

Name: _____



Earth and Space Systems



The Earth and space system includes the Sun, planets, moons, and other objects that make up our solar system. The Sun is a star at the center, and all the planets orbit around it due to gravity. The eight planets – Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune – each move in their own paths. Earth is special because it has air, water, and a temperature that supports life. Without the Sun's energy, no living thing could survive on our planet.

The Earth's rotation is what causes day and night. It takes about 24 hours for Earth to spin once on its axis. When your side of the Earth faces the Sun, it is day; when it faces away, it is night. This rotation also makes the Sun appear to rise in the east and set in the west. Every part of Earth experiences both day and night as it turns.

The Earth's revolution around the Sun causes the seasons. It takes 365 days (one year) for the Earth to make one full orbit around the Sun. Because Earth's axis is tilted, different parts of the planet receive more or less sunlight during the year. When your part of the world tilts toward the Sun, it is summer; when it tilts away, it is winter.

The Moon is Earth's only natural satellite. It doesn't make its own light; instead, it reflects sunlight. The Moon's shape seems to change as it orbits Earth – these changes are called the phases of the Moon. The main phases are new moon, first quarter, full moon, and last quarter. The Moon's gravity also affects the Earth's oceans, causing high and low tides.

Space exploration helps scientists learn more about Earth and the universe. Astronauts travel into space using rockets and space shuttles, while telescopes and satellites collect information about distant stars and planets. Through space exploration, humans have discovered new worlds, studied climate changes, and even landed on the Moon. This knowledge helps us understand our place in the universe and how to care for our planet.

Comprehension Questions

1-What is the solar system, and what role does the Sun play in it?

2-What causes day and night on Earth?

3-Why does Earth have different seasons?

4-What are the main phases of the Moon, and what causes them?

5-How does space exploration help humans?

Multiple-Choice Questions

6-What keeps the planets orbiting around the Sun?

- a) Wind
- b) Water
- c) Gravity
- d) Air

7-How long does it take Earth to rotate once on its axis?

- a) 24 hours
- b) 7 days
- c) 30 days
- d) 365 days

8-What causes the seasons on Earth?

- a) The shape of the Earth
- b) The tilt of the Earth's axis
- c) The distance from the Moon
- d) The speed of rotation

9-Which phase of the Moon occurs when we can see the entire Moon lit up?

- a) New Moon
- b) First Quarter
- c) Full Moon
- d) Last Quarter

10-What is one way space exploration helps scientists?

- a) It helps them play sports in space
- b) It helps them learn about Earth and the universe
- c) It helps build houses on the Moon
- d) It makes planets closer to the Sun