

28 Ecosystems - answers

- 1** (a) All the organisms of one species living in a defined area. *Population*
(b) All the organisms living in the same defined area. *Community*
(c) The place where an organism is usually found. *Habitat*
(d) A self-supporting group of organisms and their environment. *Ecosystem*
- 2** (a) Animals compete for food, mates and shelter.
(b) Plants compete for light, water and minerals.
- 3** Interspecific competition takes place between organisms of the same species.
Intraspecific competition takes place between organisms of different species.
- 4** (a) Biotic factors: *competition, predation, parasitism*.
(b) Abiotic factors: *temperature, rainfall, sunlight, oxygen concentration*.
- 5** (a) The abiotic factors which might affect an animal living at the bottom of the sea might be; water pressure, light, salinity. (any two)
(b) The abiotic factors which might affect a plant growing on mountains might be; temperature, wind speed, drainage of water, light intensity. (any two)
- 6** The biotic factors that might affect an antelope living in the Serengeti could be:
predation by carnivores, availability of grass or leaves, internal or external parasites.
- 7** Artificial ecosystems could include; agricultural land, parkland, gardens, fish farms, orchards.
(any two)
- 8** A polar bear is adapted to its environment by its high ratio of bulk to surface area, a thick water-repellent coat, a thick layer of fat beneath the skin, a heat exchange system for the feet.
(any three)
- 9** A plant might be adapted to a hot dry environment by having a reduced leaf area, waxy cuticle to the leaves, few stomata, water-storing tissues. (any three)

28 Ecosystems

1 Choose terms from the list below which best describe the following:

- (a) All the organisms of one species living in a defined area.
- (b) All the organisms living in the same defined area.
- (c) The place where an organism is usually found.
- (d) A self-supporting group of organisms and their environment.

ecosystem, population, habitat, biosphere, community, environment, farmland

2 What resources are competed for by (a) animals, (b) plants?

3 What is the distinction between interspecific competition and intraspecific competition?

4 Which of the following are (a) biotic factors or (b) abiotic factors in an ecosystem?

competition, temperature, rainfall, predation, sunlight, parasitism, oxygen concentration

5 What two abiotic factors might affect (a) an animal living at the bottom of the sea, (b) a plant growing on a mountainside?

6 What two biotic factors could affect an antelope living in the Serengeti?

7 Give two examples of artificial ecosystems.

8 Give three ways in which a polar bear is adapted to its environment.

9 Give three ways in which a plant might be adapted to a hot dry environment.