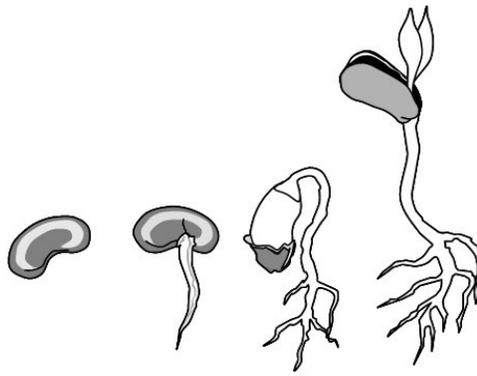


CISD Science Grade 7 Unit 10

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1



In a germinating seed, the downward growth of roots and upward growth of stems are the plant's responses to gravity. Which statement best describes this phenomenon?

- A** downward growth of roots-positive response to gravity;  
upward growth of stem-negative response to gravity
- B** downward growth of roots-negative response to gravity;  
upward growth of stem-negative response to gravity
- C** downward growth of roots-negative response to gravity;  
upward growth of stem-positive response to gravity
- D** downward growth of roots-positive response to gravity;  
upward growth of stem-positive response to gravity

2 Responses in plants that result in movement away from or toward a stimulus are called—

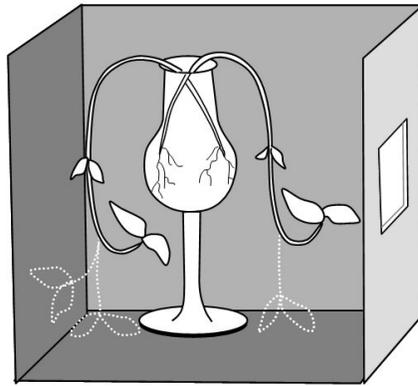
- A** tropisms
- B** differentiation
- C** adaptations
- D** yield

3 Water can move through the cell membrane of one plant cell to another to maintain homeostasis. This process helps to balance the water that is needed for proper cell functioning.

This movement of water into and out of cells is due to:

- A** turgor pressure
- B** dialysis
- C** oxidation
- D** perspiration

Use the following investigation to answer the next three questions.



In 1779, Charles Bonnet placed bean seedlings in a vase of water inside a closed, dark box. The seeds were allowed to grow in the dark for several days. Later a small shutter inside of the box was opened allowing light to enter and the plants were allowed to grow for a few more days.

- 4** Study the diagram illustrating Charles Bonnet's experiment. What was the purpose of his experiment?
- A** to examine how the color of a light source affects seedlings
  - B** to compare the growth rate of bean seedlings grown in the dark, with those grown in the light
  - C** to investigate how the addition of light affects seedlings grown in the dark
  - D** to compare a plant's response to light with a plant's response to gravity

- 5** What was the purpose of the shutter in Bonnet's investigation?
- A** to maintain a constant temperature in the box
  - B** to provide an opening for  $\text{CO}_2$  and  $\text{O}_2$  exchange
  - C** to allow Bonnet to check the status of his experiment
  - D** to regulate the independent variable

- 6** What did Bonnet MOST LIKELY do to increase the reliability of his results?
- A** discarded results that disproved his hypothesis
  - B** repeated his investigation many times
  - C** recorded his data and graphed the results
  - D** changed his experiment to include other variables
- 7** On leaf surfaces, guard cells that open and close in response to the amount of water available is an example of —
- A** phototropism
  - B** constructive feedback
  - C** homeostasis
  - D** respiration
- 8** What process causes a plant to wilt in response to too much or too little water?
- A** photosynthesis
  - B** respiration
  - C** transpiration
  - D** dehydration
- 9** Riding a bicycle requires additional energy from leg muscles. Which of the following conditions may result from this activity, and which response helps restore the body to its normal condition?
- A** increased carbon dioxide in the blood can be removed by breathing faster
  - B** decreased oxygen can be replaced by digesting an apple
  - C** increased sugars in the blood stream can be diluted by drinking water
  - D** increased salt wastes can be removed by the heart
- 10** A person develops an elevated body temperature from a bacterial infection. This fever is a response from the body to help fight the infection by —
- A** slowing the growth of the bacterial infection
  - B** increasing the amount of water in the body
  - C** increasing the body's heart rate
  - D** stopping additional bacteria from entering the body

**11** A basketball player helps maintain stable body temperature during the game by perspiring. The sweat helps cool his body by evaporating. What is this an example of?

- A** mitosis
- B** homeostasis
- C** respiration
- D** digestion

**12** One way your body responds to a cold environment is by shivering.

-Which two body systems are involved here to maintain body temperature?

-How does shivering help to maintain body temperature?