EDUCATE STATION

FIRST GRADE SCIENCE

SOLAR SYSTEMS

This learning plan provides students with opportunities to learn about the sun, the planets, and other objects in our solar system. Students will learn about the importance of the sun, particularly with regard to all life on earth. Students will practice naming the planets and will learn about their order from closest to the sun to the furthest away.

STANDARDS

- 1-ESS1-1. Use observations of the sun, moon, and stars to describe patterns that can be predicted.

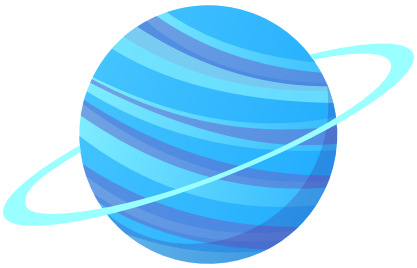
OBJECTIVES

- ✓ Students will be able to name the planets of our solar system.
- ✓ Students will be able to explain that the planets orbit a star called the sun.

GUIDING QUESTIONS

What planets are in our solar system?

Why is the sun important to life on earth?



MATERIALS

- ☐ Matching the Planets worksheet
- ☐ Planets in Our Solar System worksheet
- ☐ All About the Sun handout
- ☐ Planet Mobile worksheet
- ☐ If I Lived On Another Planet worksheet
- ☐ Hanger (1 per student)
- ☐ String
- ☐ Hole Puncher
- ☐ Stapler
- ☐ Coloring Materials

ASSESSMENTS

Formative assessments and checks for understanding occur throughout the lesson:

- Be sure students can explain that the planets orbit the sun. This can be done throughout the first two activities. Additionally, assess students understanding that the sun is a star and incredibly important to all life on earth.

Summative Assessment: Planet Mobile

DIFFERENTIATION STRATEGIES

- To Support: Provide students with as much visual support as possible. Books, pictures, posters, and videos are all great ways for students to conceptualize the solar system. Use visuals to describe how planets orbit the sun.
- To Advance: Encourage students to write to summarize the importance of the sun on our planet (and solar system).
- To Advance: Ask students to recall the order of the planets from the closest to the sun to the furthest.

EXTENSION ACTIVITIES

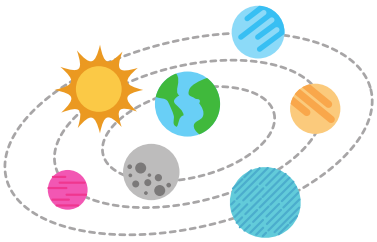
- Have students create a replica of the solar system using play-doh to create the sun and planets. Teach students about the variou sizes, for example, Jupiter is much larger than Mercury.
- Build a rocket ship in the classroom using desks, chairs, or whatever you have on hand. Take a "journey" from earth to the other planets. Use descriptions of what students may see as they pass by other planets. Be creative and imaginative as you take your "trip" into outer space.

ACTIVITY OVERVIEW

Activity 1	Activity 2	Activity 3	Activity 4	Activity 5
Matching the Planets Students will match each planet to the correct number that identifies their placement from the sun.	Guided Practice Students will answer questions with the name of the correct planet.	Independent Practice Students will write facts about the sun.	Planet Mobile Students will make a mobile and write important facts about each planet.	If I Lived On Another Planet Students will write a fantasy story about living on another planet

ACTIVITY 1: MATCHING THE PLANETS

- Consider introducing the planets to students using a catchy song or video from YouTube kids. Several are available with a quick search.
- Write the names of the planets on the board for students to practice.
- Explain that the planets rotate around or orbit the sun.
- It may be helpful to place an object on the floor and model how the planets orbit the sun by walking around the object in an elliptical shape. Students can take turns “orbiting” the sun.
- Distribute the Matching the Planets worksheet.
- Together with the students, match each planet to its number in the order of its distance from the sun. For example, Mercury would match with 1 because it is the first planet from the sun.
- Continue through the rest of the planets.
- Be sure to state the planet’s name for each example and have students repeat the order of the planets upon completing the worksheet.



ACTIVITY 2: GUIDED PRACTICE

- Distribute the Planets in Our Solar System worksheet.
- Be sure to have a copy displayed in some way for students to use as a guide.
- Starting with the sun, point to each celestial body and ask students to identify it by name.
- As students name each object, encourage them to use the word box at the bottom to label the sun, moon, and planets.
- Continue through the rest of the worksheet until all boxes have been labeled.
- Be sure to ask questions such as, "What is the name of the 7th planet from the sun?" to help students recall the order of the planets.

ACTIVITY 3: INDEPENDENT PRACTICE

- Distribute the All About the Sun worksheet.
- Ask, "Is it possible to see a star during the day?"
- Inform students that the sun is a star and we see it during the day!
- Explain to students that they will be reading about the most important star in our solar system.
- Guide students to fill in information about the sun as you read the text together.
- If time permits, allow students to watch a video or read additional texts that give more information about the sun.
- Students can continue to add to the graphic organizer as they learn.

ACTIVITY 4: PLANET MOBILE

- Distribute the Planet Mobile handout, scissors, string, a hole puncher, and a hanger to each student.
- Inform students that they will be making a mobile using the materials they have. (It may be helpful to make a sample for students to have a visual to recreate).
- First, instruct students to cut out each of the planets and the sun. Then, students will punch a hole at the top of each planet and the sun.
- Assist students to place the string or yarn through the hole and attach it to the hanger. Be sure students affix the images in their correct order starting with the sun.
- Continue working until all of the objects in the solar system are correctly placed.
- To advance, distribute books or reading material on the various planets in our solar system. Encourage students to write one fact about each planet on the back of the picture. Students can share their findings with one another.

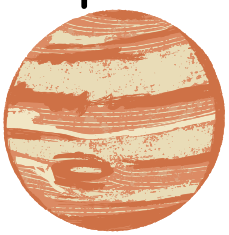
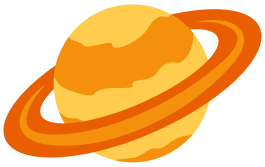
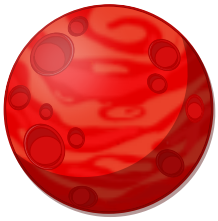
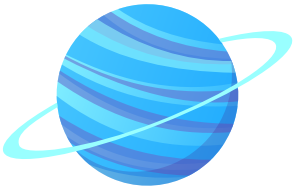
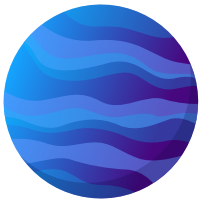
ACTIVITY 5: IF I LIVED ON ANOTHER PLANET

- Distribute the If I Lived On Another Planet worksheet.
- Tell students to think about a planet they'd like to visit if it was possible to do so.
- Instruct students to draw a picture showing their journey to a new planet.
- Inform students that they will then write about what it might be like to live on this planet.
- Encourage detail in descriptions.
- Ask students the prompts on the worksheet to encourage additional sentences.
- Students can share their writings with one another upon completion.

NAME _____ DATE _____

MATCHING THE PLANETS

Directions: Oh no! The planets got out of order! Cut out the planets and number cards and put them back in the correct order based on their distance from the sun.

1st	5th	Jupiter 	Mercury 
2nd	6th	Saturn 	Venus 
3rd	7th	Mars 	Uranus 
4th	8th	Earth 	Neptune 

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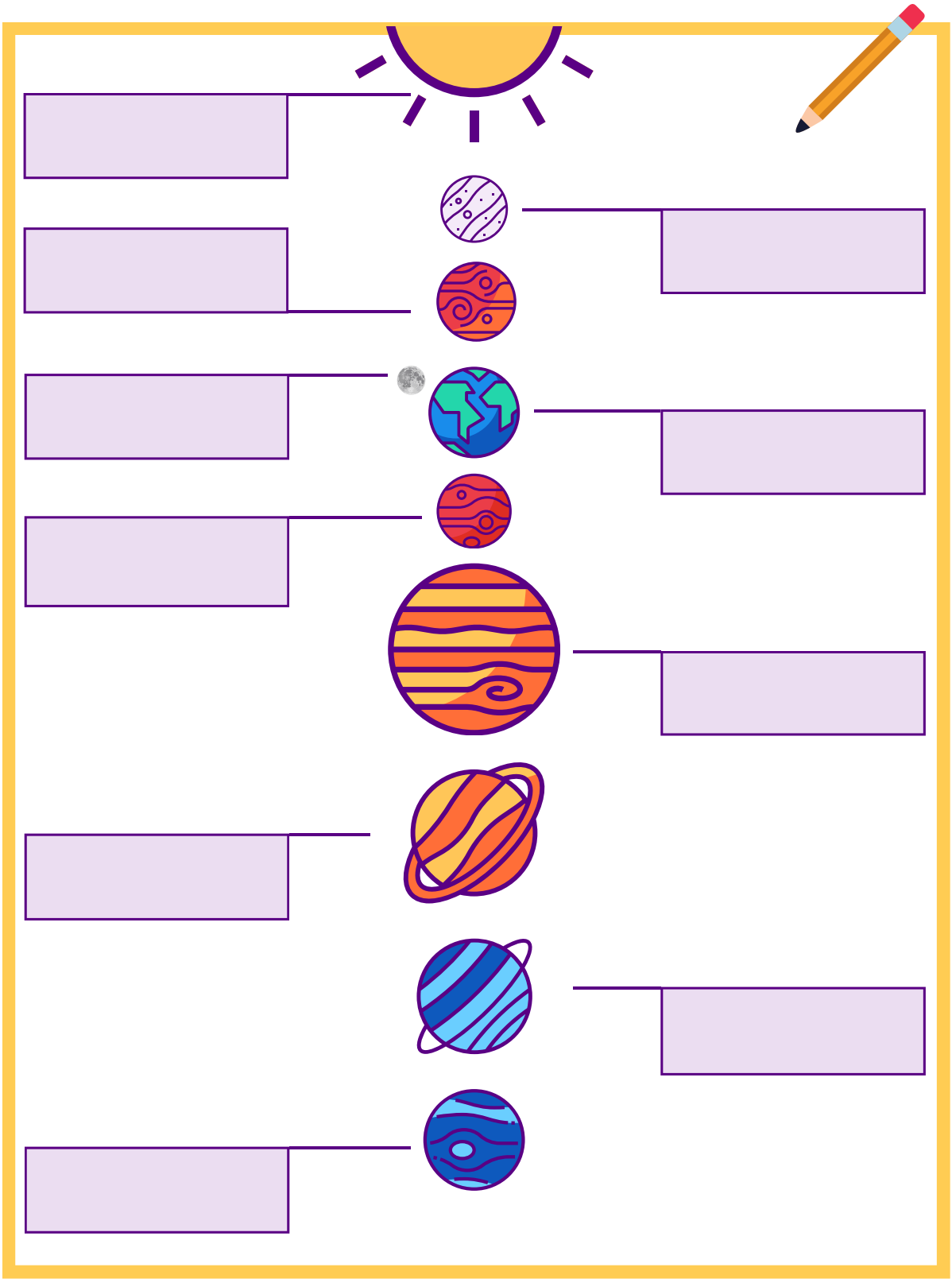
PLANETS IN OUR SOLAR SYSTEM

Directions: Label each picture with the name of the planet or object in our solar system.



Word Bank:

Mercury

Sun

Venus

Jupiter

Earth

Mars

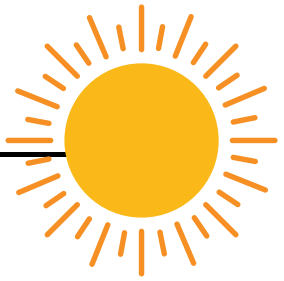
Saturn

Neptune

Moon

Uranus

NAME _____ DATE _____



ALL ABOUT THE SUN

Directions: Read about the sun. Complete the graphic organizer with facts you've learned.

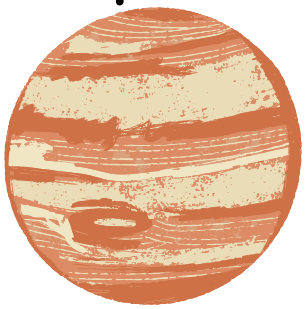
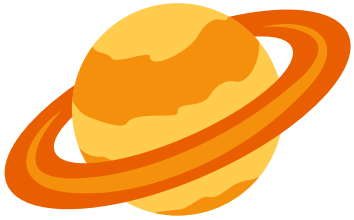
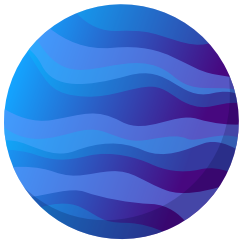
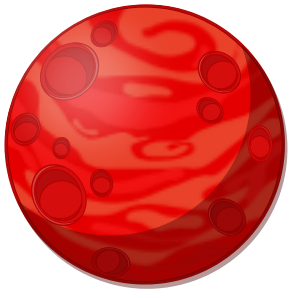
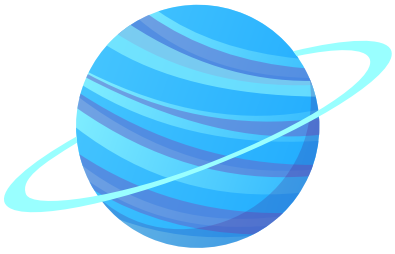
The sun is a big star at the center of our solar system. The planets, dwarf planets, and asteroids orbit, or travel around, the sun. The sun is a big ball of hot gas and is our greatest source of light here on earth. There would be no life here on earth if the sun did not exist. Humans need sunlight for good health and to make food that we eat. Plants need the sun to make food in a process called photosynthesis. It can be even used as heat energy to create electricity! The sun impacts the weather, the oceans, the seasons, and our climates. The sun is about 4.5 billion years old and scientists believe it should be stable for the next 5 billion years. After that, it'll eventually grow into a red giant and then shrink into a white dwarf.

The Sun...		
Can	Has	Is

NAME _____ DATE _____

PLANET MOBILE

Directions: Cut apart each square. Attach string to the picture and tie it to the hanger. Tie the sun first. Make sure the planets are in the correct order.

Sun 	Jupiter 	Mercury 
Earth 	Saturn 	Venus 
Neptune 	Mars 	Uranus 

NAME _____ DATE _____

IF I LIVED ON ANOTHER PLANET

Directions: After learning about the planets, think about which one you'd like to visit if it was possible for humans to do so. Why do you want to go there? What would you do? Draw a picture and write about your visit.