

## Do Now 2.5

Name: \_\_\_\_\_

- 1) Three days after an organism eats some meat, many of the organic molecules originally contained in the meat would be found in newly formed molecules of
  - A) protein
  - B) glucose
  - C) oxygen
  - D) starch
- 2) In an experiment to test the effect of exercise on the number of times a clothespin can be squeezed in 1 minute, the dependent variable would be the
  - A) amount of exercise
  - B) test subject
  - C) number of squeezes
  - D) clothespin
- 3) Why is a mushroom considered a heterotroph?
  - A) It divides by mitosis.
  - B) It obtains nutrients from its environment.
  - C) It manufactures its own food.
  - D) It transforms light energy into chemical energy.
- 4) Which one of the following phrases is an example of autotrophic nutrition?
  - A) a mushroom digesting a dead log
  - B) a tapeworm feeding in the body of a dog
  - C) a cow eating grass in a field
  - D) an apple tree making its own food
- 5) The temporary storage of energy in ATP molecules is part of which process?
  - A) cell division
  - B) cellular respiration
  - C) DNA replication
  - D) protein synthesis
- 6) When using a compound light microscope, the *most* common reason for staining a specimen being observed is to
  - A) make the view more colorful
  - B) determine the effects of chemicals on the organism
  - C) reveal details that are otherwise not easily seen
  - D) keep the organism from moving around
- 7) One characteristic of all living things is that they
  - A) develop organ systems
  - B) synthesize only inorganic matter
  - C) produce identical offspring
  - D) maintain internal stability
- 8) Which one of the following substances is an inorganic molecule?
  - A) fat
  - B) starch
  - C) water
  - D) DNA
- 9) Organisms living in a bog environment must be able to tolerate nitrogen-poor, acidic conditions. Bog plants such as the Venus flytrap and sundew are able to obtain their nitrogen by attracting and consuming insects. These plants produce chemicals that break down the insects into usable compounds.

Which compounds present in insects are composed of the amino acids that provide the Venus flytrap and sundew plants described in the reading passage with much of their nitrogen?

  - A) carbohydrates
  - B) sugars
  - C) proteins
  - D) fats
- 10) The diagram below represents an activity that occurs in the human body.

A person exercises and body temperature increases.

Small blood vessels near the surface of the skin → Body temperature decreases.

increase in diameter.

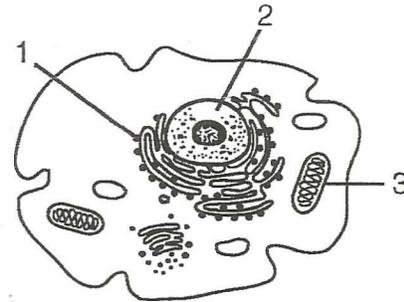
This diagram *best* illustrates

- A) maintenance of homeostasis
- B) differentiation
- C) active transport
- D) synthesis of nutrients

Name: \_\_\_\_\_

- 1) Homeostasis is maintained in a single-celled organism by the interaction of
- A) organs                                      C) organelles  
 B) tissues                                      D) systems
- 2) If the ribosomes of a cell were destroyed, what effect would this most likely have on the cell?
- A) The cell would be unable to synthesize proteins.  
 B) Increased protein absorption would occur through the cell membrane.  
 C) Development of abnormal hereditary features would occur in the cell.  
 D) It would stimulate mitotic cell division.
- 3) What is the *main* function of a vacuole in a cell?
- A) synthesis of molecules  
 B) storage  
 C) coordination  
 D) release of energy
- A pesticide that kills an insect by interfering with the production of proteins in the insect would most directly affect the activity of
- A) ribosomes                                      C) chloroplasts  
 B) mitochondria                                      D) minerals
- 5) In the human body, oxygen is absorbed by the lungs and nutrients are absorbed by the small intestine. In a single-celled organism, this absorption directly involves the
- A) chloroplasts                                      C) chromosomes  
 B) cell membrane                                      D) nucleus

- 6) In a cell, a variety of structures perform specific functions and interact to maintain homeostasis. The diagram below represents a typical cell with three cell structures labeled 1, 2, and 3.



Select *one* cell structure labeled in the diagram and circle it. Explain how the cell structure you selected helps maintain homeostasis in a cell. In your answer, be sure to:

- (a) Identify the cell structure you selected.  
 (b) State *one* function of this cell structure.  
 (c) Identify *one* substance that is often associated with the cell structure you selected and state how that substance is associated with the cell structure.  
 (d) Identify *one* other cell structure and explain how it interacts with the cell structure you selected to maintain homeostasis in the cell.

- 7) Which row in the chart below contains a cell structure paired with its primary function?

Row	Cell Structure	Function
(1)	ribosome	protein synthesis
(2)	vacuole	production of genetic information
(3)	nucleus	carbohydrate synthesis
(4)	mitochondrion	waste disposal

- A) Row 1                                      B) Row 3                                      C) Row 2                                      D) Row 4