\_\_\_\_\_1. An iodine solution is placed on the cut side of a potato. Within seconds, a blue-black color appears. What is most likely occurring?

A a positive test for proteins

B a positive test for starches

C a negative test for proteins

D a negative test for starches

\_\_\_\_\_2. A person with swollen gums rinses his mouth with warm salt water, and swelling decreases. Which has occurred?

A The swollen gums have absorbed the saltwater solution.

B The saltwater solution lowers the temperature of the water in the gums.

C The salt in the solution has moved against the concentration gradient.

D The water in the gums has moved from a high to a low concentration of water.

\_\_\_\_\_3. The opossum, which is native to North America, and the kangaroo, which is native to

Australia, are marsupials.



The fact that both these mammals incubate their immature offspring in a pouch provides evidence that they —

A belong to the same species

B must range great distances to eat

C have very similar skeletal structures

D are descended from a common ancestor

\_\_\_\_\_4. Sexual reproduction in animals depends on the production of gametes. Which of these processes produces gametes in animals?

A Mitosis

B Fertilization

C Meiosis

D Binary fission

\_\_\_\_5. What two human systems work together to provide body cells with a constant supply of oxygen while removing carbon dioxide waste products?

A Nervous and endocrine

B Muscular and skeletal

C Respiratory and circulatory

D Excretory and integumentary

\_\_\_\_\_6. The cladogram shows the evolution of land plants as indicated by fossil records.



Which discovery would challenge the validity of this cladogram?

A A large aquatic vascular plant about 200 million years old

B A species of algae that has existed for less than one million years

C A moss species that has existed for less than 380 million years

D A fossil of a fern more than 425 million years old

\_\_\_\_\_7. Using a light microscope, a student identified the following characteristics of four organisms found in a sample of pond water.



Based on the observations of the student, which organisms most likely belong to the taxonomic group for bacteria?

A Organisms 1 and 2

B Organisms 3 and 4

C Organisms 1 and 4

D Organisms 2 and 3

\_\_\_\_\_8. The sequence of nitrogenous bases in DNA varies widely. The sequence of the bases in DNA is most important for which of the following?

A Providing the instructions for the traits of an organism

B Preventing mutations from occurring during DNA replication

C Allowing the DNA to have the shape necessary for replication

D Helping form the sugar-phosphate backbone of DNA molecules

\_\_\_\_\_9. A marine ecosystem is represented below.



What is lost to the environment at each of the trophic levels of this ecosystem?

A Nutrients from the soil

B Living space for the organisms

C Food sources

D Heat

\_\_\_\_\_10. Four different types of cells are shown below.



Which characteristic is shared by all four cells?

A A mechanism for transforming sunlight into energy

B Self-locomotion

C Membrane-bound organelles that transport substances

D Genetic material composed of DNA

\_\_\_\_\_11. Checkpoints occur between the stages of the cell cycle. If a cell does not meet certain criteria at the end of a stage, it will not move to the next stage.



Which of these occurs just before the cell enters the G2 stage of the cell cycle?

A The nuclear membrane disintegrates.

B DNA replicates.

C Centrioles form.

D The nucleolus divides.

\_\_\_\_\_12. In any environment or ecosystem, organisms can have several different types of relationships.

Three types of relationships are described below.

