

14.OUR EARTH – A UNIQUE PLANET

A. Write true or false.

Question 1: Earth is the only planet in the Solar System where life exists.

Solution: True

Explanation: Earth is the only planet in the Solar System confirmed to support life, thanks to its liquid water, protective atmosphere, and moderate temperatures that enable diverse ecosystems.

Question 2: The Moon has its own light that shines at night.

Solution: False

Explanation: The Moon reflects sunlight rather than producing its own light; this reflection causes it to appear bright at night and explains its changing phases.

Question 3: Earth takes 24 hours to complete one rotation on its axis.

Solution: True

Explanation: A full rotation of Earth on its axis takes about 24 hours, creating the daily cycle of day and night as different parts of the planet face toward or away from the Sun.

Question 4: Asia is the smallest continent on Earth.

Solution: False

Explanation: Asia is the largest continent by land area (about 44.6 million square kilometers); the smallest is Australia (about 7.7 million square kilometers).

Question 5: The atmosphere protects Earth from harmful rays of the Sun.

Solution: True

Explanation: The atmosphere, especially the ozone layer, absorbs and blocks most of the Sun's harmful ultraviolet (UV) radiation, preventing damage to skin, eyes, and ecosystems.

B. Fill in the blanks.

Question 1: Earth is often called the _____ Planet because of its blue _____.

Solution: Blue; oceans

Explanation: From space, Earth's surface appears blue due to the reflection of sunlight off its vast oceans, which cover about 71% of the planet, giving it the nickname Blue Planet.

Question 2: There are _____ continents and _____ oceans on Earth.

Solution: 7; 5

Explanation: Earth has seven continents (Africa, Antarctica, Asia, Europe, North America, South America, Australia) and five oceans (Atlantic, Pacific, Indian, Arctic, Southern).

Question 3: The spinning movement of Earth on its axis is called ____.

Solution: rotation

Explanation: Rotation is Earth's spinning motion around an imaginary axis tilted at 23.5 degrees, completing one turn every 24 hours and causing day and night.

Question 4: Earth takes ____ days to complete one revolution around the Sun.

Solution: 365 (or 365.25)

Explanation: One full revolution, or orbit, around the Sun takes Earth approximately 365.25 days, which is why a year has 365 days with an extra day added every four years (leap year).

Question 5: The ____ is a layer of air that surrounds Earth.

Solution: atmosphere

Explanation: The atmosphere is a thin layer of gases (mostly nitrogen and oxygen) enveloping Earth, providing breathable air, regulating climate, and protecting against meteoroids and solar radiation.

C. Answer the following questions.

Question 1: Why is Earth called a unique planet?

Solution: Earth is unique because it has liquid water on its surface, a life-sustaining atmosphere with oxygen, a magnetic field that shields it from solar winds, and conditions in the "habitable zone" that allow for stable temperatures and diverse life forms.

Explanation: Unlike other planets—such as scorching Venus or frozen Mars—Earth's balance of these features makes it the only known place in the Solar System where complex life thrives.

Question 2: Name the seven continents and five oceans of the Earth.

Solution: Continents: Africa, Antarctica, Asia, Australia, Europe, North America, South America. Oceans: Atlantic, Arctic, Indian, Pacific, Southern.

Explanation: Continents are the major landmasses, varying in size and climate, while oceans are interconnected saltwater bodies that moderate global temperatures and support marine life.

Question 3: What is the atmosphere? Why is it important for us?

Solution: The atmosphere is the blanket of gases surrounding Earth. It is important because it supplies oxygen for breathing, traps heat to keep the planet warm (greenhouse effect), blocks harmful UV rays, and creates weather patterns for rain and wind.

Explanation: Without it, Earth would be a lifeless rock like the Moon, with extreme temperature swings and no protection from space radiation.

Question 4: How do we get day and night on Earth?

Solution: Day and night occur because Earth rotates on its axis once every 24 hours; the side facing the Sun experiences day, while the opposite side in shadow experiences night.

Explanation: This eastward spin means locations move from darkness to light daily, with the tilt of the axis influencing longer days in summer and shorter in winter.

Question 5: Why should we take care of our Earth? Mention any three ways to protect it.

Solution: We should care for Earth to maintain its habitability, preserve biodiversity, and ensure resources for future generations amid threats like climate change and pollution.

Three ways:

- (1) Reduce plastic use and recycle to cut waste;
- (2) Use public transport or bikes to lower carbon emissions;
- (3) Plant trees to restore forests and absorb CO₂.

Explanation: Human actions have accelerated environmental damage, so these steps promote sustainability, reduce global warming, and protect ecosystems vital for clean air, water, and food.

D. Understand the Picture



Question 1: What do the blue parts represent?

Solution: The blue parts represent the oceans and other bodies of water on Earth.

Explanation: When viewing Earth from space, the blue color is due to sunlight reflecting off the massive water bodies, such as the Pacific, Atlantic, Indian, Arctic, and Southern Oceans, which collectively cover about 71% of the planet's surface and make Earth appear predominantly blue.

Question 2: What do the green parts represent?

Solution: The green parts represent the continents and landmasses on Earth.

Explanation: The green shades depict the seven continents (Africa, Antarctica, Asia, Australia, Europe, North America, South America), where the color arises from vegetation like forests, grasslands, and crops covering much of the land, contrasting with the watery blues.