

Objects on the Move

Track what solar-system objects are like, where they are, and how they move.

7.9.A “describe the physical properties, locations, and movements of the Sun, planets, moons, meteors, asteroids, comets, Kuiper belt, and Oort cloud;”

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline phrases that describe what an object is made of or what it looks like. Circle phrases that tell where an object is or how it moves.

A Busy Solar System

- ① Our solar system is organized by gravity. The Sun is a star, a huge ball of hot plasma that gives off light and heat. Its gravity keeps eight planets moving around it in curved paths called orbits. The planets are large, nearly round bodies that do not make their own light. Some are rocky, while others are giant worlds made mostly of gas or ice. Each planet rotates, or spins, and travels around the Sun. Their orbits are at different distances from it.
- ② Many planets have moons, natural objects held by a planet's gravity. A moon moves around its planet while the planet moves around the Sun. Asteroids are rocky or metallic objects, smaller than planets. Most orbit the Sun in the asteroid belt, between Mars and Jupiter. Comets are icy bodies mixed with dust and rock. They orbit the Sun on long, stretched paths. The Kuiper belt lies beyond Neptune and contains many icy objects and short-period comets.
- ③ Far beyond the Kuiper belt, the Oort cloud is a very distant, roughly spherical region of icy objects that surrounds the solar system. Its objects orbit the Sun, but their paths can take thousands or millions of years. Gravity from passing stars can change an object's path and send it inward as a comet. A meteoroid is a small piece of rock or metal moving through space. When it enters Earth's atmosphere and glows from heating, it is seen as a meteor, or streak of light.

2

ANSWER WITH EVIDENCE

Use the passage

1

What are the two movements of a planet described in the passage?

2

How does a moon move in relation to its planet and the Sun?

3

Compare asteroids and comets. State one physical property of each, tell where asteroids orbit, and describe the path of a comet.

4

What can change the path of an object in the Oort cloud? What is a meteoroid seen as when it enters Earth's atmosphere and glows?

3

YOUR TURN

Your own words

Choose three different objects or regions named in the passage. For each one, record a physical property, its location, and its movement. If you choose a region, describe how the objects in that region move.

OBJECT OR REGION	PHYSICAL PROPERTY	LOCATION	MOVEMENT

PART 1 • READ AND MARK

Underline phrases that describe what an object is made of or what it looks like. Circle phrases that tell where an object is or how it moves. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What are the two movements of a planet described in the passage?	A planet rotates, or spins, and travels around the Sun.
2	How does a moon move in relation to its planet and the Sun?	A moon moves around its planet while the planet moves around the Sun.
3	Compare asteroids and comets. State one physical property of each, tell where asteroids orbit, and describe the path of a comet.	Asteroids are rocky or metallic and orbit mainly in the asteroid belt between Mars and Jupiter. Comets are icy bodies mixed with dust and rock that orbit the Sun on long, stretched paths.
4	What can change the path of an object in the Oort cloud? What is a meteoroid seen as when it enters Earth's atmosphere and glows?	Gravity from passing stars can change its path. A glowing meteoroid in Earth's atmosphere is seen as a meteor, a streak of light.

PART 3 • YOUR TURN (SAMPLE ANSWER)

OBJECT OR REGION	PHYSICAL PROPERTY	LOCATION	MOVEMENT
Moon	Natural object held by a planet's gravity	Around a planet	Moves around its planet while the planet moves around the Sun
Asteroid	Rocky or metallic and smaller than planets	Asteroid belt between Mars and Jupiter	Orbits the Sun
Oort cloud	Roughly spherical region of icy objects	Far beyond the Kuiper belt, around the solar system	Its objects orbit the Sun for thousands or millions of years

Accept equivalent descriptions that match the passage, including "spins" for "rotates" and "streak of light" for "meteor." For the table, accept any three different named objects or regions with accurate properties, locations, and movements from the passage.