THE PLANETS AND THE SOLAR SYSTEM

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Subject

Basic science

Prepared By

[Instructor Name]

Grade Level

5

Overview

This lesson plan covers teaching content for;

1.The solar system

2. The planets(names and arrangement)

Objectives

Students should be able to;

1. Understand that planetary images contain valuable information, but require interpretation, which is somewhat uncertain.
2. Be able to recognize each planet or moon by its unique and identifiable features.
3. Understand that scientists summarize findings to look for patterns in groups like planets and moons.

Activity Starter/Instruction

1. Before the lesson, gather household items such as a ping-pong ball, tennis ball, inflated balloon, grapefruit, glass marble, small pebble, etc. You should have around 10 items, with a large range between the smallest to largest. Use any round or spherical item you have on hand (that is safe for students to handle).
2. Put the round objects on a table and have students sort them from largest to smallest. What about heaviest to lightest? Ask questions like: Which object is the heaviest? Is that object also the biggest? How many times bigger is the largest object than the smallest object? How do you know? Note: for a large classroom, put the students in groups of 3-4 and give each group a container with around 10 objects of different sizes.

Guided Practice

Day 2/ Lesson 2: 15 Mins

1. Ask your students if they know where each planet is located in relation to the Earth.
2. Explain to your students that there is a trick to remembering the planets in relation to the sun.

Teacher Guide

Day 1/ Lesson 1: 15 Mins

1. Tell the class that the sorting they just did is similar to how a scientist would classify the planets. We can sort the eight planets from biggest to smallest, from nearest to farthest from the sun, and by how much they weigh.
2. Write the names of the eight planets on the board, telling students they are in order from smallest to largest (write: Mercury, Mars, Venus, Earth, Uranus, Neptune, Saturn, Jupiter).
3. Have students remain in their groups and work together to choose an object to represent each planet and the sun. What could you use to represent Mercury? How about Jupiter? Students can also draw a representation of how big they think a planet would be, or find another round object in the classroom (a globe, an eraser from a pencil, etc.) Hint: Start small.

Materials Required

-ball

-fruits

-cardboards

-plain sheet

Additional Resources

- http://solarsystem.nasa.gov/planets/index.c
- http://www.rense.com/general72/size.htm
- http://www.zoomwhales.com/subjects/astro
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Additional Notes

3. Explain to your students that they can easily remember the planets' relation to the sun if they memorize the sentence, My Very Energetic Mother Just Served Us Nachos.

4. Explain that the first letter of each word in that acronym represents the name of a planet in relation to the sun.

4. Tell the students that if earth, which is not the smallest planet, was as big as this dot (.) then the sun would be about the size of a tennis ball. Give advice if needed, but let students work out the puzzle for themselves as much as possible. When finished, each group should have nine objects that represent the solar system, lined up in whatever order they choose (for example largest to smallest).

Guided Practice

Day 3/ Lesson 3: 15 Mins

1. Back in the classroom, have students work with their partner to design a poster about the solar system. What is the name of their poster going to be? What is it about? Help students choose to focus on one aspect of the solar system like comparing two planets, such as Mars and Earth, or comparing Jupiter to the sun. Students could also focus on one aspect of all eight planets, such as their size or distance from the sun.
2. When students have finished their posters, have them present to the class. After presenting, hang up each poster around the classroom to remind the students about what they learned. You can have students fill out a self-evaluation sheet on their own performance, or grade them on teamwork skills, participation, and understanding of the concepts, based on the poster they made.

3. Now that students know something about how the planets compare to each other, have them research more about our solar system. Have students break into pairs or work with the same partner they did before.
4. Each pair must choose to research one thing from this list: 1) How far apart are each of the planets from the sun? 2) How far is Mars from Earth? 3) How big is the sun? 4) How big is the sun compared to other stars in our solar system? 5) Why is a planet's mass different than its weight? You can allow several pairs to pick the same question, as long as each of the five questions are being researched.
5. As the teacher, you may have students focus on other topics as well, such as dwarf planets, the temperature of each planet, etc.

	Assessment Activity	Assessment Activity Ask students to take out a sheet of paper and answer questions about the planets. Potential questions include: Which planet is closest to the sun? Which planet is the farthest from the sun? Which planets are closest to the Earth? Which is the fourth planet in the solar system? Review and closing (20 minutes)
	Summary 1. Ask for volunteers to share their answers to the problems assigned. 2. Elaborate to students that the planets and the solar system are environmental norms they should understand and give then take home assignments to know more about the planets and the solar system	