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A Lesson on Learning about the Solar System by Lauren Daniels

Grade Level: Grade 4

Subject Area: English Language Arts

Lesson Length: 2 hours

Lesson Keywords: space, reading, solar system, earth, scientists

Lesson Description: This lesson aims to introduce basic concepts about the solar system in a reading activity. Students will have the opportunity to utilize skills relating to context identification, reading, writing, and making inferences. This lesson calls for close reading in order for students to understand concepts and vocabulary. It also opens up lines for discussion on the topic and can be segued into a science lesson.

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.

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CCSS.ELA-Literacy.RI.4.3: Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.

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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.

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CCSS.ELA-Literacy.W.4.1b: Provide reasons that are supported by facts and details.

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CCSS.ELA-Literacy.W.4.9: Draw evidence from literary or informational texts to support analysis, reflection, and research.

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CCSS.ELA-Literacy.L.4.4a: Use context (e.g., definitions, examples, or restatements in text) as a clue to the meaning of a word or phrase.

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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: diverse **WordPhraseTier:** 2

Question: In the passage, the author says, "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." What do you think the word "diverse" means?

- A: uninhabitable
- B: crowded
- C: showing a lot of variety or differences
- D: the same everywhere

Question: Which of the following sentences uses the word "diverse" correctly?

- A: I saw a diverse on TV last night.
- B: The people on Earth are very diverse.
- C: My pet cat at home is very diverse.
- D: I got a diverse call from my parents yesterday.

Q: 2 WordPhrase: orbit **WordPhraseTier:** 3

Question: The author says "Earth orbits the sun once each year. It travels once around the sun every 365 days." From the text, what do you think the word "orbit" means?

- A: the path a planet takes around the sun
- B: the name for the atmosphere in space
- C: a comet
- D: another name for Earth

Question: Which of the following sentences uses the word "orbit" correctly?

- A: You can use the orbit to play basketball.
- B: I bought an orbit at the store today.
- C: The orbit of the car was 75 miles per hour.
- D: The moon orbits the earth.

Q: 3 WordPhrase: dedicate **WordPhraseTier:** 2

Question: The author says, "A scientist dedicates much time to learning. The scientist works hard. The scientist helps us all find out more about our world." Based on the text, what do you think "dedicate" means?

- A: to give a lot of time and effort to
- B: to ignore
- C: to take away from
- D: to try to fix

Question: Which of the following sentences uses the word "dedicate" correctly?

- A: The dedicated child ignored everything her mother said and got sent to her room.
- B: He dedicated the toy away from his classmate.
- C: The gymnast was dedicated to landing the flip and after a lot of hard work, he landed it.
- D: Following a dedicated car ride, we finally made it home.

Q: 4 WordPhrase: galaxy **WordPhraseTier:** 3

Question: The author of the story says, "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." Based on the text, what does "galaxy" mean?

- A: a skyscraper with hundreds of floors
- B: a group of millions of stars and planets that stays together due to gravity
- C: a planet in our solar system
- D: a country on Earth

Question: Which of the following uses the word "galaxy" correctly in a sentence?

- A: The galaxy is inside our solar system.
- B: You can buy a galaxy at the hardware store.
- C: There are many galaxies on Earth, but they are very far away.
- D: Earth is part of a huge galaxy with many other planets and stars.

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 - Why do we have seasons?

After reading the text, you know how the Earth travels through the solar system. Knowing this, why do you think we have seasons on Earth? Think about how long it takes to cycle through all four seasons.

2 - The orbit of Mercury and Venus

In the text, we learned that the Earth orbits around the sun once every 365 days. This equals a year. We also learned that there are two planets closer to the sun: Mercury and Venus. Do you think these two planets orbit the sun more quickly or more slowly than Earth does? Why?

3 - Scientists on Earth and in space

What are the similarities between scientists who study things on Earth (such as the ocean or animals) and scientists who study space?

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Task 3: Writing Activity

Instructions: Write a paragraph (3-5 sentences) about why it is important to study space. Please list at least two reasons.

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