

15.KNOWING OUR EARTH

A. Choose the Correct Answer

Question 1: Life on the Earth is possible because of —

- a) Moon, stars and clouds
- b) Sun, air and water
- c) Mountains, soil and rain
- d) Fire, ice and stones

Solution: b) Sun, air and water

Explanation: The Sun provides energy and warmth essential for photosynthesis and climate; air (oxygen) is needed for breathing; water sustains all life forms through hydration, habitats, and chemical processes.

Question 2: The place where living things dwell is called —

- a) Shelter
- b) House
- c) Habitat
- d) Nest

Solution: c) Habitat

Explanation: A habitat is the natural environment where an organism lives, including all factors like food, water, shelter, and climate that support its survival and reproduction.

Question 3: The animal that can live without water for several days is —

- a) Tiger
- b) Camel
- c) Wolf
- d) Zebra

Solution: b) Camel

Explanation: Camels are adapted to desert life with humps that store fat for energy and minimal water needs, allowing them to survive up to a week without drinking by conserving moisture efficiently.

Question 4: The thick stem of a cactus helps it to —

- a) Grow tall
- b) Store water
- c) Absorb sunlight
- d) Attract insects

Solution: b) Store water

Explanation: In arid environments, the cactus's thick, fleshy stem acts as a reservoir, storing large amounts of water absorbed during rare rains to survive long dry periods.

Question 5: Penguins keep themselves warm in snowy regions by —

- a) Building nests
- b) Swimming in warm water
- c) Living together in groups
- d) Sitting under the sun

Solution: c) Living together in groups

Explanation: Penguins huddle in large groups in Antarctica's cold, forming a tight mass that shares body heat, rotating positions to ensure all stay warm against extreme winds and temperatures

B. True or False

Question 1: Life on the Earth is possible without the Sun

Solution: False

Explanation: The Sun drives nearly all life processes, providing light for photosynthesis (food production), heat for temperature regulation, and energy for weather patterns; without it, Earth would freeze and ecosystems would collapse.

Question 2: The camel can walk easily on sand because of its flat feet.

Solution: True

Explanation: Camels have broad, padded feet that distribute their weight over a larger area, preventing sinking into soft sand, similar to snowshoes, aiding mobility in deserts.

Question 3: Lions and tigers eat grass, leaves and weeds.

Solution: False

Explanation: Lions and tigers are carnivores (meat-eaters) that hunt other animals for food; they do not consume plants like herbivores such as deer or elephants.

Question 4: Cactus grows in places where there is plenty of water.

Solution: False

Explanation: Cacti are xerophytes adapted to deserts with scarce water; features like spines and shallow roots help them thrive in dry, arid conditions rather than wet ones.

Question 5: Penguins live in snowy regions and stay warm by living together in groups.

Solution: True

Explanation: Penguins inhabit cold Antarctic regions and use huddling in colonies to conserve heat, as their dense feathers and fat layers alone aren't enough against sub-zero temperatures.

C. Fill in the Blanks

Question 1: Life on the Earth is possible due to the _____, _____ and _____.

Solution: Sun, air, water

Explanation: These three essentials—solar energy for growth and warmth, air for respiration, and water for hydration and biochemical reactions—form the foundation for all terrestrial life.

Question 2: The place where living things dwell is called their _____.

Solution: habitat

Explanation: A habitat encompasses the specific environment (terrestrial, aquatic, etc.) providing resources like food and shelter, tailored to an organism's needs for survival.

Question 3: The _____ can live without water for several days and walk easily on sand.

Solution: camel

Explanation: Camels' physiological adaptations, including water-efficient kidneys and wide feet, enable desert endurance without frequent water and stable movement on loose terrain.

Question 4: _____, _____ and _____ are examples of wild animals.

Solution: Lion, tiger, wolf (or similar carnivores like bear, fox)

Explanation: Wild animals live in natural habitats without human care; examples like lions, tigers, and wolves illustrate predators that hunt and roam freely in forests or savannas.

Question 5: The thick stem of the _____ plant stores water.

Solution: cactus

Explanation: The cactus's succulent stem evolved to retain moisture in water-scarce deserts, swelling like a sponge during rainfall to sustain the plant through droughts.

D. Answer the Questions

Question 1: Why is life possible on the Earth?

Solution: Life is possible on Earth due to the presence of Sun (for energy and heat), air (for breathing oxygen), and water (for hydration and supporting ecosystems).

Explanation: These factors create a balanced environment in the habitable zone, enabling photosynthesis, respiration, and biodiversity unlike barren or extreme conditions on other planets.

Question 2: What is a habitat?

Solution: A habitat is the natural environment where living organisms live, find food, shelter, and reproduce.

Explanation: Habitats vary (e.g., forests for deer, oceans for fish) and include biotic (living) and abiotic (non-living) components essential for species survival.

Question 3: Why can a camel live easily in the desert?

Solution: A camel can live easily in the desert because it stores fat and water in its humps, has broad feet for walking on sand, and conserves body moisture efficiently.

Explanation: These adaptations reduce water loss through sweat and urine, provide energy during scarcity, and prevent sinking in **dunes, making it a quintessential desert survivor.**

Question 4: How do penguins keep themselves warm in snowy regions?

Solution: Penguins keep warm by huddling together in large groups, sharing body heat, and using their insulating feathers and blubber layer.

Explanation: In Antarctica's harsh cold (down to -60°C), huddling minimizes exposed surface area to wind, while natural insulation traps heat, allowing survival without freezing.

Question 5: What helps a cactus plant to store water?

Solution: The thick, fleshy stem of the cactus helps it store water.

Explanation: This specialized structure acts as a water tank, absorbing and holding moisture from infrequent rains, with reduced leaves (as spines) to minimize evaporation in hot, dry climates.

E. Picture Study



Question 1: What is the main source of light and heat shown in the picture?

Solution: The Sun

Explanation: In the top-right quadrant depicting the desert, the Sun is prominently illustrated as a bright, radiating orb, serving as the primary provider of light and heat essential for life on Earth across all environments shown.

Question 2: Which animal in the picture can live without water for several days?

Solution: The camel

Explanation: The camel appears in the top-right desert quadrant; it is adapted to arid conditions with humps that store fat for energy, allowing it to survive up to a week without drinking water by efficiently conserving moisture.

Question 3: Which animals in the picture live in very cold regions?

Solution: The polar bear and penguins

Explanation: In the bottom-right quadrant showing a snowy, icy landscape, the polar bear and penguins are depicted; these animals are native to polar regions like the Arctic and Antarctic, with adaptations like thick fur and blubber for insulation against extreme cold.

Question 4: What kind of plants are seen in the desert part of the picture?

Solution: Cacti

Explanation: The top-right desert quadrant features tall, spiny cacti; these plants are xerophytes suited to dry environments, with thick stems that store water and reduced leaves to minimize evaporation.

Question 5: Which animals in the forest part of the picture eat grass and leaves?

Solution: The deer

Explanation: The top-left quadrant illustrates a lush forest with a deer grazing among trees and grass; deer are herbivores that primarily consume vegetation like grass, leaves, and shoots for sustenance.