



- 1 Which layer of the atmosphere contains the most water vapor?
 - A troposphere
 - B stratosphere
 - C mesosphere
 - D exosphere

- 2 Which is the **most likely** cause of tropical storms?
 - A Water runoff from the land fuels storm clouds.
 - B High-pressure air causes storm clouds to form.
 - C Sea breezes close to shore push storm clouds together.
 - D Warm water evaporates, rises quickly, and interacts with a colder air mass.

- 3 Over a period of several hours, a barometer shows rapidly decreasing air pressure. What type of weather will **most likely** occur next?
 - A clear, sunny weather
 - B rainy weather for days
 - C cloudy, stormy weather
 - D calm, windless weather



- 4 What causes convection currents to occur on Earth?
- A cool air rising, warm air sinking
 - B cool air rising, warm air rising
 - C warm air rising, cool air sinking
 - D warm air sinking, cool air sinking
- 5 Why are scientists concerned with ozone depletion in the upper atmosphere?
- A because it causes greater levels of ground-level ozone
 - B because it allows ultraviolet radiation to reach Earth's surface
 - C because it increases the amount of smog in highly populated cities
 - D because it decreases global temperatures by decreasing incoming solar radiation
- 6 How does the arrangement of the air molecules found in the troposphere compare to the arrangement of those found in the thermosphere?
- A The air molecules are closer together in the troposphere and are farther apart in the thermosphere.
 - B The air molecules are farther apart in the troposphere and are closer together in the thermosphere.
 - C The number of air molecules is the same in the troposphere as in the thermosphere.
 - D There are fewer air molecules in the troposphere than in the thermosphere.



- 7 Why do thunderstorms most often occur in the summer months?
- A The air pressure is higher in the summer months.
 - B Increases in sunlight cause air molecules to contract.
 - C The jet stream forces air upward during the summer months.
 - D Higher temperatures increase the rate of evaporation and convection.
- 8 What type of weather is **most likely** observed in an area when cirrus clouds are present?
- A rainy weather
 - B calm weather
 - C foggy weather
 - D stormy weather
- 9 Earth's atmosphere is mainly composed of which gases?
- A hydrogen, helium, oxygen, and argon
 - B nitrogen, oxygen, argon, and carbon dioxide
 - C nitrogen, hydrogen, argon, and carbon dioxide
 - D helium, hydrogen, oxygen, and carbon dioxide



- 10 In which way are a euglena and a volvox different?
- A A euglena is an individual cell, while a volvox is a colony of cells.
 - B A euglena uses cilia to move, while a volvox uses flagella to move.
 - C A euglena can make its own food, while a volvox must capture its food.
 - D A euglena only reproduces sexually, while a volvox only reproduces asexually.
- 11 Which function does the nucleus of a cell perform?
- A It releases energy for the cell.
 - B It provides structure for the cell.
 - C It controls the activity of the cell.
 - D It forms the boundary of the cell.
- 12 Which **best** explains why muscle is considered a tissue?
- A It is connected to bones.
 - B It can move voluntarily or involuntarily.
 - C It interacts with several organ systems.
 - D It is a group of cells working together.



- 13 What is one way the respiratory system and the circulatory system work together in the human body?
- A The circulatory system takes in nutrients, while the respiratory system delivers oxygen.
 - B The circulatory system takes in water, and the respiratory system takes in carbon dioxide.
 - C The respiratory system takes in nutrients, while the circulatory system delivers carbon dioxide to the cells of the body.
 - D The respiratory system takes in oxygen, and the circulatory system delivers the oxygen to the cells of the body.
- 14 How do a volvox and an amoeba get their food?
- A A volvox uses eyespots, and an amoeba uses cilia to find food.
 - B A volvox uses photosynthesis, and an amoeba surrounds its food.
 - C A volvox surrounds its food, and an amoeba uses cilia to find food.
 - D A volvox uses pseudopods to find food, and an amoeba uses photosynthesis.
- 15 Which statement describes the organization of living organisms?
- A All organisms are composed of many cells, which are the basic units of structure but do not perform life functions.
 - B All organisms are composed of one or more cells, which are the basic units of structure and perform essential life functions.
 - C All organisms are composed of many cells that have basic units with unique structures and functions.
 - D All organisms are composed of one or more cells with the same shape and purpose but are not the basic units of structure.



- 16 How do the digestive system and the circulatory system work together in the human body?
- A The digestive system sends electric messages, while the circulatory system responds to the messages.
 - B The digestive system provides structure for the body, while the circulatory system directs the movement.
 - C The digestive system removes liquid toxins from the body, while the circulatory system removes solid waste.
 - D The digestive system extracts nutrients from food, while the circulatory system transports those nutrients.
- 17 How is a gamete different from other types of cells in a person's body?
- A It has no chromosomes.
 - B It has half the number of chromosomes.
 - C It has twice the number of chromosomes.
 - D It has four times the number of chromosomes.
- 18 A homozygous dominant black angelfish (BB) is crossed with a homozygous recessive gold angelfish (bb). What is the probability their offspring will be gold?
- A 0%
 - B 25%
 - C 75%
 - D 100%



- 19 Person X and person Y both smoked the same brand and amount of cigarettes for 20 years. Person Y develops lung disease while person X does not. Which statement **best** compares both people?
- A The genetic makeup of person X allowed for a higher tolerance to chemicals in tobacco than person Y.
 - B Person X is a woman and thus more likely to develop lung disease.
 - C The genetic makeup of person X allowed for a lower tolerance to chemicals in tobacco than person Y.
 - D Person X is a man and thus more likely to develop lung disease.
- 20 The offspring of many species of amoeba are genetically identical to their parent, while the offspring of most mammal species are genetically different from their parents. Which **most likely** explains the genetic differences in the offspring of amoebas and mammals?
- A Amoebas reproduce asexually, but mammals reproduce sexually.
 - B Amoebas reproduce sexually, but mammals reproduce asexually.
 - C Amoebas reproduce more slowly than mammals.
 - D Amoebas reproduce faster than mammals.



- 21 A Punnett square without the genotypes of the parents is shown below.

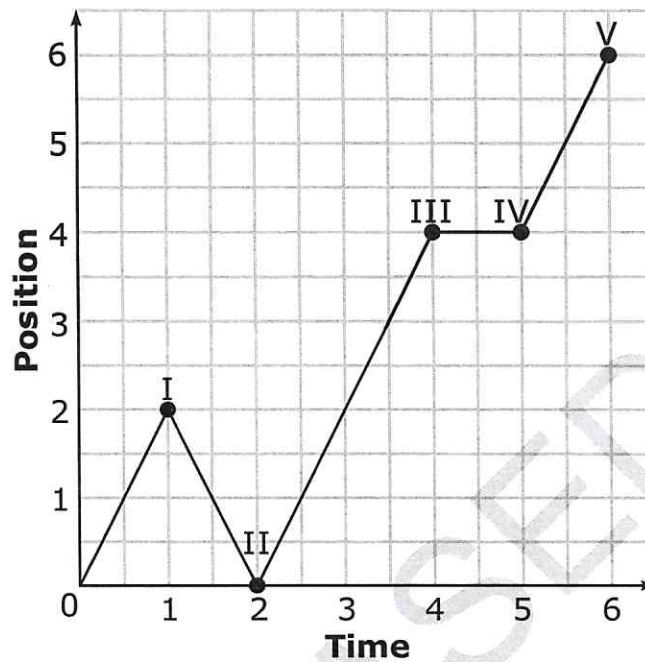
	?	?
?	CC	Cc
?	CC	Cc

What are the genotypes of the parents?

- A Cc, cc
- B CC, cc
- C Cc, Cc
- D CC, Cc
- 22 How do people determine if a vehicle in which they are sitting is moving?
- A by comparing their position to a fixed object inside the vehicle
- B by comparing their position to a fixed object outside the vehicle
- C by comparing their position to a moving object inside the vehicle
- D by comparing their position to a moving object outside the vehicle
- 23 Two students pull on a rope in opposite directions, each with a force of 100 N. What would **most likely** happen to the rope if the student on the left increased her force to 125 N?
- A The rope would decrease its acceleration to the left.
- B The rope would decrease its acceleration to the right.
- C The rope would go from motionless to accelerating to the left.
- D The rope would go from accelerating to the right to accelerating to the left.



24 The graph below shows John's trip to school.



Which points on the graph show John returning home because he forgot his book bag?

- A between points I and II
- B between points II and III
- C between points III and IV
- D between points IV and V