

Paths in Space

Trace how the Sun, Earth, and Moon move together.

3.9 "Earth and space. The student knows there are recognizable objects and patterns in Earth's solar system. The student is expected to: construct models and explain the orbits of the Sun, Earth, and Moon in relation to each other..."

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB In the sentence that begins "Starting closest to the Sun," write 1 through 8 above the planet names to show their order. Underline every sentence that states an orbit relationship, meaning it tells what travels or moves around what.

A Solar System Model

- ① Our solar system has the Sun at its center. The Sun is a star, not a planet. Eight planets move around the Sun along paths called orbits. Starting closest to the Sun, the planets are Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune. A planet's place in this order depends on how far it is from the Sun.
- ② Earth travels around the Sun. The Moon travels around Earth. As Earth moves on its orbit, the Moon moves with Earth while also orbiting Earth. This means the Moon has its own path around Earth, and Earth has a path around the Sun. The Sun does not travel around Earth or the Moon. Models can show these paths and the objects they connect.
- ③ To build a simple model, use a large circle for the Sun. Put Earth on a larger path around the Sun. Put the Moon on a small path around Earth. Add arrows to show movement. The model is not to scale, because the real distances are much larger. It helps you explain how the Sun, Earth, and Moon move in relation to one another.

2 ANSWER WITH EVIDENCE Use the passage

1 What is an orbit?

2 What does Earth orbit, and what does the Moon orbit?

3 Why does the Moon move with Earth as Earth travels around the Sun?

4 Write all eight planets in order from closest to farthest from the Sun.

3 YOUR TURN Your own words

In all three panels, draw and label the Sun, Earth, and Moon. Put Earth in a different place on its large path around the Sun in each panel, draw a small arrowed path for the Moon around Earth, and write two sentences explaining the orbit relationships.



PART 1 • READ AND MARK

In the sentence that begins “Starting closest to the Sun,” write 1 through 8 above the planet names to show their order. Underline every sentence that states an orbit relationship, meaning it tells what travels or moves around what. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What is an orbit?	An orbit is a path an object travels around another object.
2	What does Earth orbit, and what does the Moon orbit?	Earth orbits the Sun. The Moon orbits Earth.
3	Why does the Moon move with Earth as Earth travels around the Sun?	The Moon moves with Earth because it orbits Earth while Earth orbits the Sun.
4	Write all eight planets in order from closest to farthest from the Sun.	Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune.

PART 3 • YOUR TURN (SAMPLE ANSWER)

Drawing: In all three panels, label the Sun, Earth, and Moon. Show Earth at three different places on a large arrowed path around the Sun. Show the Moon on a small arrowed path around Earth. Writing: Earth orbits the Sun. The Moon orbits Earth.

Accept answers that give the planet order from Mercury to Neptune and correctly state that Earth orbits the Sun while the Moon orbits Earth. In the model, accept different placements of Earth and the Moon if arrows and labels clearly show both orbit relationships.