

Which sequence represents the correct order of levels of organization found in a complex organism?

- (1) cells → organelles → organs → organ systems → tissues
- (2) tissues → organs → organ systems → organelles → cells
- (3) organelles → cells → tissues → organs → organ systems
- (4) organs → organ systems → cells → tissues → organelles

When a person does strenuous exercise, small blood vessels (capillaries) near the surface of the skin increase in diameter. This change allows the body to be cooled. These statements best illustrate

- (1) synthesis
- (2) homeostasis
- (3) excretion
- (4) locomotion

When a certain plant is without water for an extended period of time, guard cells close openings in the leaves of the plant. This activity conserves water and illustrates

- (1) cellular communication involving the action of nerve cells and receptor sites
- (2) an increase in rate of growth due to a low concentration of water
- (3) maintenance of a dynamic equilibrium through detection and response to stimuli
- (4) a response to one biotic factor in the environment

Which situation indicates that a disruption of homeostasis has taken place?

- (1) the presence of hormones that keep the blood sugar level steady
- (2) the maintenance of a constant body temperature
- (3) cell division that is involved in normal growth
- (4) a rapid rise in the number of red blood cells

Which human response is most likely to occur because the air temperature is 90°F?

- A blinking
- B salivating
- C shivering
- D sweating

The leaves of a plant are dotted with openings known as stomata. When open, stomata allow the plant to exchange gases and allow moisture to evaporate, helping to draw water from the roots up into the plant. These activities help the plant to

- (1) produce light energy
- (2) maintain homeostasis
- (3) decompose organic matter
- (4) synthesize minerals