



## A Lesson on Learning about the Solar System by Meghan Bentley

**Grade Level:** Grade 4

**Subject Area:** English Language Arts

**Lesson Length:** 1 hour 30 minutes

**Lesson Keywords:** solar system, sun, galaxy, scientist, Earth, stars

**Lesson Description:** This lesson will help students learn more about the different parts of the solar system. Students will gain a greater understanding of vocabulary and writing skills.

### Common Core Standards Covered with This Lesson

CCSS.ELA-Literacy.RI.4.1: Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.

CCSS.ELA-Literacy.RI.4.4: Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a grade 4 topic or subject area.

CCSS.ELA-Literacy.W.4.4: Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1-3 above.)

---

---

---

## Lesson Content: Book/Story/Reading Passage

**Instructions:** Please read the following reading passage as many times as needed (aloud and silent) before starting to go through other lesson pages. Understanding the content of this passage is very important since the lesson activities will be all about this content. Feel free to print the passage if needed.

### Learning about the Solar System

by

**Content:** When scientists looked at the stars long ago, they saw patterns. They did not understand everything about what they saw. So they kept looking to learn more. That is what scientists do. They ask questions and look for information to answer their questions. They are like explorers. They do not travel far the way explorers do. But they do make a kind of journey. They want to learn more. They go from what they know to what they discover.

Scientists have learned about our planet. It is very big. It is very diverse. There are places that are hot. There are places that are freezing. There are mountains and plains. There are hills and valleys. There are deep oceans. There are great rivers and waterfalls. There are rainforests. There are deserts. Those are all parts of our planet. There is much more to learn about what is here on Earth. A scientist dedicates much time to learning. The scientist works hard. The scientist helps us all find out more about our world.

Our planet is in a galaxy called the Milky Way. The sun is a big star in our part of this giant galaxy. Our galaxy holds millions of other stars. The sun is very important to our planet. The sun gives us light during the day. It gives us heat, too. Two other planets are closer to the sun than Earth: Mercury and Venus.

Scientists figured out how the Earth changes. Earth orbits the sun once each year. It travels once around the sun every 365 days. The other eight planets in our solar system also orbit around the sun. All travel in a pattern called an ellipse, which is a kind of oval. So at times Earth is farther from the sun. Scientists figured out that made it cooler on Earth then. But they also figured out that it is the tilt of the Earth's axis, however, that has the greatest effect on temperatures.

Scientists are still learning about our galaxy. There is much to discover. Today astronauts travel into space. They are explorers. It is dangerous to travel in space, but they are dauntless. They bravely travel thousands of miles to learn.

---

## Task 1: Vocabulary

**Instructions:** Please complete the following vocabulary activity by choosing the correct meaning of each word selected from the passage and use of each word correctly in a sentence.

**Q: 1 WordPhrase:** Dauntless **WordPhraseTier:** 2

**Question:** The author of this story says "It is dangerous to travel in space, but they are dauntless." What does the word "dauntless" mean in this sentence?

- A: Fearless
- B: Scared
- C: Happy
- D: Discouraged

**Question:** Which of the sentences below uses the word "dauntless" correctly?

- A: The plate was dauntless when it came out of the dishwasher.
- B: The explorers were dauntless when they found a dangerous cliff.
- C: The homework was dauntless because it was easy.
- D: People who are lazy are dauntless.

**Q: 2 WordPhrase:** Diverse **WordPhraseTier:** 2

**Question:** The author of the article says that Earth is "very diverse". What does the author mean by the word "diverse"?

- A: Every part of the Earth looks the same
- B: The Earth does not have many different types of animals
- C: The ecosystems on Earth are all similar
- D: The Earth has many different features

**Question:** Which sentence below uses the word "diverse" correctly?

- A: The meat smelled diverse when she took it out of the oven
- B: The rain forest has a diverse spread of animals: monkeys, ants, tigers, and birds
- C: She used the same color paper so her presentation would look diverse
- D: Bananas that are the same shape are diverse

**Q: 3 WordPhrase:** Orbit **WordPhraseTier:** 3

**Question:** The author of the article says "The Earth orbits the sun once a year". What does the word "orbits" mean in this sentence?

- A: To stay perfectly still
- B: To move along a straight path
- C: To move in circles around something
- D: To move in different directions through space

**Question:** Which of the sentences below uses the word "orbits" correctly?

- A: The girl orbits when she walks straight to her desk
- B: The pineapple orbits when it falls from the tree
- C: The boy orbits around the pole when he runs in circles
- D: The stars orbit because they remain still

**Q: 4 WordPhrase:** Ellipse **WordPhraseTier:** 3

**Question:** The author of the article says "All travel in a pattern called an ellipse". What does the word "ellipse" mean in this sentence?

- A: A long, oval shape
- B: A straight line
- C: A perfect circle
- D: A square

**Question:** Which of the sentences below uses the word "ellipse" correctly?

- A: The ball was shaped like an ellipse because it was perfectly round
- B: The cars traveled in a pattern called an ellipse because they drove in an oval-shaped course
- C: The banana was an ellipse
- D: The straight lines in the tile made an ellipse

=====

## Task 2: Forum Discussion

**Instructions:** This discussion forum will have questions for students to respond. Read the posted questions, and respond to each. Students are responsible for posting one initial and two peer responses for each topic.

### 1 - How did scientists learn more about the solar system?

At the beginning of the article, the author writes that the scientists did not understand what they saw when they looked up at the stars. What is one way scientists have learned more about the solar system?

### 2 - What causes temperatures on Earth to change?

What causes the temperature on Earth to change? Explain how you think that affects the weather on Earth in the winter. Hint: Read paragraph 4 again if you need help.

### 3 - How can you learn more about space?

Read the article again to see how the scientists learned more about space. What is one way you could learn more about space?

=====

=====

Task 3: Writing Activity

**Instructions:** Think about some of the diverse places on Earth. Write about how the sun helps one of these places. Be specific about the temperature in the area you write about.

=====