Section Review

SECTION: LAND BIOMES

1. Sample answer: A biome is characterized by biotic and abiotic factors. Tundra is found in polar regions and at the tops of mountains.
2. Sample answer: A savanna is a grassland that has scattered clumps of trees, seasonal rains, fires, and drought. A desert is a biome that is very dry and often very hot.
3. A
4. D
5. temperate deciduous forest, coniferous forest, tropical rain forest, temperate grassland, savanna, desert, and tundra
6. Sample answer: A biome is a large region characterized by its climate and by the plants and animals that live in the region.
7. Sample answer: The scientist might conclude that the area was once a forest biome and that the area received more rain in the past.
8. Sample answer: no; Deserts receive less than 25 cm of rain per year. Tundra receives 30 to 50 cm of rain per year. Also, unlike plants in a desert, plants on the tundra are not spread far apart and do not have adaptations to a dry and hot climate, such as deep roots.
9. coniferous forest, temperate grassland, savanna, and tundra
10. desert; savanna

SECTION: MARINE ECOSYSTEMS

1. Sample answer: Plankton are tiny organisms that form the base of many of the ocean's food chains. An estuary is an area where fresh water from rivers mixes with salt water from the ocean.
2. B
3. water temperature, water depth, and the amount of sunlight that passes into the water
4. Sample answer: The intertidal zone is the place where the ocean meets the land. This area is exposed to air for part of the day. The neritic zone is farther from shore, where the water starts to get deeper. This water is often warm and sunny. The oceanic zone starts where the sea floor drops sharply. It includes the deepest part of the ocean. The benthic zone is the ocean floor.
5. Sample answer: Intertidal areas include mudflats, sandy beaches, and rocky shores. Worms live in intertidal areas. Coral reefs are found in the shallow waters of the neritic zone. Corals are small animals that make up the reefs. Estuaries are areas where fresh water meets salt water. Plankton are abundant in estuaries. The Sargasso Sea is found in the middle of the Atlantic Ocean. Sargassum is an alga found in this ecosystem. Polar ice is found at the poles. Plankton thrive on the nutrients found in this near-freezing water.
6. $510{,}000{,}000\ km^2 \times 0.71 = 362{,}100{,}000\ km^2$
7. Sample answer: Animals in the Sargasso Sea could look like or be shaped like the leaves of sargassums.
8. Sample answer: The light may attract prey. The light may also confuse a predator.
9. Accept all reasonable answers. Students should recognize that intertidal organisms must have adaptations for exposure to air and for the effect of surf.

SECTION: FRESHWATER ECOSYSTEMS

1. Sample answer: Both a marsh and a swamp are wetlands.
2. B
3. Sample answer: The area of water closest to the edge of the lake is the littoral zone. Sunlight reaches the bottom of the littoral zone. The open-water zone stretches across the surface of the water from the edge of the littoral zone. The open-water zone goes as deep as sunlight can reach. The deep-water zone lies beneath the open-water zone. It stretches to the bottom of the lake.

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