

## Released Test Questions

## Science

5

**1** Which action will result in a product with new chemical properties?

- A shredding a newspaper
- B breaking a mirror
- C cutting wood
- D popping popcorn

CSZ20059

**2** Which of the following represents a chemical reaction?

- A a sugar cube dissolving in water
- B ice cubes forming in a freezer
- C ice cream melting in a bowl
- D a cake baking in an oven

CSZ20560

**3** What do water, aluminum, redwood trees, and valley quail all have in common?

- A They are all pure elements.
- B They are all made of cells.
- C They are all living creatures.
- D They are all made of atoms.

CSZ10068

**4** Sterling silver is a combination of silver and copper. Which of the following is also a combination of two or more metals?

- A aluminum
- B lead
- C gold
- D brass

CSZ10110

**5** A metal spoon was left in a pot of boiling soup. The cook burned a finger by touching the spoon. Why did the finger get burned?

- A The metal spoon chemically reacted with the cook's hand.
- B The metal spoon conducted electricity to the cook's hand.
- C The metal spoon conducted heat to the cook's hand.
- D The metal spoon insulated the cook's hand.

CSZ10266

**6** Students are gathering materials and building an electrical circuit.

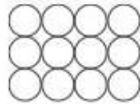


Which material will allow electricity to flow between the battery and the light bulb?

- A copper wire
- B wooden rod
- C cotton string
- D rubber tube

CSZ50041

- 7 A scientist uses an instrument to observe the pattern of molecules in a substance. The picture below shows what the scientist sees.



What state of matter is the scientist *most* likely observing?

- A gas
- B liquid
- C vapor
- D solid

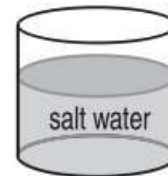
CSZ20171

- 8 A scientist needs to take a picture of the well-ordered arrangements of the atoms and molecules within a substance. Which of the following instruments would be *best* for the scientist to use?

- A a laser light with holograph
- B a seismograph
- C an electron microscope
- D a stereoscope

CSZ10300

- 9 The diagram below shows a mixture.



Which of the following pieces of equipment should be used to separate this mixture?

- A magnet
- B balance
- C funnel
- D hot plate

CSZ10130

- 10 Which of the following is a property of CO<sub>2</sub> gas?

- A It feels like a rock.
- B It smells like a lemon.
- C It is colorless.
- D It is hard.

CSZ10302

- 11 All living things contain which element?

- A helium
- B sodium
- C copper
- D carbon

CSZ20517

## Released Test Questions

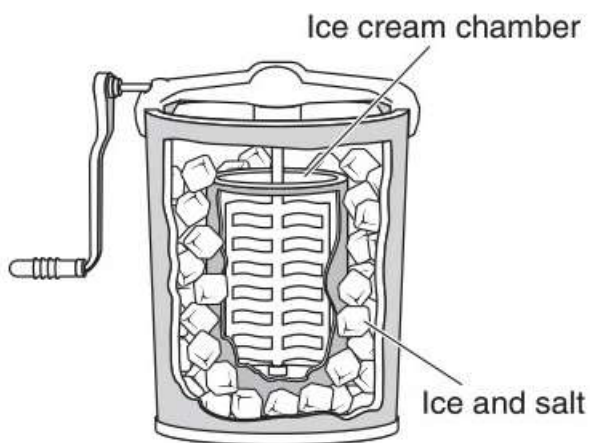
## Science

- 12** Plants and animals are composed of organic compounds. Which of the following are the common elements found in organic compounds?

A iron, oxygen, nickel, copper  
 B sodium, potassium, gold, hydrogen  
 C helium, neon, argon, krypton  
 D carbon, hydrogen, oxygen, nitrogen

CSZ10233

- 13** When homemade ice cream is made, salt is added to the ice that surrounds the ice cream chamber.



Which property of salt is important when making ice cream?

A Salt conducts electricity in water.  
 B Salt dissolves in water.  
 C Salt lowers the freezing point of water.  
 D Salt adds flavor to the ice cream mixture.

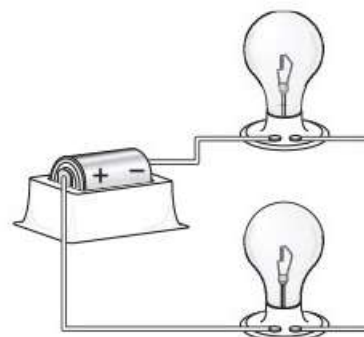
CSZ10027

- 14** Which *best* describes a parallel circuit?

A Electricity flows along one pathway.  
 B The flow of electricity comes from one source.  
 C Electricity flows along more than one pathway.  
 D The flow of electricity comes from more than one source.

CSZ10383

- 15** The diagram below shows an electrical circuit.

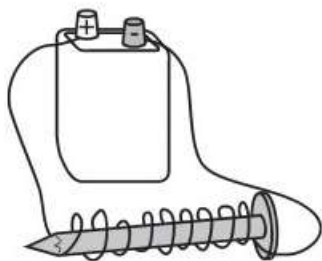


This circuit is a series circuit because

A it has two light bulbs.  
 B the same current flows through both light bulbs.  
 C it uses a single battery.  
 D the current is divided between the light bulbs.

CSZ20211

16



Which of the following is shown above?

- A electromagnet
- B electric motor
- C electric generator
- D transformer

CSZ10350

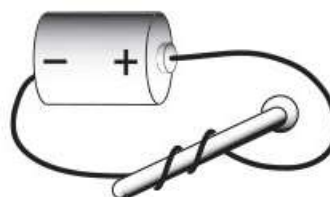
17

Which of the following electromagnets would have the greatest magnetic field?

A



B



C



D

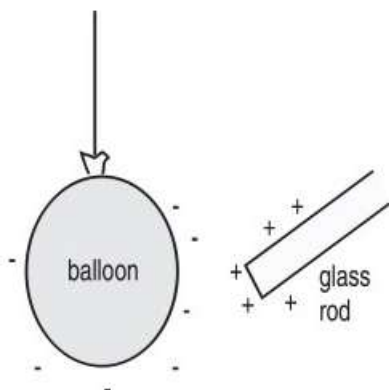


CSZ10387

## Released Test Questions

## Science

- 18 A balloon has a negative charge. A glass rod has a positive charge.

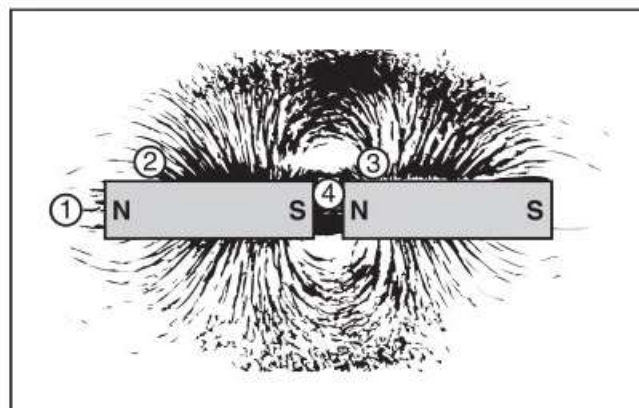


What will happen when the glass rod is brought near the balloon?

- A The balloon will be attracted to the rod.
- B The balloon will be repelled by the rod.
- C The balloon will remain in place.
- D The balloon will spin in circles.

CSZ10182

- 19 Iron filings and bar magnets were placed on a sheet of paper. The following diagram shows the pattern made on the paper.



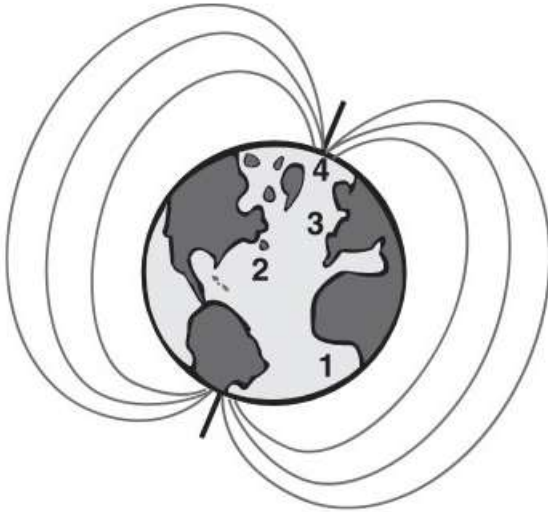
At which location is the magnetic field the strongest?

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

CSZ10384



- 20 The diagram below shows that the magnetic field of Earth is similar to that of a bar magnet.



At which location is Earth's magnetic field the strongest?

- A 1
  - B 2
  - C 3
  - D 4
- 21 Which of the following converts electrical energy into motion?
- A light switch
  - B electric stove
  - C light bulb
  - D electric fan

- 22 When electric current flows through the metal filament of a light bulb, electrical energy is converted to

- A heat energy only.
- B heat and light energy.
- C light and motion energy.
- D light energy only.

CSZ10273

- 23 Which of the following systems breaks food into nutrients that can be used by the body?

- A circulatory
- B digestive
- C respiratory
- D reproductive

CSZ10304

- 24 Which of the following is a harmful waste material that leaves the blood and travels through the lungs before leaving the body?

- A  $\text{CO}_2$
- B  $\text{O}_2$
- C  $\text{H}_2\text{O}$
- D  $\text{NaCl}$

CSZ10243

- 25 Where does oxygen-rich blood go after leaving the lungs?

- A the brain
- B the heart
- C the kidney
- D the stomach

CSZ10104

## Released Test Questions

## Science

5

**26** The digestion process begins in which of the following?

- A large intestine
- B mouth
- C small intestine
- D stomach

CSZ10244

**27** Which list gives the correct order of food traveling through the digestive system after it is swallowed?

- A stomach, esophagus, large intestine, small intestine
- B small intestine, large intestine, esophagus, stomach
- C esophagus, stomach, large intestine, small intestine
- D esophagus, stomach, small intestine, large intestine

CSZ20156

**28** Which *best* describes the role of the esophagus in digestion?

- A It releases acid and mixes food.
- B It aids in absorption of nutrients from food.
- C It carries food from the mouth to the stomach.
- D It carries food from the stomach to the intestines.

CSZ10326

**29** Which organ removes cell waste from the blood?

- A the large intestine
- B the small intestine
- C the kidney
- D the heart

CSZ10086

**30** Which of the following *best* explains how stems transport water to other parts of the plant?

- A through a chemical called chlorophyll
- B by using photosynthesis
- C through a system of tubes
- D by converting water to food

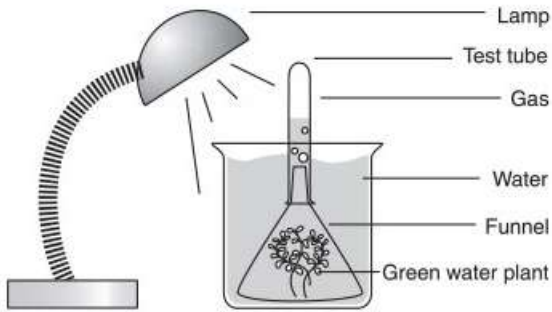
CSZ10245

**31** Which of the following gases do plants use in photosynthesis?

- A hydrogen
- B oxygen
- C carbon dioxide
- D carbon monoxide

CSZ10292

32

**Photosynthesis Experiment**

Which gas is forming in the test tube shown above?

- A carbon dioxide
- B hydrogen
- C oxygen
- D nitrogen

CSZ10031

33

Which of the following is broken down in the body to release energy?

- A sugar
- B water
- C salt
- D oxygen

CSZ10247

34

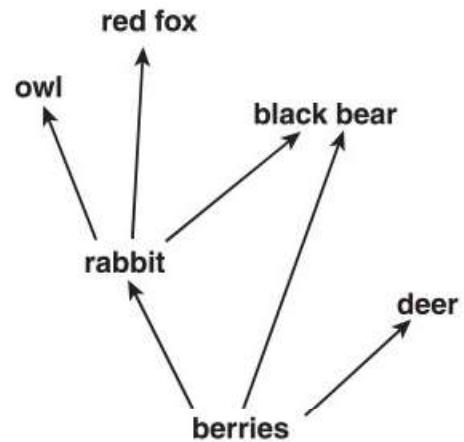
Which of the following is produced when sugar is digested in an animal cell?

- A carbon dioxide
- B chlorophyll
- C oxygen
- D sunlight

CSZ10238

35

The diagram below shows a simple food web.



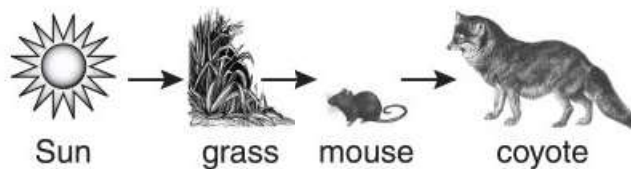
Which animal is classified as an omnivore?

- A red fox
- B deer
- C black bear
- D rabbit

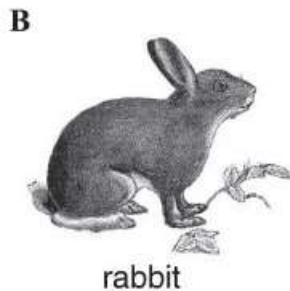
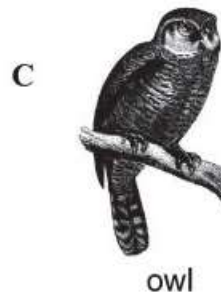
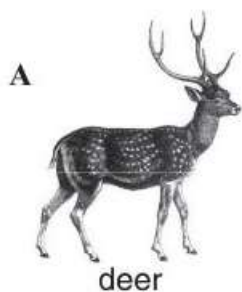
CSZ20162



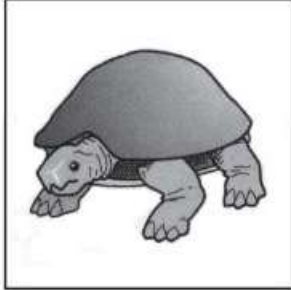
- 36 The diagram below shows a simple food chain.



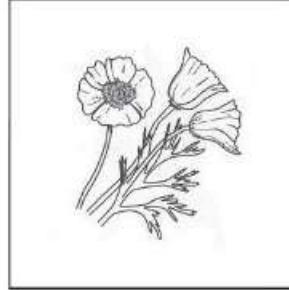
Which of the following animals might compete with the coyote in this food chain?



- 37 A group of students is building a model of an ecosystem. Which of the following organisms should the students select to act as a decomposer?



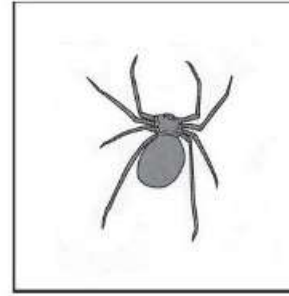
A



C



B



D

**38** Decomposers are important in the food chain because they

- A produce their own food using light from the Sun.
- B stop the flow of energy from one organism to another.
- C break down dead organisms and recycle nutrients into the soil.
- D are microscopic and other organisms cannot consume them.

CSZ50776

**39** Which of the following is a living component of a desert in California?

- A low rainfall
- B hot temperature
- C polar bear
- D horned lizard

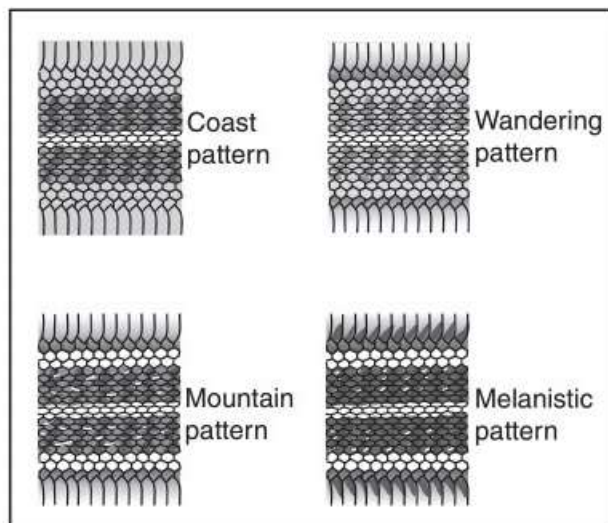
CSZ20146

**40** Salt concentration, water temperature, plankton, and the whale shark might all be used in a description of an ocean

- A climate.
- B food web.
- C ecosystem.
- D population.

CSZ20249

**41** Shown below are four different skin patterns found in the western garter snake.



The patterns *most* likely reflect differences in the snakes'

- A life cycle.
- B food source.
- C size.
- D habitat.

CSZ10163

- 42 A student wants to put some plants in a window-box planter. The window selected for the plants is always shaded by a large tree outside the window.



Which characteristic of the plants would *most* likely affect the plants' growth in this location?

- A leaf shape
- B light requirement
- C plant price
- D flower color

CSZ10001

- 43 Which animals are *most* likely to carry the seeds found in berries from the parent plant to another area?

- A bees
- B birds
- C flies
- D caterpillars

CSZ10356

- 44 Peach trees have sweet-smelling blossoms and produce rich fruit. What is the main purpose of the flowers of a peach tree?

- A to attract bees for pollination
- B to create flower arrangements
- C to protect the tree from disease
- D to feed migratory birds

CSZ10336

- 45 Many animals depend on plants for

- A shelter.
- B pollination.
- C seed dispersal.
- D sunlight.

CSZ10358

- 46 Where is *most* of Earth's water located?

- A glaciers
- B lakes
- C oceans
- D rivers

CSZ10053

- 47 Which of the following processes is responsible for changing liquid water into water vapor?

- A photosynthesis
- B condensation
- C evaporation
- D precipitation

CSZ10373

- 48 Above a continent, a warm air mass slowly passes over a cold air mass. As the warm air begins to cool, clouds form. What will *most* likely happen next?

A Rain will fall.  
B Hurricanes will form.  
C Lightning will strike.  
D Hail will form.

CSZ10148

- 49 Why is watering plants and grass in the early morning a way to conserve water?

A There is always more water in the morning.  
B Smaller amounts of water evaporate in the cool morning.  
C Water used in the morning can be recycled for afternoon use.  
D Grass can absorb water only in the morning.

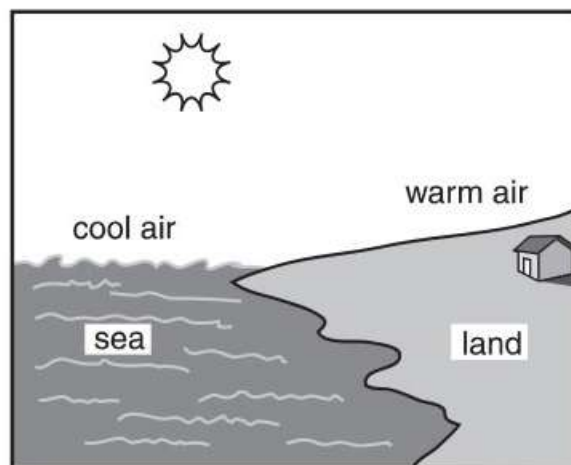
CSZ10021

- 50 Which location on Earth receives the most direct sunlight?

A the deserts  
B the South Pole  
C the equator  
D the Western Hemisphere

CSZ20228

- 51 The picture below shows a place where air currents will form due to the uneven heating of Earth.



In which direction will air currents *most* likely move?

A straight down over the land  
B from the land toward the sea  
C straight up above the sea  
D from the sea toward the land

CSZ10155



- 52 Which of the following systems would *most* likely have the greatest amount of moisture associated with it?

A



C



B



D



## Released Test Questions

## Science

5

53 Which of the following factors would *most* likely cause a hurricane to decrease in strength?

- A staying over a warm body of water for a long time
- B increasing the number of large clouds
- C moving over a continent
- D moving toward tropical waters

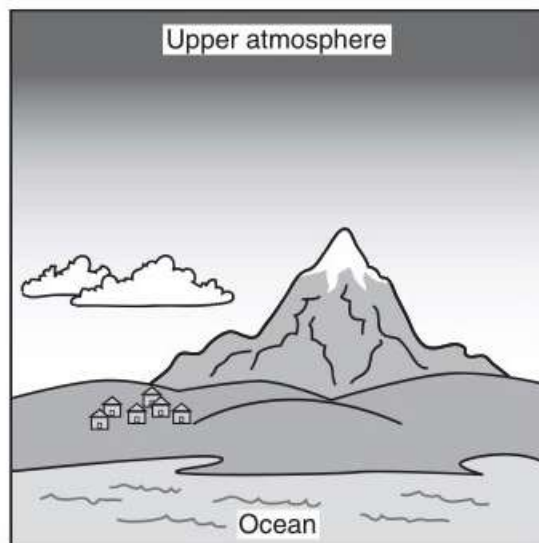
CSZ10022

54 A city has a temperature of 75 °F, with partly cloudy skies. Weather forecasters are predicting that the air pressure and temperature will drop during the day. Which type of weather is *most* likely for this area in the late afternoon?

- A rainy
- B sunny
- C snowing
- D hailing

CSZ10256

55 The diagram below shows a landscape.



Where in the diagram would the air pressure be the greatest?

- A at the beach
- B on top of the mountain
- C at the bottom of the clouds
- D above Earth's atmosphere

CSZ10108

56 The largest body in our solar system is

- A Earth.
- B the Sun.
- C Jupiter.
- D the Moon.

CSZ20330

**57** What is at the center of our solar system?

- A a medium planet with an atmosphere
- B a star composed of carbon and nitrogen
- C a black hole that was once a star
- D a star composed of hydrogen and helium

CSZ10081

**58** Which of these revolves around a planet?

- A an asteroid
- B a star
- C a comet
- D a moon

CSZ10100

**59** Gravity is responsible for the

- A orbits of the planets around the Sun.
- B rotation of a planet on its axis.
- C tilt of Earth's axis.
- D phases of the Moon.

CSZ20334

**60** Why are *most* fossils found in sedimentary rocks?

- A Sedimentary rocks are not very old.
- B Organisms live only in areas with sedimentary rock.
- C Organisms can be preserved in sedimentary rock.
- D Sedimentary rocks are found only at the surface of the ground.

CSZ10403

**61** Shale is a sedimentary rock that can be metamorphosed into slate by

- A cementation.
- B chemical weathering.
- C sedimentation.
- D increased pressure.

CSZ20111

**62** A student is trying to identify a mineral that has a nonmetallic luster and is black. It can also be scratched with a fingernail. According to the mineral reference sheet, the unidentified mineral is *most* likely

- A mica.
- B magnetite.
- C hornblende.
- D quartz.

CSZ20414

**63** The chart below shows a part of Mohs hardness scale for minerals.

**Mohs Scale of Hardness**

Mineral	Talc	Gypsum	Calcite	Fluorite	Apatite
Hardness	1	2	3	4	5

A student is testing an unknown mineral for hardness. The unknown mineral is tested against fluorite, but neither mineral scratches the other. Which of the following conclusions can the student accurately make?

- A The unknown mineral and apatite will not scratch each other.
- B The unknown mineral and calcite will not scratch each other.
- C The unknown mineral will scratch apatite.
- D The unknown mineral will scratch calcite.

CSZ10261

64



Which process is *most* responsible for the formation of the Grand Canyon?

- A scouring by continental glaciers
- B erosion by wind and water
- C eruptions by explosive volcanoes
- D cracking of Earth's crust by earthquakes

CSZ20112

65 The landform below is a sea arch.



What is responsible for shaping this arch?

- A plate tectonics
- B earthquakes
- C deposition
- D erosion

CSZ10405

66 How do plants *most* commonly break large rocks into smaller pieces?

- A Plant leaves insulate surrounding rocks from extreme temperatures.
- B Plant roots grow into cracks in rocks.
- C Seeds from plants fall onto rocks and release acidic compounds.
- D Stems of plants surround and squeeze rocks.

CSZ10170

**67** The freezing and thawing action of water affects a rock by

- A transforming the rock into igneous rock.
- B chemically changing the rock.
- C gradually breaking down the rock into smaller pieces.
- D leaving behind sedimentary particles from evaporated solutions.

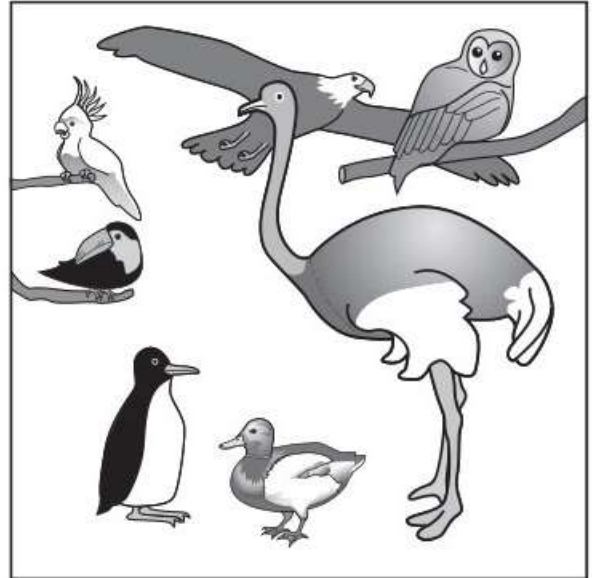
CSZ20469

**68** Moving water was the *most* important factor in forming which of these?

- A the Grand Canyon
- B San Andreas Fault
- C the Rocky Mountains
- D Mount St. Helens Volcano

CSZ10286

**69** The picture below shows several different birds.



**What characteristic do all birds share?**

- A They can fly.
- B They have feathers.
- C They have webbed feet.
- D They eat worms.

CSZ10063

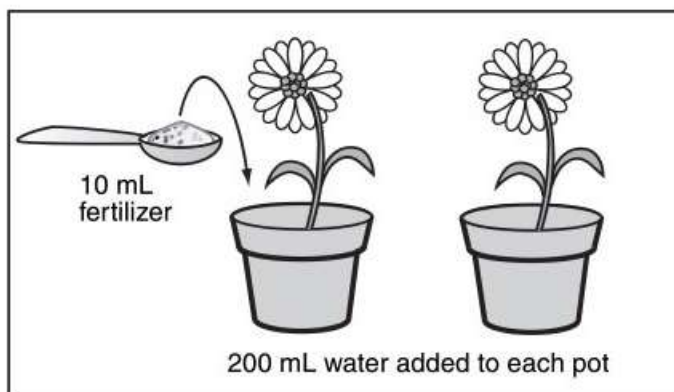


**70** Which of the following questions is testable in a scientific investigation?

- A Are dogs better pets than cats?
- B Are dogs happy when they are walked?
- C Are cats more active at night than during the day?
- D Are cats easier to take care of than dogs?

CSZ10003

**71** A student will measure and record the growth of two flowering plants every other day for 10 days.



According to the diagram, which question is being tested?

- A Do flowering plants grow better when watered with salt water?
- B How much fertilizer do flowering plants need?
- C Does fertilizer added to the soil lead to taller flowering plants?
- D How tall do flowering plants grow?

CSZ10046

72 A student wants to see the xylem of a plant stem. Which instrument should the student use?

A



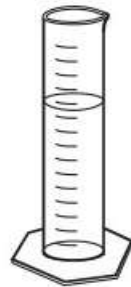
C



B

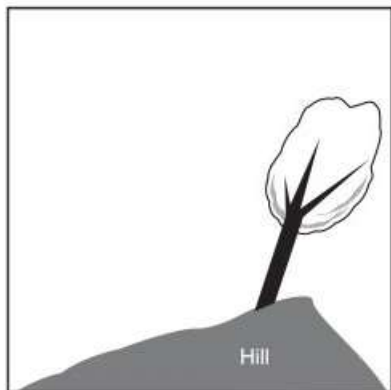


D



CSZ10139

- 73 A group of students observed the following tree while hiking through a hilly area.

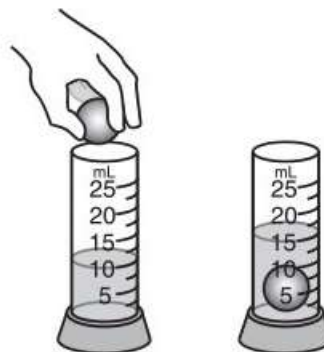


What is the *most* likely cause for the angle of growth of this tree?

- A The tree is reaching toward the afternoon sunlight.
- B Water rolling down the hill uprooted the tree.
- C Large rocks hit the tree when they rolled down the hill.
- D Strong uphill winds have pushed against the tree.

CSZ10205

- 74 A student added a small ball to a graduated cylinder containing 10 milliliters of water.



What is the volume of the ball?

- A 5 mL
- B 10 mL
- C 15 mL
- D 20 mL

CSZ10207

- 75 The chart below shows the results of an experiment designed to study how exercise affects heart rate.

Activity Stage	Heart Rate of Person A (beats per min.)	Heart Rate of Person B (beats per min.)	Heart Rate of Person C (beats per min.)
Before exercise	75	62	70
After exercise	120	110	130

Which of the following statements is the *best* conclusion for this experiment?

- A Exercise triples a person's heart rate.
- B Exercise decreases a person's heart rate.
- C Heart rate is not affected by exercise.
- D Heart rate is increased by exercise.

CSZ10043