5E Lesson Plan

Teacher: Madison Jones

Date:

Subject / grade level:2nd Grade

Materials:
-Class workbook
-Computers for Lunar Lander
-Solar System Example
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NC SCOS Essential Standards and Clarifying Objectives

PS2.A: Forces and Motion

- Pushes and pulls can have different strengths and directions.
- Pushing or pulling on an object can change the speed or direction of its motion and can start or stop it.

PS2.B: Types of Interactions

- When objects touch or collide, they push on one another and can change motion.

PS3.C: Relationship Between Energy and Forces

- A bigger push or pull makes things speed up or slow down more quickly. *(secondary)*

Lesson objective(s):
Students will be able to tell the difference between the gravity on the Moon and Earth. They will be able to explain that day and night come from the movement and gravity. The students will be able to show you where Earth is located in the Solar System.

Differentiation strategies to meet diverse learner needs:
-Speech to text
-Speak to teacher I write then they copy
-Read instructions to students

ENGAGEMENT

- I will show a video about how the moon and the Earth have different gravities which has an effect on items.. I will show them the video of astronauts on the moon and how the gravitational pull is different than on Earth.
- https://www.youtube.com/watch?v=mQrlgH97v94
- https://www.youtube.com/watch?v=KFPvdNbftOY
- https://www.youtube.com/watch?v=bVNTNeNMH8Q
- Students will be able to ask others to try and understand what might be different between the moon and the Earth.
- Students will discuss why we have day and night on Earth.

EXPLORATION

- Students will be doing the Luna Landing.
- Students will be able to drop different items and determine how it might drop on the moon based on the video seen at the beginning.
- Give them balls and try and allow them to figure out why we have days and nights. How does this happen? Why does this happen?

EXPLANATION

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- Students will be doing workbook pages that are in their workbook that the school provides. They will have to explain what the difference is between the gravity on Earth compared to the Moon.
- They will also be learning about how the gravitational pull and movement on the Earth effects why we have days and nights on Earth
- I will explain how things do not get pulled down by a force. Due to the force not pulling items down.
- Video with astronauts explaining that items do not get pulled down. This means that they cannot do normal tasks that we do on Earth.
- We will use a Venn diagram to compare Earth and the Moon.
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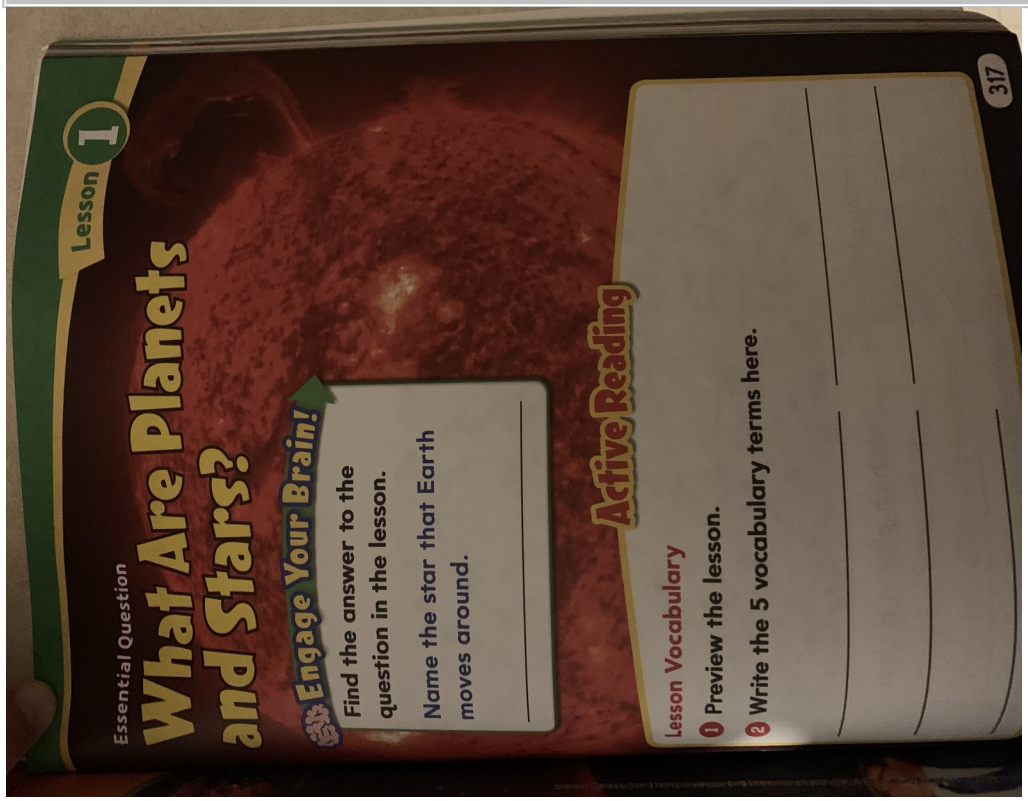
ELABORATION

- Describe how students will develop a more sophisticated understanding of the concept.
- Vocabulary: gravity, pull, moon, Earth, force, mass, orbit
- These will be a direct link to the videos to peek their interest that was seen earlier.
- This will show why items move the way they do.
- This will show why astronauts go into space.
- This will give a better understanding on movement on mass of objects.
- Season happen because of how the Earth orbits around the sun.
- Days and nights get longer due to the gravity that is pulling on the Earth and the Moon.

EVALUATION

- Students will do an exit ticket. They will have to explain how the gravity of the Earth and Moon are different. They will have explain what happens to an object on the Earth versus the Moon.
- Students will have to do their workbook pages in the workbook that is provided by the school.



All Systems Go!

We live on Earth. Earth is a planet. A **planet** is a large ball of rock or gas that moves around the sun.

The sun, the planets, and the planets' moons are parts of the **solar system**. There are eight planets in our solar system. Earth is a planet in the solar system.

sun Mercury Venus Earth Mars

▶ How many planets are in the solar system?

_____

▶ Which planet is closest to the sun?

_____

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You can see some parts of the solar system only at night. During the day, the parts are still there. You just cannot see them when it is light outside.

Jupiter Saturn Uranus Neptune

The planets look different. They are different sizes. They are different distances from the sun.

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Some stars form constellations.
A **constellation** is a group of stars that forms a pattern. What do these constellations look like to you?

Canis Major

Orion

Why can you see most stars only at night?

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Star Bright

A **star** is a huge ball of hot gases. The hot gases give off light and heat.

The star closest to Earth is the sun. You can see the sun in the daytime, but most stars can be seen only at night. They look like tiny points of light because they are so far away.

Active Reading

Find the sentence that tells the meaning of **star**. Draw a line under the sentence.

The sun gives Earth light and heat.

The Center of Attention

The sun is the center of the solar system. Earth and the other planets move in orbits around the sun. An **orbit** is the path a planet takes as it moves around the sun.

Planets closer to the sun take less time to make an orbit around the sun. Planets farther away take more time to make an orbit.

Active Reading

The main idea is the most important idea about something. Draw two lines under the main idea.

Venus

sun

Mercury

Mars

Earth

It takes one year for Earth to make one orbit around the sun.

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