. It's day, then it's night, then it's day again, and then it's night again. When it's day, you can predict that night will come next.</p>

### Part 3: Daily Instructional Task

Look at the drawing you made after reading, *On Earth*. Based on your new learning from the book, *What Makes Day and Night*, revise your drawing. Add more illustrations, details, labels, and/or captions that help explain the pattern of day and night. Then, describe your drawing to a partner. As you talk, be sure to use words from the texts, like “motion” and “rotate”.



Oral explanation: This picture shows night and day. The girl with the pink shirt is awake during daytime. Where she is the Earth is facing toward the sun. That’s why she has day. The boy with the blue shirt is in bed. He is asleep during nighttime. Where he is the Earth is facing away from the sun. That part of the Earth doesn’t get sunlight so it is dark.

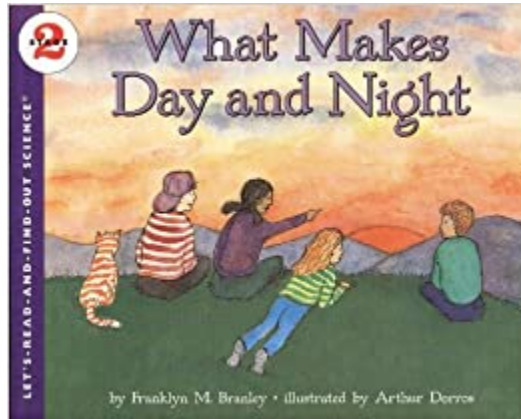
This picture shows what happens when Earth rotates. Because the Earth rotates, the girl in the pink dress is on the part of the Earth that’s facing away from the sun. Where she is, it’s night time. And the boy in the blue shirt who was sleeping is now on the part of the Earth that is facing the sun. For him, it’s daytime and he is playing outside. Both the girl and the boy experienced both day and night because the Earth is always spinning, or rotating. Day and night are a

pattern because they always happen in the same order. It’s day, then it’s night, then it’s day again, and then it’s night again.

### Rubric

	3	2	1
Accuracy of Writing	The revised writing, drawing and captions accurately show how the Earth’s rotation causes day and night by using facts and vocabulary from the text..	The revised writing, drawing and captions mostly show how the Earth’s rotation causes day and night by using some facts and vocabulary from the text..	The revised writing, drawing and captions attempts to show how the Earth’s rotation causes day and night by using few facts and vocabulary from the text..
Organization	The writing includes an introduction, facts, conclusion and unit vocabulary.	The writing includes 2 out of 3: an introduction, facts, conclusion and some unit vocabulary.	The writing includes 1 out of 3: an introduction, facts, conclusion and little to no unit vocabulary.
Capitalization	All sentences begin with a capital.	Most sentences begin with a capital.	Most sentences do not begin with a capital letter.
Usage	Each sentence has subject/predicate agreement.	Most sentences have subject/predicate agreement.	Few sentences have subject/predicate agreement.
End Punctuation	Every sentence ends with correct punctuation.	Most sentences end with correct punctuation.	Few sentences end with correct punctuation.
Total			

**Lesson 4 - What Makes Day and Night - Reading 2  
(Pages 20-29), Question Sequence 2, Daily Task 4**



*What Makes Day and Night* Franklyn M. Branley  
(Strategy: Shared Reading) Lexile Level: 500L

**Learning Intentions:**

1. I am learning that the Earth spins, or rotates, and this movement causes the pattern of day and night.

**Success Criteria:**

1. I can compare and contrast how day and night are different on the Earth and Moon by writing a paragraph that explains what causes the pattern of day and night.

**Part 1:** Introduction of Vocabulary for this reading

- experiment (explicit)

The following words are reviewed during this reading:

- sunrise
- noontime
- sunset
- spin

**Part 2:**

Page	Question	Student Response
Pages 22-23	<p><b>Question 1:</b> What is the boy doing? What is happening in each of these pictures?</p> <p>Teacher's Note: If possible, have students do the experiment themselves. Have them reread the directions, noticing key directional words like "left" and "in front", to complete the experiment.</p>	<p>The boy is doing an experiment. He is pretending to be the Earth and the lamp is like the sun. He is slowly turning around, or rotating, just like the Earth does. The light is shining on different parts of his body as he turns, just like the sun shines on different parts of the Earth as it spins. He is experiencing day and night.</p>
Page 24	<p><b>Question 2:</b> What is happening when you see the sunrise?</p>	<p>The part of Earth where you are is moving, or spinning, toward the sun. It will be daytime soon.</p>
Page 27	<p><b>Question 3:</b> What is happening when you see the sunset?</p> <p><b>Question 4:</b> This caption says, "As the earth turns, the sun seems to move across the sky". Why is that?</p>	<p>Part of Earth is turning away from the sun.</p> <p>The sun seems to move, but it isn't. Instead, the earth is spinning. As we spin we slowly turn toward the sun, so the sun appears to our left. As we keep turning we face the sun and it's right in front of us. As we spin some more the sun appears on our right.</p>



Page	Question	Student Response
Page 29	<p><b>Question 5:</b> What are day and night like on the moon? Why are day and night different on the Earth and the moon?</p> <p><b>Question 6:</b> Why are day and night different on the Earth and the moon?</p>	<p>Day and night are very long on the moon. It is night for two weeks and day for two weeks.</p> <p>Because the Earth and moon spin at different speeds. The moon spins very slowly, so it takes a long time for one part of the moon to turn toward the sun and then turn away. The Earth spins faster so each part of the Earth faces the sun and turns away from it every 24 hours.</p>
Page 30	<p><b>Question 7:</b> <b>Think-Pair-Share</b> The author says, "That seems just about right for all of us on the planet earth." What is the author saying here? Do you agree? Why or why not?</p>	<p>The author is saying that 12 hours of sunlight and 12 hours of darkness is the right amount for people on earth. Answers will vary. I disagree! I want more daylight because I don't like going to bed.</p>

Page	Question	Student Response
	<p>After reading:</p> <p>Think-Pair-Share <b>Question 10:</b> Why does Earth have day and night?</p> <p><b>Question 10:</b> We said earlier that day and night are a pattern. Is it a pattern we can predict? Why or why not?</p>	<p>Earth has day and night because the Earth is always turning, or rotating. Every twenty-four hours different parts of the Earth face toward the sun and then away from the sun.</p> <p>Yes, we can predict day and night because the earth is always spinning. As long as the Earth keeps rotating we will always go from day to night and back to day.</p>

### Part 3: Daily Instructional Task

**Teacher's Note:** This daily task builds on the drawing task students completed after reading *On Earth and the first read of What Makes Day and Night*.

Write a paragraph that explains your picture from the previous task. Your paragraph should explain what causes the pattern of day and night.

Students writing should include the following:

- Introduction of topic
- Supply facts that explain what causes the pattern of day and night
- Use of vocabulary from the text
- Provides some sense of closure

## Lesson 5 - Sunshine Makes the Seasons - Reading 1, Question Sequence 1, Daily Task 5

Possible Student Response:

Day and night are a pattern. That's because the Earth is round and it rotates around its axis. Part of the Earth is always facing toward the sun and the other part is facing away. People on the part that faces toward the sun have light and daytime. The people on the part of Earth that faces away from the sun have nighttime because it is dark. As Earth rotates, the part that is dark spins toward the sun. As it spins toward the sun nighttime becomes day.



*Sunshine Makes the Season* Franklyn M. Branley  
(Strategy: Shared Reading) Lexile Level: 510L

### Learning Intentions:

1. I am learning that the change in seasons is created by the Earth's tilt, which causes different parts of the Earth to receive different amounts of sunlight.

### Success Criteria:

1. I can retell details to add words and illustrations to a piece of writing that describes the relationship between sunshine and the four seasons.
2. I can add information to an interactive writing class chart that describes the four seasons.

### Part 1: Introduction of Vocabulary for this reading

	3	2	1
Accuracy of Writing	The paragraph accurately explains what causes the pattern of day and night by using facts and vocabulary from the unit.	The paragraph mostly explains what causes the pattern of day and night by using some facts and vocabulary from the unit.	The paragraph attempts to explain what causes the pattern of day and night by using few facts and vocabulary from the unit.
Organization	The writing includes an introduction, facts, conclusion and unit vocabulary.	The writing includes 2 out of 3: an introduction, facts, conclusion and some unit vocabulary.	The writing includes 1 out of 3: an introduction, facts, conclusion and little to no unit vocabulary.
Capitalization	All sentences begin with a capital.	Most sentences begin with a capital.	Most sentences do not begin with a capital letter.
Usage	Each sentence has subject/predicate agreement.	Most sentences have subject/predicate agreement.	Few sentences have subject/predicate agreement.
End Punctuation	Every sentence ends with correct punctuation.	Most sentences end with correct punctuation.	Few sentences end with correct punctuation.
Total			

**Part 1:** Introduction of Vocabulary for this reading

- tilted (explicit)

The following words are reviewed during this reading:

- rotates
- equator
- axis
- North Pole and South Pole

**Part 2:** Today we will create a chart about the four seasons. As we read, we will add information to it that explains what happens in each of the four seasons. (Students can add the information to the charts via post-its, drawings, and/or writing phrases or sentences.)

<b>Spring</b>	<b>Summer</b>
<b>Winter</b>	<b>Fall</b>

Page	Question	Student Response
<p>Today we're going to read some books about the seasons. As we read, we're going to think about what happens in each season and why. In particular, we're going to pay attention to the patterns that occur in each season year after year. We'll record this information in this chart.</p>		
Pages 4-5	<b>Question 1:</b> The author says "Sunshine warms the earth." What does that mean?	It means that that sunshine keeps our Earth warm. Sunshine makes us feel warm. Without sunshine, the Earth would get cold and freeze.
Page 6	<b>Question 2:</b> Using the information on this page and your own background knowledge, can you explain why we are warmer in summer than in winter?	The text says that the amount of sunshine makes the difference. I think that means that when there is more sunshine it is warmer. When there is less sunshine it is colder. We get more sunshine in summer, so that's why summer is warmer.
Page 8	<b>Question 3:</b> What is another word for "goes around the sun"? Possible Probing Questions: What word did we talk about when we read On Earth that describes how the Earth moves around the sun?	Another word would be revolve/revolution.

Page	Question	Student Response
Page 9	<p><b>Question 4:</b> What happens in winter? Why?</p> <p>Let's add this information to our chart. Which box should we write in? (Winter.) What words, sentences, or pictures could we add to our chart?</p>	<p>The days get shorter. We have less sunshine. That makes it colder.</p> <p>Possible responses:</p> <ul style="list-style-type: none"> <li>• The days get shorter in winter.</li> <li>• Less sunshine</li> <li>• Colder</li> <li>• A picture of a winter coat</li> </ul>
Page 10	<p><b>Question 5:</b> What happens in the other seasons of the year? Why?</p> <p>What information can we add to our chart?</p>	<p><b>Spring</b></p> <ul style="list-style-type: none"> <li>• Days get longer</li> </ul> <p><b>Summer</b></p> <ul style="list-style-type: none"> <li>• Days get even longer</li> <li>• The sun is shining even when I have to go to bed It's warm</li> </ul> <p><b>Fall</b></p> <ul style="list-style-type: none"> <li>• Days get shorter</li> <li>• Days get cooler</li> </ul>

Page	Question	Student Response
Pages 12-26	<p>Teacher's Note: This section explains an experiment that helps students understand how the Earth's tilt causes changes in the amount of sunlight on different parts of the Earth. If time and resources are available, teachers and students are encouraged to read the text and conduct the experiment. Students will have another opportunity to conduct or repeat this experiment during the second read of this text.</p>	
Page 18	<p><b>Question 6:</b> What does it mean that the orange (the Earth) "is lighted from pole to pole"?</p>	<p>The sunlight shines evenly on all parts of the orange. The top of the orange and the bottom of the orange both get the same amount of sunshine.</p>
Page 19	<p><b>Question 7:</b> Based on the information on this page, let's make some predictions. How do we need to change what we're doing with the orange to show how the Earth really moves?</p> <p><b>Question 8:</b> What do you think will happen when we tilt it?</p>	<p>We will have to tilt the orange so that axis is not pointing straight up and down.</p> <p>When we tilt the orange the amount of sunlight that shines on different parts of the orange will change.</p> <p>Teacher's Note: Students may not predict this accurately – that is okay! Use students' predictions as evidence of students' current level of understanding of this concept.</p>

Page	Question	Student Response
Page 21	<p><b>Question 9:</b> What happens to this part of the Earth (the pin) when it tilts away from the sun (the light)?</p> <p><b>Question 10:</b> What might that change in sunlight cause?</p>	<p>It gets less sunshine.</p> <p>It will cause shorter days and colder weather. With less sunlight, it won't be as warm. It will be winter.</p>
Page 23	<p><b>Question 11:</b> What happened as the Earth (the orange) revolved around the sun (the light)?</p> <p><b>Question 12:</b> If this orange were really the Earth, what would be happening?</p>	<p>This part of the Earth (where the pin is) started getting more and more sunlight.</p> <p>This part of the Earth (the pin) would be getting more sunlight and it would be getting warmer. The seasons would be changing from winter to spring to summer.</p>
Page 26	<p><b>Question 8:</b> What did this experiment show us?</p>	<p>It shows us that sunshine is what causes the seasons. The reason the amount of sunshine changes over the year is because the Earth is tilted toward or away from the sun.</p>

### Part 3: Daily Instructional Task

The author, Franklyn Branley, wants to know if you learned what he hoped you would after reading his book. He wants to know if you can explain why the seasons change. Write a paragraph for him to read that explains what you learned.

Students writing should include the following:

- Introduction of topic
- Supply facts that explain why the seasons change
- Use of vocabulary from the text
- Provides some sense of closure

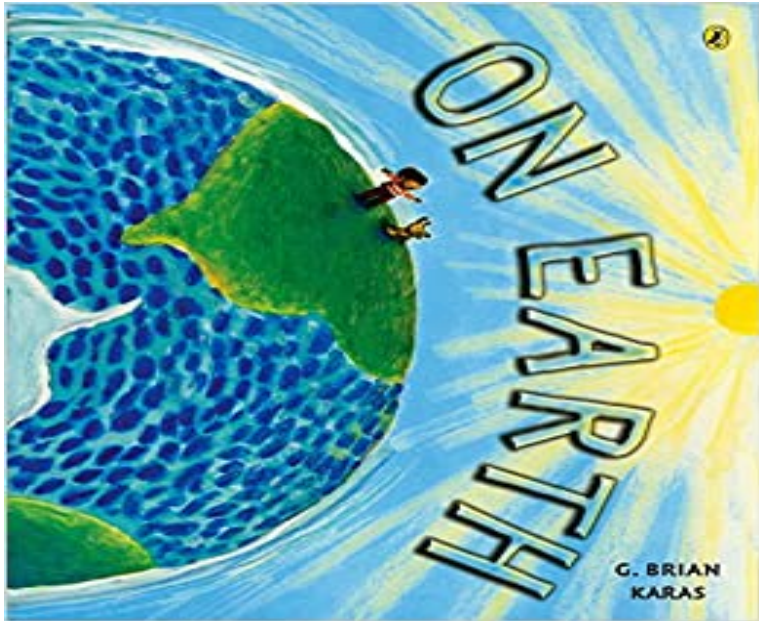
Possible Student Response:

Seasons change because where you are on Earth gets different amounts of sunshine during different seasons. In summer, you tilt toward the sun and get more sunshine. That makes it warm. In winter, you tilt away from the sun and you don't get much sunlight. That makes it colder.

### Rubric

	3	2	1
Accuracy of Writing	The paragraph accurately explains why seasons change using facts and vocabulary from the text.	The paragraph mostly explains why seasons change using some facts and vocabulary from the text.	The paragraph attempts to explain why seasons change using few facts and vocabulary from the text.
Organization	The writing includes an introduction, facts, conclusion and unit vocabulary.	The writing includes 2 out of 3: an introduction, facts, conclusion and some unit vocabulary.	The writing includes 1 out of 3: an introduction, facts, conclusion and little to no unit vocabulary.
Capitalization	All sentences begin with a capital.	Most sentences begin with a capital.	Most sentences do not begin with a capital letter.
Usage	Each sentence has subject/predicate agreement.	Most sentences have subject/predicate agreement.	Few sentences have subject/predicate agreement.
End Punctuation	Every sentence ends with correct punctuation.	Most sentences end with correct punctuation.	Few sentences end with correct punctuation.
Total			

**Lesson 6 - On Earth - Reading 3, Question Sequence 3, Daily Task 6 - Answering Text-Dependent Questions, Independent Writing**



*On Earth* by G. Brian Karas (Strategy: Interactive Read Aloud, Third Reading) Lexile Level: 620L

**Learning Intentions:**

3. I am learning how to build understanding that the change in seasons is created by the Earth's tilt and its revolution around the Sun.
4. I am learning how to identify and understand key terms from the text

**Success Criteria:**

4. I can identify key details from the text to describe the relationships between Earth's tilt, its revolution around the sun, and the changing seasons.
5. I can identify and understand key terms from the text.

**Part 1:** Introduction of Vocabulary for this reading

- Vocabulary: leans (explicit)

**Part 2:**

Page	Question	Student Response
Pages 3-4 The Earth spins...	<p><b>Question 1:</b> What important ideas about how the Earth moves are explained on this page? How are they explained?</p> <p>Teacher Note: Use this question as an informal assessment of what information students have already internalized.</p>	<p>There are labels on this page. There are labels for rotation, revolution, and axis. Rotation means to spin. The Earth spins on its axis, which is an imaginary line that goes through the center of the Earth from top to bottom. Revolution means to circle around something else, like the sun.</p>
Page 12 While we spin...	<p><b>Question 2:</b> The author states that "we're one year older" when we orbit around the sun one time. Explain why we're one year older after one revolution?</p>	<p>We are one year older because it takes Earth one year to move, or revolve, around the sun.</p>

Page	Question	Student Response
Pages 17-18 The Earth tilts...	<p><b>Question 3:</b> The text says, “the Earth tilts on its axis.” What does tilt mean?</p> <p>Based on the text and the illustration, why do we have different seasons?</p> <p>What happens when the northern hemisphere of the Earth leans, or tilts, toward the sun?</p> <p>Teacher’s Note: Be sure to read the text box that says “Seasons in the Northern Hemisphere.” You may also want to prompt students to look at the illustration and notice how the Earth is always tilted the same way.</p>	<p>Tilt means to lean.</p> <p>The Earth tilts on its axis and leans toward and away from the sun.</p> <p>When the northern hemisphere of Earth leans toward the sun, the Earth is warmer and has Spring and Summer.</p>

Page	Question	Student Response
Pages 19-20 When the Earth’s top side...	<p><b>Question 4:</b> What happens when the northern hemisphere of the Earth leans away from the sun?</p>	<p>When the northern hemisphere leans away from the sun, Earth is cooler and has Autumn and Winter.</p>
Pages 21-22 In winter...	<p><b>Question 5:</b> What happens in winter? Using what we know about the Earth’s tilt, why do you think this happens?</p> <p>What information from these pages can we add to our seasons chart?</p>	<p>In winter the days get shorter and the nights get longer. In winter there is less sunlight, so daytime feels shorter.</p> <p>Possible responses:  Winter – days get shorter and nights get longer; less sunlight  Spring – days get filled with sunlight</p>

Page	Question	Student Response
After Reading	I think the seasons are a pattern. Do you agree? Why or why not?	Yes, the seasons are a pattern because they occur in the same order. The Earth revolves around the sun the same way each year. And the Earth always stays tilted the same way. So the pattern of sunlight always stays the same. The northern hemisphere gets the most sunlight in summer, then less in fall, even less in winter, then more in spring, and back to summer when there is a lot of sunlight.
	Can we predict the seasons? Why or why not?	Yes, the seasons always occur in the same order, so we can predict which season is coming next.

### Part 3: Daily Instructional Task

Students will write an informational piece on why the seasons change.

Student writing should include the following:

- Introduce your topic.
- Supply facts that explain why the seasons change.
- Use vocabulary from the unit.
- Provide a sense of closure.

Possible Student Response:

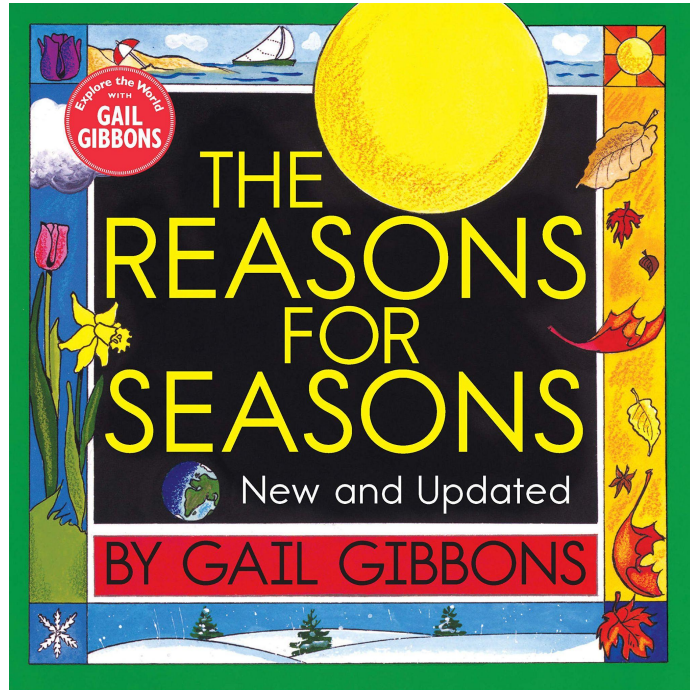
- Seasons change as the amount of sunshine changes.
- The amount of sunshine on Earth changes because of Earth's tilt.
- As the Earth revolves around the sun, a certain point on Earth gradually moves from more sunshine to less sunshine.
- More sunshine corresponds to the summer season, and less sunshine to the winter season.
- Changing seasons are a predictable pattern. There are always four seasons, and they always occur in the same order. If we are experiencing a particular season (e.g., winter) we can predict which season will come next (e.g., spring).

#### Answering Text Dependent Questions, Independent Writing

	3	2	1
Accuracy of Writing	The writing accurately explains why the seasons change.	The writing attempts to explain mostly why the seasons change.	The writing attempt doesn't accurately explain why the seasons change.
Organization	The writing includes an introduction, facts, and conclusion.	The writing includes 2 out of 3: an introduction, facts, and conclusion.	The writing includes 1 out of 3: an introduction, facts, and conclusion.
Capitalization	All sentences begin with a capital.	Most sentences begin with a capital.	Most sentences do not begin with a capital letter.
Usage	Each sentence has subject/predicate agreement.	Most sentences have subject/predicate agreement.	Few sentences have subject/predicate agreement.
End Punctuation	Every sentence ends with correct punctuation.	Most sentences end with correct punctuation.	Few sentences end with correct punctuation.
Total			



**Lesson 7 - The Reasons for Seasons - Reading 1,  
Question Sequence 1, Daily Instructional Task 7,  
Answering Text-Dependent Questions, Independent  
Writing**



*The Reasons for Seasons* by Gail Gibbons  
(Strategy: Interactive Read Aloud, First Reading)  
Lexile 620 L

**Learning Intentions:**

1. I am learning how to understand important characteristics of each of the four seasons and how they differ from one another.
2. I am learning how to ask and answer questions about key details regarding the four seasons.
3. I am learning how to compare and contrast important characteristics of each of the four seasons.
4. I am learning how to describe how patterns in seasons impact living things.

**Success Criteria:**

1. I can identify the characteristics of each of the four seasons and how they are different.
2. I can ask and answer questions about key details.
3. I can compare and contrast the characteristics of each of the four seasons.
4. I can describe how the patterns in seasons impact living things.

**Part 1:** Introduction of Vocabulary for this reading

- equinox (implicit)
- solstice (explicit)
- midday (embedded)
- ancient (embedded)
- climate (explicit)
- hibernation (embedded)
- temperature (implicit)

**Part 2:**

Page	Question	Student Response
Pages 6-10 Spring section	<p><b>Question 1:</b> When does spring usually begin?</p> <p><b>Question 2:</b> What happens in this season?</p>	<p>In the northern hemisphere, spring usually begins around March 21.</p> <p>Spring is the season when more sunshine causes cooler air to be replaced with warmer air. Crops grow, trees grow, and new leaves and flowers bloom.</p>

Page	Question	Student Response
Page 12 While we spin...	<p><b>Question 3:</b> What is migration? How does it impact certain animals?</p> <p><b>Question 4:</b> How else does spring impact living things?</p>	<p>Migration is when some animals that have been away return. Some birds and whales migrate.</p> <p>Animals that slept all winter wake up. Trees grow new leaves and flowers bloom. Some crops are planted.</p>
Pages 11-14 Summer section	<p><b>Question 5:</b> When does summer usually begin?</p> <p><b>Question 6:</b> What happens in this season?  (This is an opportunity for a collaborative talk structure.)</p> <p><b>Question 7:</b> How does summer impact living things?</p>	<p>Summer usually begins about June 21 in the northern hemisphere.</p> <p>The sun is tilted more toward the sun than any other time of the year. It is usually the warmest season. Daylight is long and nights are shorter.</p> <p>Flowers and plants grow under the warm sun. Animals are having new families. People can do things outdoors, like going to the beach.</p>

Page	Question	Student Response
Pages 15-19 Autumn section	<p><b>Question 8:</b>When does autumn usually begin?</p> <p><b>Question 9:</b>What happens in this season?</p> <p><b>Question 10:</b>What is the impact of autumn on different living things?</p>	<p>Autumn begins about September 21 in the northern hemisphere.</p> <p>This is the season when it starts getting cooler in the air. The days grow shorter and the nights are longer.</p> <p>Some leaves turn to different colors and fall to the ground. Farmers gather crops. Children go back to school. Some animals migrate and prepare for cold weather.</p>
Pages 20-26 Winter section	<p><b>Question 11:</b>When does winter usually begin?</p> <p><b>Question 12:</b>What happens in this season?</p>	<p>The first day of winter is usually December 21 in the northern hemisphere.</p> <p>This is the time of year when the northern hemisphere is tilted farthest from the sun. It is the coldest season of the year. Daylight is short and nights are long.</p>

Page	Question	Student Response
After Reading	<p><b>Question 14:</b>What other information can we add to the chart based on our own experiences of the seasons?</p> <p><b>Question 15:</b>How are the four seasons different from one another? Which seasons are similar and why?</p>	<p>Answers will vary. There are storms in the spring and summer.</p> <p>The seasons are different because they get different amounts of sunshine and warmth. Summer gets the most sunshine and winter gets the least. Spring and summer are similar because the amount of sunshine increases. Fall and winter are similar because sunshine and warmth decrease.</p>

Page	Question	Student Response
	<p><b>Question 16:</b>What patterns can we observe in the seasons?</p>	<p>There are patterns of sunlight in the seasons. There is more sunlight in spring and summer and less sunlight in fall and winter. Then there is more sunlight again as spring happens again. There is also a pattern in temperature. It is warmer in some seasons, like spring and summer, and colder in other seasons, like fall and winter. The pattern is warm, cold, warm, cold.</p>

### Part 3: Daily Instructional Task

Students will write to tell what patterns will be observed in the four seasons.

- Your family has a new neighbor that has moved here from the North Pole. At the North Pole, their seasons are a little different because of their location on Earth. They want to know what patterns they can expect to see in the four seasons. Write to tell them what patterns they will observe in each of the four seasons.

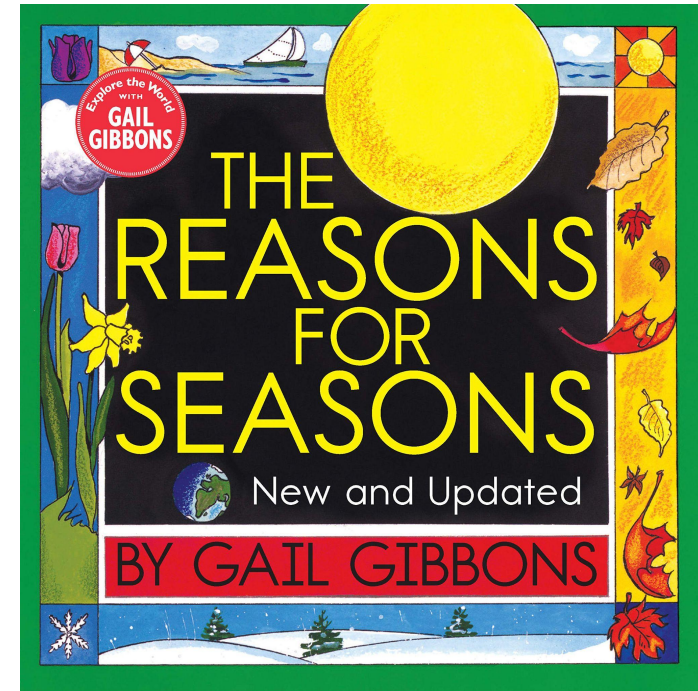
Student writing should include the following:

- Introduce your topic.
- Supply facts about what happens in each season and how the four seasons are different from one another.
- Use vocabulary from this unit,
- Provide a sense of closure.

Possible Student Response:

There are four seasons. Each season is different but there are patterns of daylight in each of them. In spring there starts to be more daylight and it is warmer. Summer is the hottest season with the most daylight. In summer the Earth is tilted the closest to the sun. Plants grow and animals have families. In fall there starts to be less daylight and it gets cooler. Some birds migrate to warmer places. Winter is the coldest month with the least sunlight. In winter the Earth is tilted the farthest away from the sun. It gets dark very early in winter. Some people like to stay inside.

**Lesson 8 - The Reasons for Seasons - Reading 2, Question Sequence 2, Daily Instructional Task 8, Answering Text-Dependent Questions, Independent Writing**



*The Reasons for Seasons* by Gail Gibbons  
(Strategy: Interactive Read Aloud, First Reading)  
Lexile 620 L

Answering Text Dependent Questions, Independent Writing

	3	2	1
Accuracy of Writing	The writing accurately explains what happens in each season and how the four seasons are different from one another.	The writing attempts and explains mostly what happens in each season and how the four seasons are different from one another.	The writing attempt does not accurately explain what happens in each season and how the four seasons are different from one another.
Organization	The writing includes an introduction, facts, and conclusion.	The writing includes 2 out of 3: an introduction, facts, and conclusion.	The writing includes 1 out of 3: an introduction, facts, and conclusion.
Capitalization	All sentences begin with a capital.	Most sentences begin with a capital.	Most sentences do not begin with a capital letter.
Usage	Each sentence has subject/predicate agreement.	Most sentences have subject/predicate agreement.	Few sentences have subject/predicate agreement.
End Punctuation	Every sentence ends with correct punctuation.	Most sentences end with correct punctuation.	Few sentences end with correct punctuation.
Total			

*Teacher Note:*

*Read pages 1-5 only to allow time for the second read of Sunshine Makes the Seasons and Daily Task 8. The second read of The Reasons for Seasons, the second read of Sunshine Makes the Seasons, and Daily Task 8 are designed to be completed all on the same day.)*

## Learning Intentions:

1. I am learning how to compare two texts on the same topic.
2. I am learning how to summarize key ideas related to the Earth's changing seasons.
3. I am learning how to analyze how texts' words and illustrations are used to explain information related to the Earth's changing seasons.

## Success Criteria:

1. I can compare two texts on the same topic.
2. I can summarize key ideas related to the Earth's changing seasons.
3. I can analyze how texts' words and illustrations are used to explain information related to the Earth's changing seasons.

## Part 1: Introduction of Vocabulary for this reading

- equinox (implicit)
- solstice (explicit)
- midday (embedded)
- ancient (embedded)
- climate (explicit)
- hibernation (embedded)
- temperature (implicit)

## Part 2:

Page	Question	Student Response
<b>The Reasons for the Seasons by Gail Gibbons</b>		
Pages 2-3	Teacher's Script: "Today we're going to reread two texts that explain why the seasons change – The Reasons for Seasons and Sunshine Makes the Seasons. Both books seek to explain the same concept. We're going to think about which text, in our opinion, does a better job of explaining the concept."	
Pages 2-3	Let's stop and summarize the information that was shared in this section of pages.  How did the author and/or illustrator explain this information?  (This is an opportunity for a collaborative talk structure.)	The sun warms the Earth. It takes one year for the Earth to revolve around the sun. As Earth circles the sun, different parts of the Earth are closer to the sun than others.

Page	Question	Student Response
<b>The Reasons for the Seasons</b> by Gail Gibbons		
Pages 4-5	<p>Let's stop and summarize the information that was shared in this section of pages.</p> <p>How did the author and/or illustrator explain this information?</p>	<p>Earth is tilted on its axis. When the northern hemisphere is tipped toward the sun it is summer. Both the words and the illustrations give us information. The illustration shows the Earth's axis and tilt. The captions give information about the poles and equator.</p>
<b>Sunshine Makes the Seasons</b> by Franklyn Branley		
Before Reading	<p>Teacher's Note: Complete the shared reading of pages 4-11 and 19-26. If time and resources allow, add the experiment on pages 12-18. Due to the length of this text, reading could be completed across days (e.g., pages 4-11, the experiment section on pages 12-26).</p>	

Page	Question	Student Response
<b>Sunshine Makes the Seasons</b> by Franklyn Branley		
Pages 4-5	<p>Let's stop and summarize the information that was shared in this section of pages.</p> <p>How did the author and/or illustrator explain this information?</p> <p>(This is an opportunity for a collaborative talk structure.)</p>	<p>Sunshine keeps the Earth warm. The words say specifically that the "sunshine warms the Earth". The illustrations also show what would happen without sunlight – a dark sky with freezing cold weather.</p>
Pages 8-11	<p>Let's stop and summarize the information that was shared in this section of pages.</p> <p>How did the author and/or illustrator explain this information?</p>	<p>The length of our days changes throughout the year. Days get longer in spring and summer. That means more sunshine. The days start getting shorter in fall. They are the shortest in winter. The text gives us this information. The illustrations show pictures of what winter and summer look like.</p>

Page	Question	Student Response
<b>Sunshine Makes the Seasons by Franklyn Branley</b>		
Pages 22-24	<p>Let's stop and summarize the information that was shared in this section of pages.</p> <p>How did the author and/or illustrator explain this information?</p>	<p>During summer, the northern half of the earth is in the light longer than it is in the dark. It is summer and warm. The words tell us this. The picture shows it too.</p> <p>The pictures in this part of the book only help me a little bit. It's hard to see how the light changes from spring to summer.</p>
Pages 27-32	<p>Teacher's Note: These pages discuss how the seasons are different at the poles and equator. This information is not necessarily relevant to the concepts of this unit and, given the length of this text, have been</p>	

Page	Question	Student Response
<b>Sunshine Makes the Seasons by Franklyn Branley</b>		
	<p>purposefully left out. Teachers could choose to have students read these closing pages as an extension activity to learn more about the effect of sunshine on climate.</p>	

### Part 3: Daily Instructional Task

Students will write an opinion piece that explains which author they think most clearly explains the causes of the changing season.

- Your librarian needs your help deciding which book to display on her shelf. After reading both texts, *The Reasons for the Seasons* by Gail Gibbons and *Sunshine Makes the Seasons* by Franklyn Branley, write an opinion piece that explains which author you think most clearly explains the causes of the changing seasons. In your writing, describe how the text uses words and pictures to explain certain ideas.

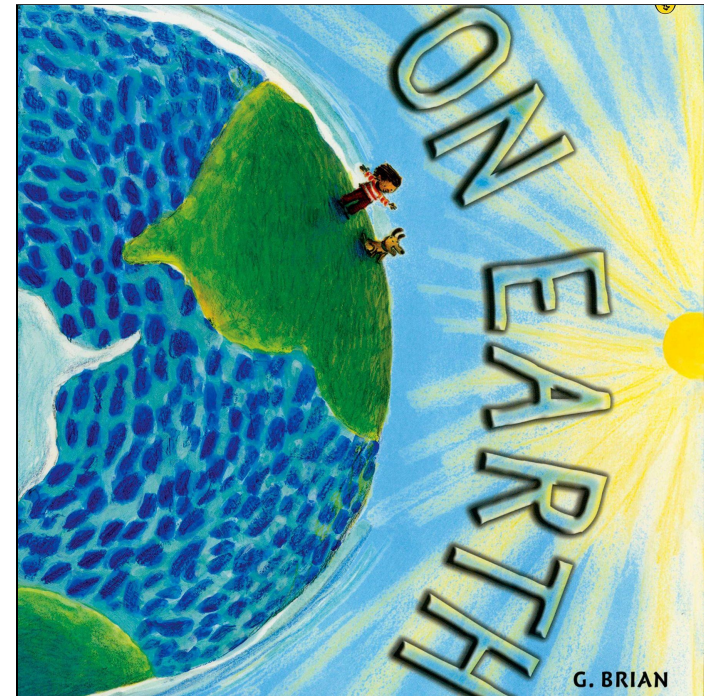
Student writing should include the following:

- Your opinion
- One or more reasons for your opinion
- One or more comparisons between the two texts
- Vocabulary words from the texts
- A sense of closure

Possible Student Response:

I think Sunshine Makes the Seasons did a better job of explaining why the seasons change because of the experiment and illustrations. The experiment in the book helped me understand how the Earth's tilt causes parts of the Earth to get more and less sunshine. And sunshine is what causes the seasons. The illustrations in Reason for the Seasons didn't always show the Earth's tilt. The words in Sunshine Makes the Seasons were easier to understand.

**Lesson 9 - On Earth - Reading 4, Question Sequence 4, Daily Instructional Task 9, Answering Text-Dependent Questions, Independent Writing**



*On Earth* by G. Brian Karas  
(Strategy: Interactive Read Aloud, Third Reading)  
Lexile 540 L

Answering Text Dependent Questions, Independent Writing

	3	2	1
Accuracy of Writing	The writing accurately explains which author they think most clearly explains the causes of the changing season.	The writing attempts and explains mostly which author they think most clearly explains the causes of the changing season.	The writing attempt does not accurately explain which author they think most clearly explains the causes of the changing season.
Organization	The writing includes an opinion, reasons, comparison of the two texts and conclusion.	The writing includes 3 out of 4: opinion, reasons, comparison of the two texts and conclusion.	The writing includes 1 out of 4: opinion, reasons, comparison of the two texts and conclusion.
Capitalization	All sentences begin with a capital.	Most sentences begin with a capital.	Most sentences do not begin with a capital letter.
Usage	Each sentence has subject/predicate agreement.	Most sentences have subject/predicate agreement.	Few sentences have subject/predicate agreement.
End Punctuation	Every sentence ends with correct punctuation.	Most sentences end with correct punctuation.	Few sentences end with correct punctuation.

**Learning Intentions:**

1. I am learning how to understand that patterns in day and night and the seasons are predictable.
2. I am learning how to summarize information from the text about the Earth's rotation and revolution.
3. I am learning how to use key details from the text to draw conclusions about predictable patterns related to the Earth's movement.



**Part 2:**

**Success Criteria:**

1. I can explain how patterns in day and night and the seasons are predictable.
2. I can summarize information from the text about the Earth’s rotation and revolution.
3. I can use key details from the text to draw conclusions about predictable patterns related to the Earth’s movement.

**Part 1: Vocabulary Review** (reinforce these vocabulary words in the text)

- rotate/rotation
- tilt
- orbit
- revolve/revolution
- axis
- equator
- Hemisphere

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*Teacher Note:*

The fourth read of On Earth marks the conclusion of the part of the unit on patterns in day and night and the seasons. Teachers may wish to review these key concepts by conducting repeated reads of other texts. For example, a teacher may want to review patterns in day and night by having students reread the shared reading text What Makes Day and Night.

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Page	Question	Student Response
<b>On Earth by G. Brian Karas</b>		
Pages 2-3	<p>Teacher's Script:                      “We’ve spent time learning about Earth’s movements and how they affect what we see in the day and night sky and the changing seasons.</p> <p>We’re going to read the text On Earth one final time. We know that this text tells us about the Earth’s movements and how those movements affect what we see in the day and night sky and the changing seasons. As we read today, we’re going to be thinking about how Earth’s movements create patterns that we can observe. We’re going to think about what we are able to predict and observe given what we know about the Earth’s movements.”</p>	

Page	Question	Student Response
<b>On Earth by G. Brian Karas</b>		
Pages 9-10	What pattern does this page show? What causes this pattern? Why is it a pattern that we can predict?	These pages talk about day and night. Day and night are caused by the Earth's rotation on its axis. Every day, or every 24 hours, the Earth makes one complete spin. As the Earth spins toward the sun we have day. As the Earth spins away from the sun it gets dark and we have night. This pattern is predictable because it happens every day (every 24 hours).
Pages 13-14	What pattern does this page (and the previous one) talk about?	These pages talk about the Earth's revolution. The Earth makes a circle around the sun every year. It takes 12 months for the Earth to make a revolution around the sun.
Pages 15-16	How does this page help us understand that Earth's revolution is a pattern?	It says that years go by, day by day. The illustration shows a boy with a birthday cake. The revolution of the Earth around the sun is predictable because it happens every year, like birthdays.

Page	Question	Student Response
<b>On Earth by G. Brian Karas</b>		
Pages 21-22	What pattern does this section of pages show? What causes this pattern? Why is it a pattern that we can predict?	<p>These pages explain the changing seasons. When the Earth tilts toward the sun it gets more light and is warmer. That causes summer. In winter the Earth tilts away from the sun and gets less sunlight. That makes the days shorter and colder.</p> <p>The seasons are a pattern because the sunlight changes and the amount of warmth changes the same every year. In spring and summer we get more light and it gets warmer. Then in fall and winter we get less light and it gets colder. The pattern of more light then less light, and warm then cold, is predictable.</p>

### Part 3: Daily Instructional Task

Students will create a brochure explaining the observable patterns in the day and night sky and the seasons they impact.

- Some leaders in your community are planning a summer science camp for kids. One of the topics that kids will learn about at camp is Earth and space science. The camp leaders want you to create a brochure that they can share with kids at camp that explains (1) observable patterns in the day and night sky and (2) the seasons that impact Earth. Use illustrations and descriptions to explain these observable patterns.

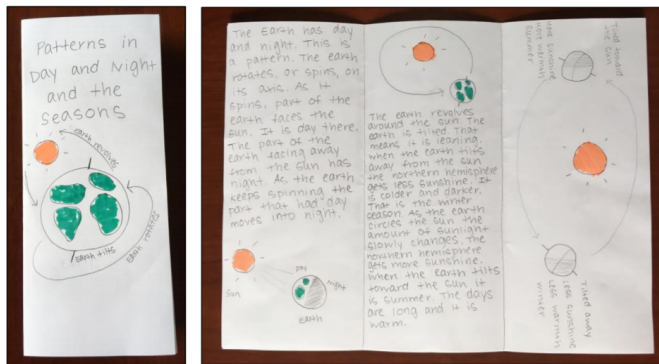
Student writing should include the following:

- a front cover that illustrates and names the topic of the brochure
- a section that illustrates and describes observable patterns from the day and night sky and explains why we observe those patterns
- a section that illustrates and describes the pattern in Earth's seasons and explains why changes in season occur.

Must include:

- details from the texts we have read
- vocabulary words from the word display in our unit

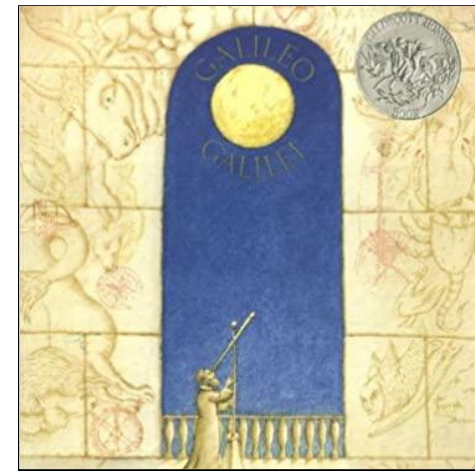
Possible Student Response:



### Answering Text Dependent Questions, Independent Writing

	3	2	1
Accuracy of Writing	The writing accurately explains the observable patterns in the day and night sky and the seasons they impact.	The writing attempts and explains mostly the observable patterns in the day and night sky and the seasons they impact.	The writing attempt does not accurately explain the observable patterns in the day and night sky and the seasons they impact.
Organization	The writing includes a front cover that illustrates and names the topic, a section that illustrates and describes observable patterns, explains why we observe those patterns, illustrates and describes the pattern in Earth's seasons.	The writing includes 3 out of 4: a front cover that illustrates and names the topic, a section that illustrates and describes observable patterns, explains why we observe those patterns, illustrates and describes the pattern in Earth's seasons.	The writing includes 1 out of 4: a front cover that illustrates and names the topic, a section that illustrates and describes observable patterns, explains why we observe those patterns, illustrates and describes the pattern in Earth's seasons.
Capitalization	All sentences begin with a capital.	Most sentences begin with a capital.	Most sentences do not begin with a capital letter.
Usage	Each sentence has subject/predicate agreement.	Most sentences have subject/predicate agreement.	Few sentences have subject/predicate agreement.
End Punctuation	Every sentence ends with correct punctuation.	Most sentences end with correct punctuation.	Few sentences end with correct punctuation.

### Lesson 10 - Starry Messenger - Reading 1, Question Sequence 1, Daily Instructional Task 10, Answering Text-Dependent Questions, Independent Writing



*Starry Messenger* by Peter Sis  
(Strategy: Interactive Read Aloud, FirstReading)  
Lexile 830 L

**Learning Intentions:**

1. I am learning how to use information from the text to make a timeline with labels that describe how our understanding of space has changed over time.
2. I am learning how to use graphs and text features to understand key ideas and details in the text.

**Success Criteria:**

1. I can use information from the text to make a timeline with labels that describe how our understanding of space has changed over time.
2. I can use graphs and text features to understand key ideas and details in the text.

**Part 1:** Introduce new vocabulary for this text.

- universe (implicit)
- tradition (implicit)
- observe/observations (explicit)
- publish (embedded)
- inspired (embedded)

**Part 2:**

Page	Question	Student Response
<b>Starry Messenger by G. Peter Sis</b>		
Cover	Teacher’s Script: “We’re going to make a timeline. A timeline is a way of showing the order of important events in history. For this book, we’re going to make a timeline that helps explain how people’s ideas about Earth and space have changed over time.”	
Page 1	Teacher’s Note: After reading the main text, read the caption that says “The Earth stands still”. Read the captions “The Ptolemaic system” and point out the small picture of Ptolemy (pronounced TOL-uh-mee)  I’m thinking about how I can use the information that’s in the text and graphics to help me write something for our timeline. What do you think we could write?	Answers will vary. <ul style="list-style-type: none"> <li>• People thought that the Earth was at the center of the universe.</li> <li>• People thought the sun, moon, and other planets revolved around the Earth.</li> <li>• People thought the Earth stood still.</li> <li>• Ptolemy was a person who thought the Earth was in the middle of the sun and other planets.</li> </ul>

Page	Question	Student Response
<b>Starry Messenger by G. Peter Sis</b>		
<p>Page 2</p> <p>Teacher's Note: Read/reread the various text features on the page. Guide students to identify Copernicus' name.</p>	<p>The author tells us here that one man thought about the earth and sun differently? What did this man think?</p> <p>Does the author tell us who this man is? Let's look more closely at these text features and see if we can figure out his name.</p> <p>Teacher's Script: "Let's add Copernicus and his idea to our timeline."</p>	<p>He thought the Earth and other planets revolved around the sun. He thought the Earth moves.</p> <p>No. Copernicus.</p>
<p>Page 6</p>	<p>The author includes a lot of information about Galileo on this page. That makes me think that Galileo is an important person. What event, then, can I add to our timeline?</p>	<p>Galileo is born.</p>

Page	Question	Student Response
<b>Starry Messenger by G. Peter Sis</b>		
<p>Page 12</p> <p>Then one day...</p>	<p>Here is another place where the illustrations and other text features help us make meaning of the text. Does the text say what instrument was used?</p> <p>Teacher's Script: "Let's see if we can figure out what this instrument is."</p> <p>Teacher's Note: Read the caption on page 12, the caption under the illustration on page 13, and prompt students to notice details in the illustration. If possible, project the page on a document camera so students can see the details in the illustration.</p>	<p>No.</p> <p>I think it's a telescope because the pictures in the corners and on the right side of the page look like a telescope.</p> <p>The caption said the instrument was a spyglass. The illustrations showed the spyglass. I think spyglass is another name for a telescope.</p>

Page	Question	Student Response
<b>Starry Messenger by G. Peter Sis</b>		
	What event can we add to our timeline now?	<p>I see that the caption says “News of the telescope reaches Galileo”.</p> <p>Answers will vary.</p> <ul style="list-style-type: none"> <li>• The telescope was invented.</li> <li>• Galileo made his own telescope.</li> </ul>
Page 14 Night after night...	<p>Teacher’s Script: “This page reminds me of something else. It reminds me of another person who made observations, but who couldn’t publish his ideas.”</p> <p>Teacher’s Note: Go back to page 2 and reread the page.</p> <p>Who do you think the author means by “someone else”? Why?</p>	<p>“Someone else” means Galileo. Copernicus couldn’t prove that the Earth revolved around the sun. Copernicus had to wait for someone else to prove it. That person was Galileo. Galileo had a telescope. The telescope allowed him to prove his ideas.</p>

Page	Question	Student Response
<b>Starry Messenger by G. Peter Sis</b>		
Page 21 Soon Galileo was famous...	<p>What does the information on this page and the last page tell us about how people were thinking about earth and space during this time?</p> <p>So then, what could we add to our timeline?</p>	<p>The text says that more and more people celebrated the stars and they celebrated Galileo and his discoveries. I think that means the people believed Galileo’s ideas. They believed the Earth revolves around the sun.</p> <p>Answers will vary.</p> <ul style="list-style-type: none"> <li>• More and more people started believing Galileo and his ideas.</li> <li>• People celebrated Galileo and the stars.</li> <li>• More people believed the Earth revolves around the sun.</li> </ul>

Page	Question	Student Response
<b>Starry Messenger by G. Peter Sis</b>		
<p>Page 23 He had Gone...</p> <p>Teacher Note: Some of the information on pages 23-30 may be sensitive or difficult to understand for children. Teachers could consider asking students to infer how Galileo's imprisonment could have affected the public's perception of him and his ideas.</p>	<p>Teacher's Note: Be sure to read the caption on page 23.</p> <p>What's happening now? How are people's ideas changing?</p> <p>Let's add that to our timeline.</p>	<p>People in the church told Galileo to stop believing his ideas.</p>
<p>Page 30 Finally...</p>	<p>What does the text tell us about how people think about Galileo now? What can we write as the final event of our timeline?</p> <p>The author doesn't tell us why the church changed its mind about Galileo, but we can make an inference.</p>	<p>The church admitted Galileo was right.</p> <p>Answers will vary. Maybe more people invented more tools, like the telescope, and they made more observations that showed the earth revolved around the sun. Maybe so many people were able to prove that Galileo</p>

Page	Question	Student Response
<b>Starry Messenger by G. Peter Sis</b>		
	<p>What do you think could have caused the church to say that Galileo was right?</p>	<p>was right that the church had to believe him.</p>

### Part 3: Daily Instructional Task

Students will write an informational piece that explains how people's beliefs about the Earth and sun have changed over time for the local planetarium to display at their new exhibit.

Student writing should include the following:

- introduce your topic
- supply some facts about the topic
- use specific vocabulary and names from the text
- provide some sense of closure.

### Collaborative Task

During reading, the class will collaboratively construct a timeline. Teachers and students can make the timeline together on a chalkboard or whiteboard. Teachers or students can write events in chalk or marker as they go. Or, the teacher can pre-write events on sticky notes and then have students place the sticky notes in order.

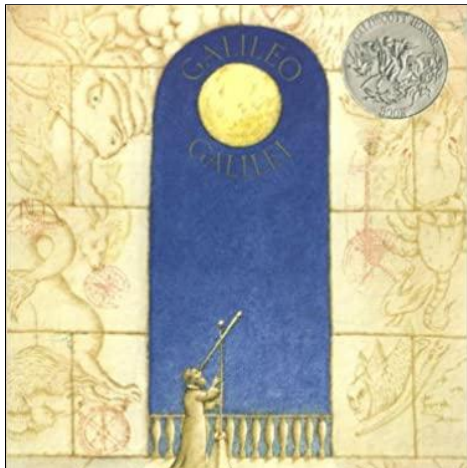
(Rubric on next page)

## Lesson 10 Rubric

### Answering Text Dependent Questions, Independent Writing

	3	2	1
Accuracy of Writing	The writing accurately explains how people's beliefs about the Earth and sun have changed over time for the local planetarium to display at their new exhibit.	The writing attempts and explains mostly how people's beliefs about the Earth and sun have changed over time for the local planetarium to display at their new exhibit.	The writing attempt does not accurately explain how people's beliefs about the Earth and sun have changed over time for the local planetarium to display at their new exhibit.
Organization	The writing includes an introduction, facts, and conclusion.	The writing includes 2 out of 3: an introduction, facts, and conclusion.	The writing includes 1 out of 3: an introduction, facts, and conclusion.
Capitalization	All sentences begin with a capital.	Most sentences begin with a capital.	Most sentences do not begin with a capital letter.
Usage	Each sentence has subject/predicate agreement.	Most sentences have subject/predicate agreement.	Few sentences have subject/predicate agreement.
End Punctuation	Every sentence ends with correct punctuation.	Most sentences end with correct punctuation.	Few sentences end with correct punctuation.

## Lesson 11 - Starry Messenger - Reading 2, Question Sequence 2, Daily Instructional Task 11, Answering Text-Dependent Questions, Independent Writing



*Starry Messenger* by Peter Sis  
(Strategy: Interactive Read Aloud, Second Reading)  
Lexile 830 L

### Learning Intentions:

1. I am learning that scientists and scientific tools have helped us learn more accurate information about space.
2. I am learning how text features help me to understand key ideas and details.

### Success Criteria:

1. I can explain how Galileo's observations contributed to people's understanding of science.
2. I can explain why the telescope helped scientists, like Galileo, make new observations.
3. I can use text features and graphics to understand key ideas and details in the text.

### Part 1: Introduce new vocabulary for this text.

- telescope (explicit)

The following words are reviewed during this reading:

- revolve
- observe/observations
- experiments

### Part 2:

Page	Question	Student Response
<b>Starry Messenger</b> by G. Peter Sis		
Page 2	<b>Question 1:</b> Think about the two men who we read about on these pages. Tell your partner who they are and how they were different.	Ptolemy thought the sun was in the middle of the universe and everything revolved around it. Everybody else thought the same thing. But Copernicus thought the Earth revolved around the sun. He couldn't prove it though.



Page	Question	Student Response
<b>Starry Messenger by G. Peter Sis</b>		
Page 6 In the city of Pisa...	<p><b>Question 2:</b> What does the author mean when he says that the little boy “was born with stars in his eyes”? How does the illustration help us understand this phrase?</p> <p>Possible Probing Question: Galileo viewed the stars and other objects in space. If the author said, “he was born with stars in his eyes,” what do you think that means about Galileo’s interests even as a young boy?</p>	The boy was born with stars in his eyes means that he is interested in stars. All the babies have a picture on their blankets. The pictures are of different jobs, like cooking or making music. Galileo’s blanket has stars, so his job will be about looking at the stars. So being born with stars in his eyes means that he wants to look at stars and when he grows up he will do something with stars, like be an astronomer.
Page 8 Galileo thrived...	<p><b>Question 3:</b> When the author talks about Galileo here, he says that “stars were always on his mind.” What does that mean? How does the illustration help us figure out the meaning of that phrase?</p>	“Stars were always on his mind” means that he was always thinking about stars, even when other kids were doing other things. The picture shows Galileo drawing stars in the dirt while the other kids around him are playing games.

Page	Question	Student Response
<b>Starry Messenger by G. Peter Sis</b>		
Page 10 He studied...	<p>After reading the main text, read aloud the following note in the left margin: “Did experiments proving Aristotle wrong. Discovered the law of Falling Objects by showing that two balls of unequal weight fall at the same speed.” Point to the illustration that shows this experiment.</p> <p><b>Question 4:</b> What have we learned about Galileo from this page? How did we learn this information?</p> <p><b>Question 5:</b> Before moving on, let’s reread a sentence on this page. That sentence is, “Galileo is our star, the people would say.” Does that mean the same thing as the way we’ve used the word “star” so far in this text?</p>	<p>Galileo studied math. The words tell us this. Galileo also did experiments. The words tell us this and we also see his experiments in the illustrations. Galileo discovered the Law of Falling Objects. This information was in the caption, and one of the pictures shows him dropping two balls from a tall tower.</p> <p>No, star here talks about Galileo. The people thought that he was really smart and good at what he did. He was famous and talented, like a rock star.</p>

Page	Question	Student Response
<b>Starry Messenger by G. Peter Sis</b>		
Pages 14-16 Night after night...	<p>After reading the main text, read the following captions on page 15: "It is a beautiful thing and most gratifying to the sight to behold the body of the moon...The moon is not robed in a smooth and polished surface but is in fact rough and uneven...covered everywhere, just like the Earth's surface...with huge prominences, deep valleys, and chasms."</p> <p>After reading the main text, read all four captions on page 16.</p> <p><b>Question 6:</b> The author says that Galileo was amazed by what he could see with his telescope. What were some of these observations?</p> <p><b>Question 7:</b> How did Galileo help people begin to change what they know about the Earth and universe?</p>	<p>The moon is rough not smooth. There are valleys on the moon. There are sun spots.</p> <p>Galileo used his telescope to make observations about the Earth. He published his findings in the Starry Messenger.</p>

Page	Question	Student Response
<b>Starry Messenger by G. Peter Sis</b>		
Page 30	<b>Question 8:</b> In what ways did Galileo's telescope and observations help change what people understood about the Earth and universe?	Galileo helped people understand that the sun was at the center of the solar system. He also helped people know that there were many characteristics of planets, stars, and moons that could be observed with a telescope. His work inspired others to continue studying the sky.

### Part 3: Daily Instructional Task

Students will write an informational piece about Galileo and some of the observations he made and why the telescope was important to Galileo's life.

Students writing should include the following:

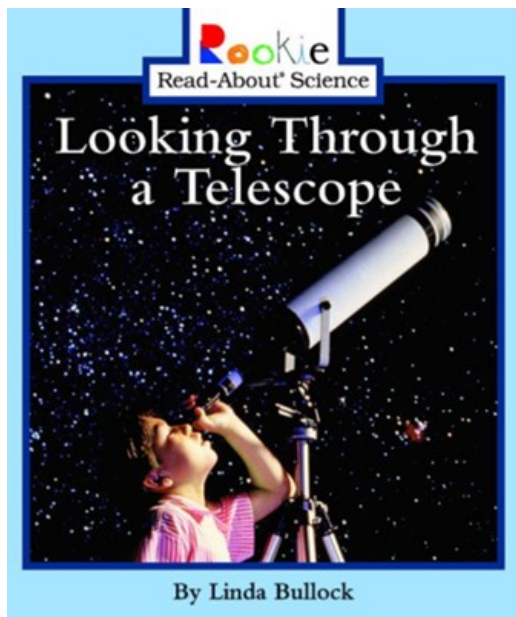
- Introduction of topic
- 3 facts about Galileo, his observations and the importance of the telescope
- Some sense of closure

Possible Student Response: Galileo was an important person who studied space. He used a telescope. The telescope let him see things that were very far away. Galileo used the telescope to look at the moon. He observed that the moon is rough. He also used a telescope to observe spots on the sun. People know a lot about space today because of Galileo's observations.

## Rubric

	3	2	1
Accuracy of Writing	The writing accurately explains who Galileo was and some of his observations.	The writing attempts and explains mostly who Galileo was and his observations.	The writing attempts, <u>however</u> does not accurately explain who Galileo was and his observations.
Organization	The writing includes an introduction, facts, and conclusion.	The writing includes 2 out of 3: an introduction, facts, and conclusion.	The writing includes 1 out of 3: an introduction, facts, and conclusion.
Capitalization	All sentences begin with a capital.	Most sentences begin with a capital.	Most sentences do not begin with a capital letter.
Usage	Each sentence has subject/predicate agreement.	Most sentences have subject/predicate agreement.	Few sentences have subject/predicate agreement.
End Punctuation	Every sentence ends with correct punctuation.	Most sentences end with correct punctuation.	Few sentences end with correct punctuation.
Total			

## Lesson 12 - Looking Through the Telescope - Reading 1, Question Sequence 1, Daily Instructional Task 12, Answering Text-Dependent Questions, Independent Writing



Looking Through a Telescope by Linda Bullock  
(Strategy: Shared Reading, First Reading)  
Lexile 440 L

## Learning Intentions:

1. I am learning that scientists use telescopes to observe characteristics of objects in space

## Success Criteria:

2. I can recall key details from the text to describe the purpose of a telescope.
3. I can use information from text features to draw conclusions about how telescopes are used

## Part 1: Introduce new vocabulary for this text.

- scientists (explicit)
- planet (embedded)
- crater (embedded)

The following words are reviewed during this reading:

- Telescope

## Part 2:

Page	Question	Student Response
<b>Looking Through a Telescope by Linda Bullock</b>		
Page 4	Students who are unfamiliar with the nursery rhyme, "Hey, Diddle Diddle" may need support in understanding why the author is talking about cows jumping over the moon.	

Page	Question	Student Response
<b>Looking Through a Telescope by Linda Bullock</b>		
Page 9	<b>Question 1:</b> Why are we not able to “jump over the moon?”	The moon is too big and far away. Even though it does not look bigger than a basketball in the night sky, it is too far away to “jump over the moon.”
Page 12	<b>Question 2:</b> What is a telescope?	A telescope is a tool that lets us see things that are far away, like the moon.
	<b>Question 3:</b> How do you use a telescope? What features in this text give us information about how to use a telescope?	You have to look through one end of the telescope. The photo on page 13 shows a boy looking through one end of the telescope. The other end is pointing up toward the sky. There is a similar picture on the cover that shows a kid looking through a telescope up to the stars. The title of the book is “Looking Through a Telescope”, so that tells us that you have to look through a telescope to see things in the sky.
	<b>Turn and Talk:</b> Share with a partner any personal experiences you have had with telescopes. For example, if you have seen or used one before. What did they see? etc.	

Page	Question	Student Response
<b>Looking Through a Telescope by Linda Bullock</b>		
Page 14	<b>Question :</b> What are some characteristics of the moon you can observe with a telescope?	A telescope shows that the moon is big and round. It lets us see that the moon has craters or round holes. These holes are not very deep.
Page 19	<b>Question 5:</b> What planet is this? How do we know?	The planet is Saturn. There is a caption under the picture that says, “Saturn”. I know its Saturn because I know Saturn has rings.
Pages 18-21	<b>Question 6:</b> What objects can you observe in the night sky with a telescope?	A telescope can view planets, like Saturn. It can also let us see stars that are yellow, blue and white.
	<b>Question 7:</b> Why are telescopes important for observing these objects?	Without a telescope, objects like planets and stars only look like small dots in the night sky.
After reading pages 22-27	<b>Question 8:</b> How have telescopes changed since the time of Galileo?	Scientists now have large telescopes that are as big as buildings that can see things that are really far away. Scientists have also put a big telescope into space that can see things that telescopes on Earth can't. It is called the Hubble Telescope.

### Part 3: Daily Instructional Task

Pretend that you are a junior scientist. Explain to a fellow junior scientist/partner what a telescope is used for and why it's a helpful scientific tool.

Students writing should include the following:

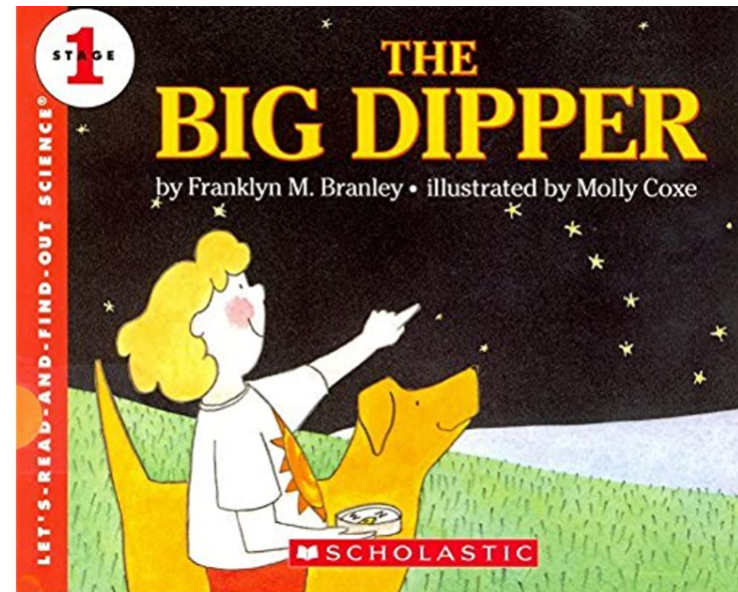
- Introduction of topic
- Describe some of the ways you use your telescope
- Include some vocabulary from the text
- Provide some sense of closure

Possible Student Response: I'm a scientist and I use my telescope to make observations. I use my telescope to look at the moon. The telescope shows me craters and Maria on the Moon. I also use my telescope to look at planets. Through the telescope the planets look close. Without the telescope the planets would only look like dots of light. One day I hope to use the Hubble Telescope so I can learn more about how stars form.

### Rubric

	3	2	1
Accuracy of Writing	The writing accurately explains what a telescope is and ways you can use one.	The writing attempts and explains mostly what a telescope is and ways you can use one.	The writing attempts, however, does not accurately explain what a telescope is and ways you can use one.
Organization	The writing includes an introduction, facts/vocabulary, and conclusion.	The writing includes 2 out of 3: an introduction, facts/vocabulary and conclusion.	The writing includes 1 out of 3: an introduction, facts/vocabulary, and conclusion.
Capitalization	All sentences begin with a capital.	Most sentences begin with a capital.	Most sentences do not begin with a capital letter.
Usage	Each sentence has subject/predicate agreement.	Most sentences have subject/predicate agreement.	Few sentences have subject/predicate agreement.
End Punctuation	Every sentence ends with correct punctuation.	Most sentences end with correct punctuation.	Few sentences end with correct punctuation.
Total			

### Lesson 13 - The Big Dipper - Reading 1, Question Sequence 1, Daily Instructional Task 13, Answering Text-Dependent Questions, Independent Writing



The Big Dipper by Franklyn M. Branley  
(Strategy: Shared Reading, First Read) Lexile Level: 460L

### Learning Intentions:

1. I am learning that the Big Dipper is an important group of stars that we can see in the night sky.

### Success Criteria:

1. I can identify key ideas and details about the Big Dipper.
2. I can explain how and why people look at the stars.

### Part 1: Introduction of the vocabulary for this reading.

- dipper (explicit- use page 12 of the text for support)
- compass (implicit)
- North (in the context of North Star; explicit)
- sailors (implicit)
- imagine (embedded)

Page	Question	Student Response
<b>The Big Dipper by Franklyn M. Branley</b>		
Teacher's Note: Given the complexity of portions of this text, adjustments to shared reading methods might be made for certain sections of this text that present new or challenging information to students (e.g., choral reading with the teacher's voice as the lead, echo reading, etc.). As needed, sections for these adjustments might include: pages 12-14, 18-22, 24, and 29.		
Page 10	<b>Turn and Talk:</b> Let's stop and think about what we've learned about stars so far. Turn and Talk to a partner about one fact you've learned about stars.	
Page 13	<p><b>Question 1:</b> On these pages, the author uses the name Big Dipper. But, the author doesn't tell us exactly what the Big Dipper is. Using the words and illustrations from the text and what you already know about stars, what do you think the Big Dipper is?</p> <p>Depending on students' responses, ask, "What is a Dipper?" Reference page 12 as needed to help students understand what a water dipper is.</p>	The Big Dipper is a group of stars that looks like a water dipper. A water dipper has a handle and a bowl.

Page	Question	Student Response
<b>The Big Dipper by Franklyn M. Branley</b>		
Page 21	<p><b>Question 2:</b> What are some facts about the North Star?</p> <p><b>Question 3:</b> The author says that the North Star is "a very important star". Why do you think that is?</p>	<p>It's also called Polaris. The stars in the bowl of the Big Dipper point to the North Star. Sailors use the North Star to help them find their way.</p> <p>The North Star is important because sailors used it to help them find their way. If they wanted to go north, they would go toward the North Star. If they wanted to go south, they would go away from the North Star.</p>
Page 24	<b>Question 4:</b> Why did people long ago call the Big Dipper Ursa Major?	Because they thought the Big Dipper looked like a bear. Ursa means bear and major means big.
After Reading	<p><b>Question 5:</b> Why have people in the past looked at the stars?</p> <p><b>Turn and Talk:</b> Think of a summary for this text. Then, tell your summary to your partner.</p>	<p>People, like sailors, used the stars to find their way, like the North Star. Other people looked at the stars and found shapes, like the big bear.</p> <p>The Big Dipper is a group of seven stars that look like a water</p>

Page	Question	Student Response
<b>The Big Dipper by Franklyn M. Branley</b>		
		dipper. The Big Dipper looks different in different seasons. The Big Dipper points to the Little Dipper. The Little Dipper has an important star called Polaris that people long ago used to navigate. Some people long ago thought the Big Dipper looked like a bear.

### Rubric

	3	2	1
Accuracy of Writing	The writing accurately explains what the Big Dipper is.	The writing attempts and explains mostly what the Big Dipper is.	The writing attempts, <u>however</u> does not accurately explain what the Big Dipper is.
Organization	The writing includes an introduction, 3 facts/vocabulary, and conclusion.	The writing includes 2 out of 3: an introduction, facts/vocabulary and conclusion.	The writing includes 1 out of 3: an introduction, facts/vocabulary, and conclusion.
Capitalization	All sentences begin with a capital.	Most sentences begin with a capital.	Most sentences do not begin with a capital letter.
Usage	Each sentence has subject/predicate agreement.	Most sentences have subject/predicate agreement.	Few sentences have subject/predicate agreement.
End Punctuation	Every sentence ends with correct punctuation.	Most sentences end with correct punctuation.	Few sentences end with correct punctuation.
Total			

### Lesson 14 - The Big Dipper - Reading 2, Question Sequence 2, Daily Instructional Task 14, Answering Text-Dependent Questions, Independent Writing

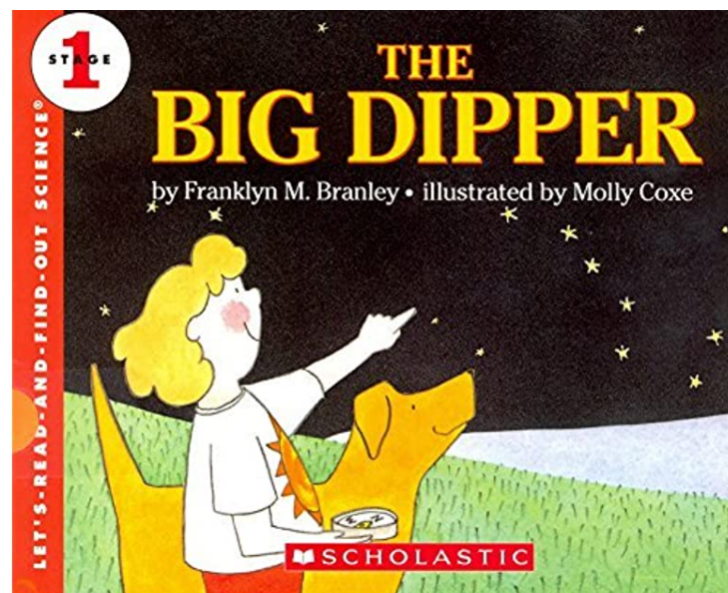
#### Part 3: Daily Instructional Task

Write a response to the following questions: What is the Big Dipper?

Students writing should include the following:

- Introduction of topic
- At least three facts about the topic
- Include some vocabulary from the text
- Provide some sense of closure

Possible Student Response: The Big Dipper is a group of stars. You can see the Big Dipper in the night sky in the summer and the winter. There are seven stars in the Big Dipper. Some people long ago thought the Big Dipper looked like a bear and they called it Ursa Major. I will look at the stars tonight and try to find the Big Dipper!



The Big Dipper by Franklyn M. Branley  
 (Strategy: Shared Reading, First Read)  
 Lexile Level: 460L

**Learning Intentions:**

1. I am learning that the position of the Big Dipper appears to change during different seasons.

**Success Criteria:**

1. I can use the pictures to explain how the position of the Big Dipper changes through the seasons.
2. I can draw an illustration of the Big Dipper and its appearance throughout the seasons of Summer, Fall and Winter.
3. I can explain the observable pattern the Big Dipper has and its similarities to other patterns we have discussed.

**Part 1: Introduction of the vocabulary for this reading.**

- dipper
- compass
- North
- Imagine

**Part 2:**

Page	Question	Student Response
<b>The Big Dipper by Franklyn M. Branley</b>		
Pages 8-9	<p><b>Question 1:</b> What does this illustration show?</p> <p><b>Question 2:</b> Would the stars shown here always look this way? How do we know?</p>	<p>It shows what the stars look like in the summer.</p> <p>No, the author says that, "They are not always the same." In this sentences, "they" means the stars.</p>

Page	Question	Student Response
<b>The Big Dipper by Franklyn M. Branley</b>		
Pages 15-17	<p><b>Turn and Talk:</b> Think about what the Big Dipper looks like. What is the same? What is different? Turn and tell your partner about the appearance of the Big Dipper.</p> <p><b>Question 3:</b> How did we learn this information?</p>	<p>The Big Dipper always has seven stars and it always has the same shape. It points in different directions in different seasons. It points down in the summer and points up in the winter. In the fall it is low in the sky and you may only be able to see part of it.</p> <p>We learned this information through words and pictures from the text.</p>
Page 19	<p><b>Question 4:</b> What season do you think is in this illustration? Why?</p>	<p>It's not winter because the Big Dipper is not pointing up. It's kind of pointing down but not all the way. The girl in the picture is wearing shorts and a t-shirt, so I know it's not cold. I think it's between summer and fall.</p>
Page 23	<p><b>Question 5:</b> What about in this illustration, what season do you think it is and why?</p>	<p>It's probably summer because the Big Dipper is pointing down.</p>



### Part 3: Daily Instructional Task

**Task #1:** Students will draw and label what the Big Dipper looks like during the Summer, Winter and Fall. Students will then write about each picture and explain what is happening to the Big Dipper during that season.



**Possible Student Response to Task #1** (answers may vary): “In summer the handle and bowl of the Big Dipper are pointing down. In winter they are pointing up. In fall the Big Dipper is very low in the sky. You may not even be able to see it because it’s so low.”

**Task #2:** Students will write a response to the following prompt: Does the Big Dipper have an observable pattern? If so, how is this pattern similar to other patterns we’ve talked about in this unit?

Students writing should include the following:

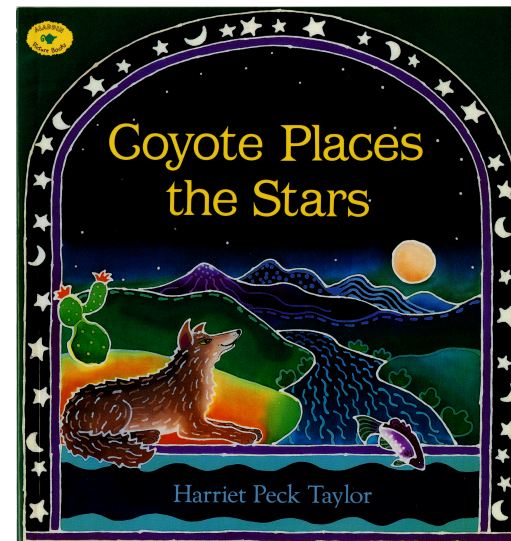
- Introduction of topic
- At least two facts about the topic
- Include some vocabulary from the text
- Provide some sense of closure

**Possible Student Response to Task #2:** The Big Dipper’s position in the sky makes a pattern. We can predict how the Big Dipper will look if we know what season it is. This pattern is like sunshine and the seasons. If we know what season it is, we can predict how much sunshine there will be. We can observe many patterns in the sky.

### Rubric

	3	2	1
Drawing/Illustration	Student accurately shows the Big Dipper during the seasons of Summer, Winter and Fall.	Student shows the Big Dipper during 2 out of the 3 seasons of Summer, Winter and Fall.	Student shows the Big Dipper during 1 out of the 3 seasons of Summer, Winter and Fall.
Accuracy of Writing	The writing accurately explains what the Big Dipper is.	The writing attempts and explains mostly what the Big Dipper is.	The writing attempts, however does not accurately explain what the Big Dipper is.
Organization	The writing includes an introduction, 2 facts/vocabulary, and conclusion.	The writing includes 2 out of 3: an introduction, facts/vocabulary and conclusion.	The writing includes 1 out of 3: an introduction, facts/vocabulary, and conclusion.

### Lesson 15 - The Big Dipper - Reading 2, Question Sequence 2, Daily Instructional Task 14, Answering Text-Dependent Questions, Independent Writing



Coyote Places the Stars by Harriet Peck Taylor  
(Strategy: Interactive Read Aloud, First Read)  
Lexile Level: 840L

## Learning Intentions:

1. I am learning that groups of stars appear to make patterns of shapes in the night sky.

## Success Criteria:

1. I can retell the story including key details.
2. I can explain the similarities and differences between texts that tell stories and those that give information.

## Part 1: Introduction of the vocabulary for this reading.

- starry heavens (embedded)
- arranged (embedded)
- star pictures (embedded)
- gaze (explicit)

## Part 2: Introduce lessons read aloud

Legends are old stories that were widely believed, but cannot be proven true. There are many Native American legends about objects in the sky. Since this text is a legend, what might we need to think about as we read?

Turn and Talk to your partner about what we might need to think about as we read today's story.

Page	Question	Student Response
<b>Coyote Places the Stars by Harriet Peck Taylor</b>		
Page 2	<p><b>Question 1:</b> The author said, "coyote lay awake many nights gazing at the starry heavens." What does that mean?</p> <p><b>Question 2:</b> What does it tell us about coyote that he lays awake at night gazing at the starry heavens?</p>	<p>Coyote was looking up at the night sky that was covered with stars.</p> <p>Coyote is very interested in the stars.</p>
Pages 7-8 First he decided...	<p><b>Question 3:</b> The text says, "the stars were arranged in the shape of a coyote." What does "arranged" mean?</p> <p><b>Question 4:</b> What was Coyote creating by arranging the stars?</p>	<p>Arranged means to move around in a certain order or pattern.</p> <p>Coyote was creating pictures in the sky.</p>
Page 9	<p><b>Question 5:</b> Why did Coyote howl at the moon?</p>	<p>He wanted all of the animals to see what he did with the stars.</p>

Page	Question	Student Response
<b>Coyote Places the Stars</b> by Harriet Peck Taylor		
Pages 15-16 Finally coyote appeared...	<p><b>Question 6:</b> Why did the animals whoof, which, screech and squawk?</p> <p><b>Question 7:</b> Why did Coyote create pictures in the sky?</p>	<p>The animals were cheering for Coyote and celebrating the pictures he made in the sky.</p> <p>Coyote wanted all who see the pictures in the sky to remember him and all the other animals of the canyon.</p>
Page 21	<b>Question 8:</b> The last page of the text says that you could <b>gaze</b> at the star pictures to this day. Why are you able to see star pictures or patterns in the night sky?	We are able to see pictures in the night sky because the stars have predictable patterns that can be seen each night.

Students will identify what they know to be true from the text. Students will then identify the parts of the text that cannot be proven true and/or are fictional.

Possible Student Response: Coyote's plan to move the stars wouldn't be successful in reality. We learned in Looking Through a Telescope that the moon is far away, so Coyote wouldn't actually be able to climb a ladder made of arrows to reach the moon. The Big Dipper told us that the stars are also far away, so Coyote wouldn't be able to shoot them with arrows. But people do look at the stars and see shapes. Ursa Major is a group of stars that looks like a bear, just like Coyote made a picture of a bear with the stars for his friend Bear.

After reading, pose the following questions for students to share their responses with one another.

What did Coyote do in the text? Why did he do that?

### Part 3: Daily Instructional Task

#### Interactive Writing

*Coyote Places the Stars* is a legend. Some of the information in the text is not true, but some of it is. Using information from this text and other texts we have read in this unit, explain which ideas in this story are true and which are not.

Have students Turn and Talk with a partner their thoughts on which parts of the text were true and which were fictional.