LESSON 2:
PLAY DOH PLANETS

SUPPLIES

BIG FOLDER
- Construction Paper (20)
- Planet Sizing Charts (20)

PENCIL BOX
- Rulers

LESSON KIT #2
- Playdoh (20)

OBJECTIVES

- ☑ Students will understand and identify the eight planets in our solar system.
- ☑ Students will identify order of planets from the sun

HOOK

3-5 min

Have you ever looked up at the night sky and wondered what is out there beyond Earth? Imagine climbing into a rocket ship and traveling through space to visit each of the planets! Some planets are hot enough to melt metal, while others are so cold that ice never melts. One planet has beautiful rings, another has giant storms, and one is the only place we know where people, plants, and animals can live.

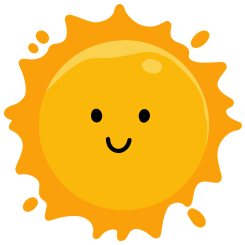
INTRODUCTION

3-5 min

Our solar system is made up of the Sun, eight planets, moons, asteroids, comets, and other objects that all travel through space. The Sun is a star at the center of our solar system, and its gravity keeps all of the planets moving in their own paths, called orbits.

You may have heard that there are nine planets, but scientists now classify Pluto as a dwarf planet because it does not meet all the requirements to be considered a planet.

Now, let's see how many planets we can name together!





LET'S LEARN ABOUT THE PLANETS IN OUR SOLAR SYSTEM!

- **Mercury** is the smallest planet and the closest to the Sun.
- **Venus** is the hottest planet because its thick atmosphere traps heat.
- **Earth** is the only known planet with liquid water and life.
- **Mars** is called the Red Planet because of its dusty, reddish surface.
- **Jupiter** is the largest planet in our solar system and has a giant storm called the Great Red Spot.
- **Saturn** is famous for its beautiful rings made of ice, dust, and rock.
- **Uranus** rotates on its side, making it one of the most unusual planets.
- **Neptune** is the farthest planet from the Sun and has the fastest winds in the solar system.

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PLAY DOH PLANETS

ACTIVITY 20-25 min

1. Split into groups of 3-4 based on class size. Pass out 5-7 containers of Playdoh to each group, and the sizing chart. Instruct the kids to look at the planet sizing chart.

2. Teacher Demonstration: (Class Follows Along)
   - One student from each group will be picked to learn the steps of the project with you.
   - Take playdoh and flatten it out onto the Sizing Chart circle Labeled: "Earth" (Be sure the kids are following along and not over/under using Playdoh)
   - Once the correct measurement has been filled out, roll that flattened playdoh into a ball.
   - Have the kids hold up the new Earth in the air to show they followed along!

3. Instruct them to look at the planet sizing chart and create their 'planets' using the playdoh. Be sure to reinforce that the playdoh should first be flattened into the circle, measured, then rolled into a ball.

SIZE CHART

- Mercury - 2.0 cm
- Venus - 3.0 cm
- Earth - 3.5 cm
- Mars - 2.5 cm
- Jupiter - 7.5 cm
- Saturn - 6.5 cm
- Uranus - 5.0 cm
- Neptune - 4.5 cm

4. Pass out a sheet of construction paper to each group.

5. On the paper, ask them to set the 'planets' in the order they think the planets are arranged in our solar system. Ask a few questions about why they set up their projects in the order they chose.

6. Show children the printable poster of the planets and discuss how you can use a mnemonic to remember the planets and their order.

7. Say the mnemonic together to help children remember it. "**My Very Educated Mother Just Served Us Nachos**" Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune.



8. Ask them to make their own sayings for fun to remember the order.

9. Now that they have observed the Planets and their order, allow the kids to decorate their 'Space" on the construction paper.



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PLAY DOH PLANETS

DISCUSSION

10 min

Invite each group to share their solar system and explain how they arranged their planets.



Ask Students:

- What is the correct order of the planets from the Sun?
- Which planet is closest to the Sun? Which is farthest away?
- Which planet is the largest? Which is the smallest?
- Did the size of a planet determine where it belongs in the solar system?

Have students compare their finished model to their original predictions. Ask how close they were to placing the planets in the correct order and identifying the largest and smallest planets.

OBSERVE & EXPLAIN

5 min

Our great big solar system is part of the Milky Way Galaxy and formed about 4.6 billion years ago. At the center of our solar system is the Sun, which is a star. The Sun's gravity keeps the eight planets moving around it in paths called orbits.

The planets, in order from the Sun, are Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune. The first four planets, Mercury, Venus, Earth, and Mars, are called the inner planets. They are smaller and have rocky surfaces. The last four planets, Jupiter, Saturn, Uranus, and Neptune, are called the outer planets. They are much larger and are made mostly of gases and icy materials. The planets in our solar system are all different sizes. Mercury is the smallest planet, while Jupiter is the largest. From smallest to largest, the planets are: Mercury, Mars, Venus, Earth, Neptune, Uranus, Saturn, Jupiter. Remember, a planet's size does not determine its place in the solar system. The planets are arranged by their distance from the Sun, not by how big they are.

By creating and comparing our Play-Doh planets, we saw how different the planets are and worked together to build a model of our solar system. The next time you look up at the night sky, remember that Earth is just one of eight amazing planets orbiting our Sun in the vast Milky Way Galaxy. There is still so much to discover about space, and every new question helps us learn a little more about the universe!



Exit Ticket



Ask each student one of the following questions as they walk out the door.

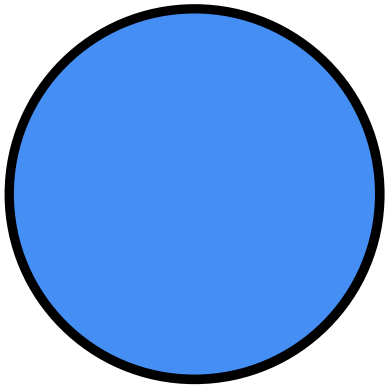
- What is one important feature of Mercury?
  - Examples include smallest planet, closest to the Sun, rocky surface
- Why is Venus the hottest planet in our solar system
  - Examples include thick atmosphere, traps heat, greenhouse effect
- What makes Earth unique compared to the other planets?
  - Examples include liquid water, supports life, habitable environment
- Why is Mars called the Red Planet?
  - Examples include reddish surface, dusty soil, iron minerals

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PLAY DOH PLANETS

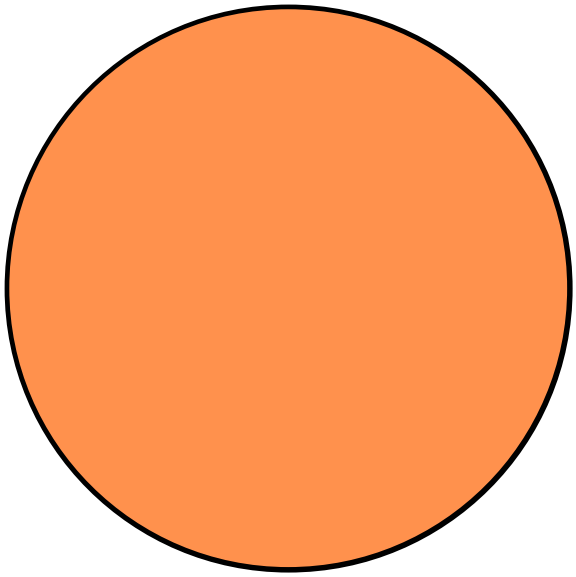
SIZING CHART: LABELED

Uranus: 5.0 cm



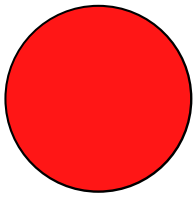
A

Jupiter: 7.5 cm



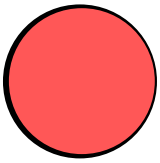
B

Mars: 2.5 cm



C

Mercury: 2.0 cm



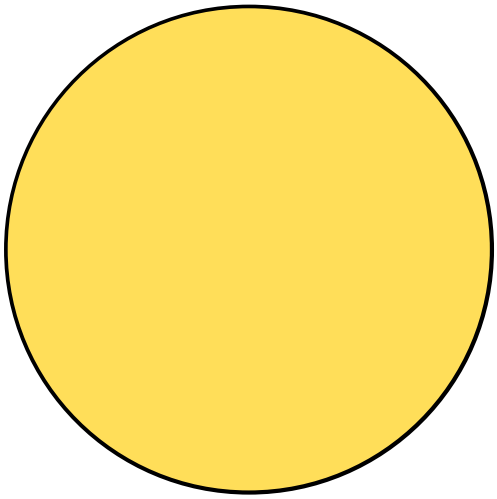
D

Earth: 3.5 cm



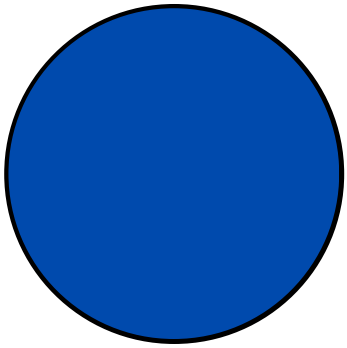
E

Saturn: 6.5 cm



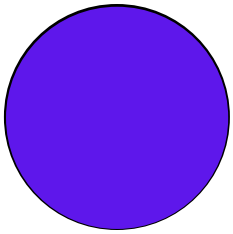
F

Neptune: 4.5 cm



H

Venus: 3 cm

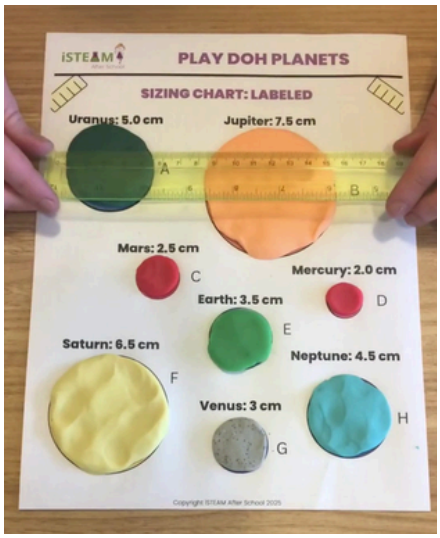


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PLAY DOH PLANETS: STUDENT DIRECTIONS

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2



3



PLAY DOH PLANETS: STUDENT DIRECTIONS

1

2

3

