

Do Now 4.9

Name: _____

1. A student prepared a test tube containing yeast, glucose, and water. After 24 hours, the test tube was analyzed for the presence of several substances.

What substance would the student expect to find if respiration occurred in the test tube?

- A) a hormone B) starch
C) nitrogen D) carbon dioxide
2. Which change in a sample of pond water could indicate that microscopic animals are active?
- A) increase in ozone level
B) increase in glucose level
C) decrease in oxygen level
D) decrease in carbon dioxide level
3. Scientists studying ocean organisms are discovering new and unusual species. Which observation could be used to determine that an ocean organism is a plant cell?
- A) Chloroplasts are visible inside the cells.
B) Digestive organs are visible upon dissection.
C) The organism lives close to the surface.
D) The organism makes molecules that help digest food.
4. The interaction between guard cells and a leaf opening would *not* be involved in
- A) diffusion of carbon dioxide
B) maintaining homeostasis
C) heterotrophic nutrition
D) feedback mechanisms
5. Which process usually uses carbon dioxide molecules?
- A) cellular respiration
B) asexual reproduction
C) active transport
D) autotrophic nutrition
6. The use of CO₂ and H₂O by a geranium plant to synthesize glucose illustrates the process of
- A) autotrophic nutrition
B) heterotrophic nutrition
C) protein production
D) carbohydrate hydrolysis

7. Which group of organisms does not depend upon obtaining preformed organic molecules from the environment for nutrition?

A) algae B) Protozoans
C) animals D) fungi

8. Most green algae are able to obtain carbon dioxide from the environment and use it to synthesize organic compounds. This activity is an example of

A) hydrolysis
B) saprophytism
C) cellular respiration
D) autotrophic nutrition

9. Which sequence of terms is in the correct order from simplest to most complex?

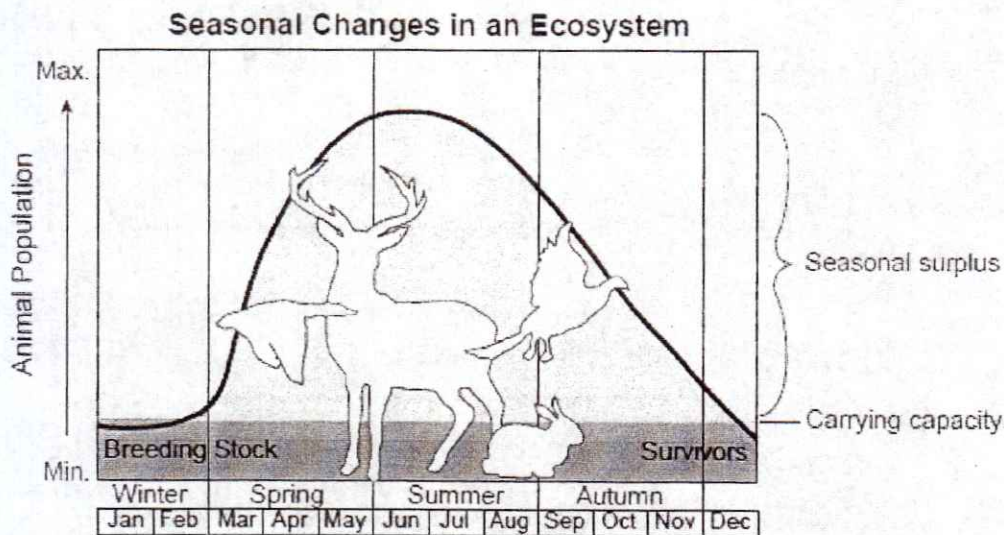
A) cells → tissues → organs → organ systems
B) tissues → organisms → cells → organ systems
C) cells → tissues → organ systems → organs
D) organs → organisms → organ systems → cells

10. In the binomial system of nomenclature, which two classification groups provide the scientific name of an organism?

A) kingdom and phylum
B) phylum and species
C) kingdom and genus
D) genus and species

Name:

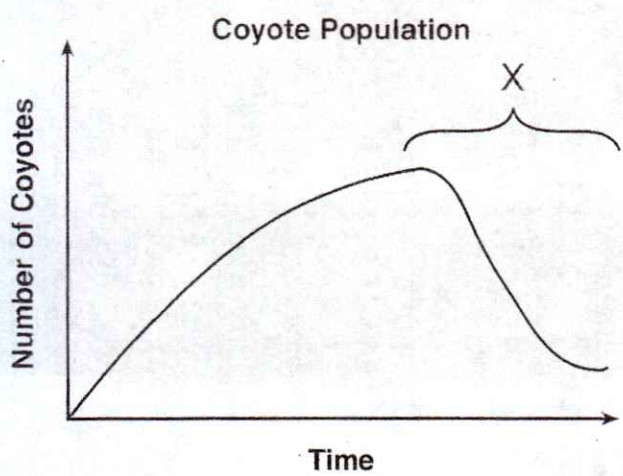
Base your answers to questions 1 and 2 on the chart below and on your knowledge of biology. The chart shows seasonal changes in an ecosystem and the overall carrying capacity of the ecosystem.



1. Explain what is meant by the carrying capacity of a particular population in an ecosystem. (3)

2. State why the populations decrease between July and December. (3)

3. The graph below shows the growth of a population of coyotes in a wilderness area.



State one possible cause for the population decrease at X. (1)