

Lesson Plan

Snapshots of Space

Book: *Big Machines in Space*

Series: Big Machines

Level: Scout

Objective

To help students learn the meaning of basic words related to space and space exploration.

Supplies

- *Big Machines in Space* book
- Snapshots of Space worksheet (attached)
- Crayons or markers
- “What Is the Hubble Space Telescope?” article from NASA:
<https://www.nasa.gov/audience/forstudents/k-4/stories/nasa-knows/what-is-the-hubble-space-telescope-k4.html>
- Images taken by the Hubble Space Telescope:
https://www.nasa.gov/mission_pages/hubble/multimedia/index.html
- Merriam-Webster Online Dictionary:
<https://www.merriam-webster.com/>

Before the Activity

Read the *Big Machines in Space* book out loud to students. Print the Snapshots of Space worksheet or email copies to students. Pull up the Hubble Space Telescope images and “What Is the Hubble Space Telescope?” article in separate tabs of your internet browser.

Activity

Read the first section (“What Is the Hubble Space Telescope?”) of the article out loud to students. This article explains how the Hubble Space Telescope helps scientists learn about space. It describes some of the things the telescope can see or take pictures of. Some of these words may be new to students. Use the following prompts to explore what these words mean:

- According to the website, what are some things that the Hubble Space Telescope takes pictures of? (Answers: planets, stars, galaxies)
- Some of these words are used in the *Big Machines in Space* book. For example, planets are described on pages 12–13. What do we learn about planets from these pages? (Sample Answers: A planet is round. A planet is in space.)

- Stars are mentioned on page 14. Scientists use telescopes to see stars. But people can also use their eyes to study stars from the ground. Ask a volunteer to describe what a star looks like from Earth. (Sample Answer: Stars look like bright dots in the sky.)
- The sun is a star. Ask another volunteer to describe what the sun looks like from Earth. (Sample Answer: The sun looks like a large, bright circle. People can see it in the sky during the day.)
- Galaxies aren't described in the book. To explore what this word means, look it up in the Merriam-Webster Online Dictionary and read the "Kids Definition" section aloud to students: "one of the very large groups of stars, gas, and dust that make up the universe." Use the images from the Hubble Space Telescope to show students a few examples of what galaxies can look like.

Next, read the part of the NASA article called "What Is NASA Learning from the Hubble Space Telescope?" and use the following prompts:

- What are some things that Hubble helps scientists learn about? (Answers: comets, planets, moons, black holes, our solar system, the universe)
- Explain that a comet is a bright object that moves quickly around the sun. As it moves, it develops a part called a tail. Have students look at the picture of the Tadpole Galaxy in the NASA article. Point to the galaxy's tail and ask a volunteer to describe what it looks like. (Answer: The tail looks like a long, thin stream of light.)
- Hubble helped scientists find moons near Pluto. Earth has a moon, too. What does Earth's moon look like? (Sample Answers: The moon is grayish-white. Its shape changes. Sometimes it looks like a circle, but sometimes it's just a small curve.)
- Hubble also helps scientists learn about the solar system. Read the "Kids Definition" from Merriam-Webster Online Dictionary to students: "the sun and the planets, asteroids, comets, and meteors that revolve around it." Invite volunteers to name some of the planets in our solar system. (Sample Answers: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune)

Finally, have students look at the Snapshots of Space worksheet. Explain that it has six words related to space. Students should draw pictures to illustrate what each word means.

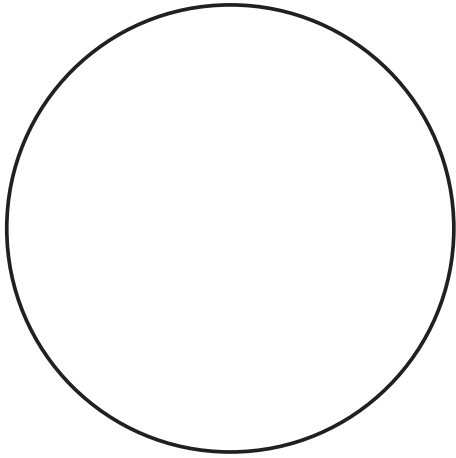
Evaluation

Were students able to answer the discussion questions? Could they draw pictures based on what they learned? Provide prompting and support for any students who need help understanding a word's meaning or aren't sure how to draw it.

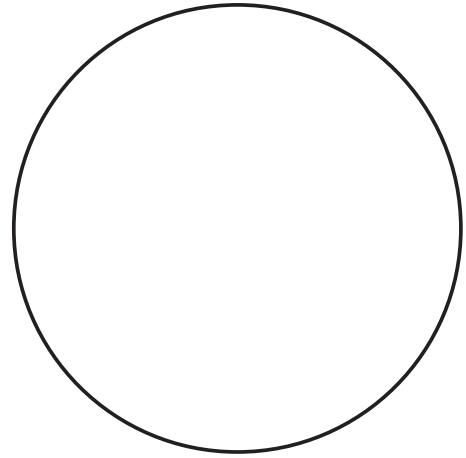
Standards

This lesson may be used to address the Common Core State Standards' reading standards for informational text, grade 1 (RI 1.4, 1.6).

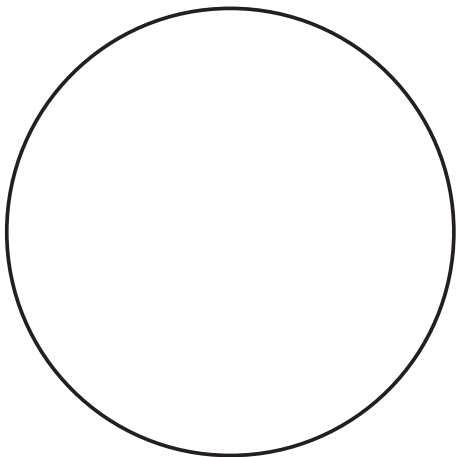
Snapshots of Space



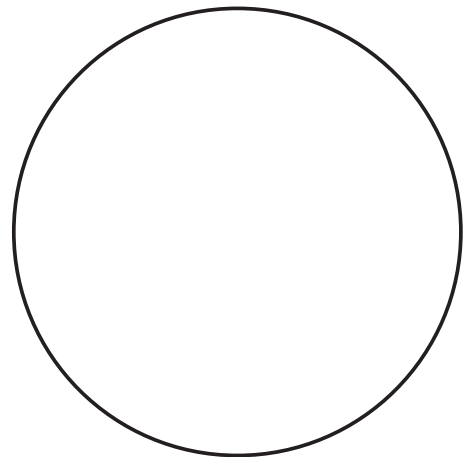
Planet



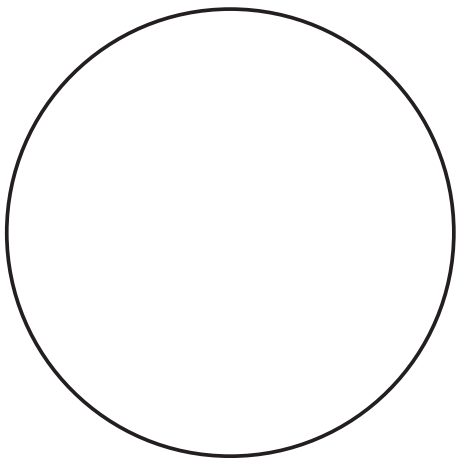
Galaxy



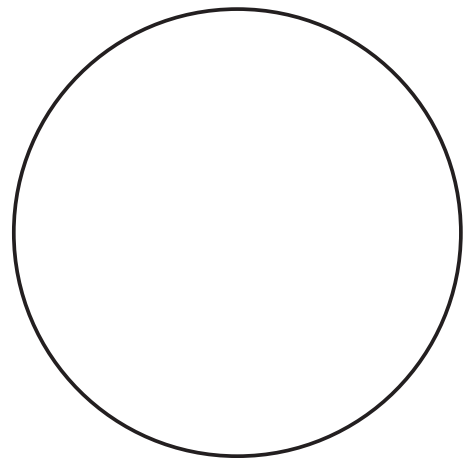
Star



Comet



Sun



Moon