microorganisms, soil invertebrates, etc. (Check that all listed components are living.)

Q2. Biotic components of students' environments include the food they eat, pets they have, trees in their yards, people they interact with, their families, etc. Abiotic components of students' environments include where they live (community, house), the air they breathe, the water they drink, the clothes they wear, etc.

Q3. Biotic components of the starfish's environment include sea urchins, plants, algae, microorganisms—all the other organisms in the community. The abiotic components include rocks, water, sunlight, silt, sand, sediment, and decaying plant and animal material.

Answers to Questions for Comprehension

Student Textbook page 78

Q1. Biotic components will include: population numbers of pronghorn, coyote, grasses, birds, rodents,

Answers to Question for Comprehension

Student Textbook page 82

Q4. Key points to include are interactions between two different species (e.g., predator-prey) and interactions within species (e.g., wheat plants compete with each other for light and nutrients). Students will likely come up with ideas regarding symbiosis. Examples include mutualism, commensalisms (further discussed in Biology 30), and parasitism (see Section 3.3).

Answer to Question for Comprehension

Student Textbook page 87

Q5. Fungi are placed in a different category than plants because, although they are sessile, fungi cannot photosynthesize. Fungi are eukaryotic heterotrophs; they obtain their food by digesting their food outside their bodies and absorbing released molecules.

Answer to Question for Comprehension

Student Textbook page 89

Q6. Binomial nomenclature clarifies communication among members of the scientific community (and others), because it is universal. No two species have the same scientific (binomial) name. A species binomial name is the same everywhere in the world.

Answers to Questions for Comprehension

Student Textbook page 96

Q8. A species' habitat is determined by its required biotic and abiotic conditions and is located within its range. A species' range is the geographical extent of where it can be found. The species will not be found in all places within its range. It will only be found within its desired habitat.

Student Textbook page 97

Q9. Suggested answer: If the species that eats only two types of food loses one of its food sources because of a natural disturbance, human impact, or competition, it will experience increased pressure, and its niche will become smaller, threatening the species with extinction.

Answer to Question for Comprehension

Student Textbook page 95

Q7. The biomes found in Alberta are the mountain zone, taiga, and temperate grassland. The limitations to dividing the world into broad biomes are that the boundaries of biomes are not clearly defined (there is a gradual transition from one biome to the next) and there is a wide range of habitats within the larger biome classification that do not necessarily fit the general trends of the biome.

Answer to Question for Comprehension

Student Textbook page 101

Q10. Potential answers include nutrients available through the soil; space restrictions (bound by pot size and surrounding individuals); the amount of carbon dioxide in the air; incoming solar radiation (as plants get larger, there will be less light available to shaded plants); and the amount of water available to the plants.

These factors result in a decline in herbivore populations in both terrestrial and aquatic habitats.

Answer to Question for Comprehension

Student Textbook page 103

Q11. Students' answers should focus on the predator-prey relationship between the Arctic foxes and the seabirds on the islands, noting that the introduction of the foxes "limited" the populations of seabirds almost to the point of extinction. Their answer should also include the impact of the loss of the seabirds, as their guano no longer fertilized the grasslands. The loss of the seabirds and their guano led to the loss of the grasslands and all the organisms that depended on the grassland habitat for survival.