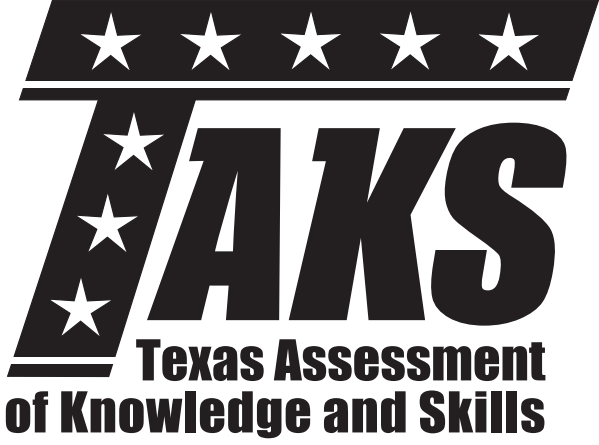


STUDENT NAME _____



**GRADE 10
SCIENCE**

SCIENCE

FORMULA CHART

Density = $\frac{\text{mass}}{\text{volume}}$	$D = \frac{m}{v}$
$\left(\begin{array}{c} \text{heat gained} \\ \text{or lost} \end{array} \right) = \left(\begin{array}{c} \text{mass in} \\ \text{grams} \end{array} \right) \left(\begin{array}{c} \text{change in} \\ \text{temperature} \end{array} \right) \left(\begin{array}{c} \text{specific} \\ \text{heat} \end{array} \right)$	$Q = (m)(\Delta T)(C_p)$
Speed = $\frac{\text{distance traveled}}{\text{time}}$	$v = \frac{d}{t}$
Acceleration = $\frac{\text{final velocity} - \text{initial velocity}}{\text{change in time}}$	$a = \frac{v_f - v_i}{\Delta t}$
Momentum = mass \times velocity	$p = mv$
Force = mass \times acceleration	$F = ma$
Work = force \times distance	$W = Fd$
Power = $\frac{\text{work}}{\text{time}}$	$P = \frac{W}{t}$
% efficiency = $\frac{\text{work output}}{\text{work input}} \times 100$	$\% = \frac{W_O}{W_I} \times 100$
Kinetic energy = $\frac{1}{2}(\text{mass} \times \text{velocity}^2)$	$KE = \frac{mv^2}{2}$
Gravitational potential energy = mass \times acceleration due to gravity \times height	$PE = mgh$
Energy = mass \times (speed of light) ²	$E = mc^2$
Velocity of a wave = frequency \times wavelength	$v = f\lambda$
Current = $\frac{\text{voltage}}{\text{resistance}}$	$I = \frac{V}{R}$
Electrical power = voltage \times current	$P = VI$
Electrical energy = power \times time	$E = Pt$

Constants/Conversions		
$g = \text{acceleration due to gravity} = 9.8 \text{ m/s}^2$		
$c = \text{speed of light} = 3 \times 10^8 \text{ m/s}$		
speed of sound = 343 m/s at sea level and 20°C		
$1 \text{ cm}^3 = 1 \text{ mL}$		
1 wave cycle/second = 1 hertz (Hz)		
1 calorie (cal) = 4.18 joules		
1000 calories (cal) = 1 Calorie (Cal) = 1 kilocalorie (kcal)		
newton (N) = kgm/s^2		
joule (J) = Nm		
watt (W) = J/s = Nm/s		
volt (V)	ampere (A)	ohm (Ω)

Periodic Table of the Elements

Atomic number	14
Symbol	Si
Atomic mass	28.086
Name	Silicon

Group	1	2											13	14	15	16	17	18		
	IA	IIA											IIIA	IVA	VA	VIA	VIIA	VIIIA		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
1	H 1.008 Hydrogen																	He 4.0026 Helium		
2	Li 6.941 Lithium	Be 9.012 Beryllium											B 10.81 Boron	C 12.011 Carbon	N 14.007 Nitrogen	O 15.999 Oxygen	F 18.998 Fluorine	Ne 20.179 Neon		
3	Na 22.990 Sodium	Mg 24.305 Magnesium											Al 26.982 Aluminum	Si 28.086 Silicon	P 30.974 Phosphorus	S 32.066 Sulfur	Cl 35.453 Chlorine	Ar 39.948 Argon		
4	K 39.098 Potassium	Ca 40.08 Calcium	Sc 44.956 Scandium	Ti 47.88 Titanium	V 50.942 Vanadium	Cr 51.996 Chromium	Mn 54.938 Manganese	Fe 55.847 Iron	Co 58.933 Cobalt	Ni 58.69 Nickel	Cu 63.546 Copper	Zn 65.39 Zinc	Ga 69.72 Gallium	Ge 72.61 Germanium	As 74.922 Arsenic	Se 78.96 Selenium	Br 79.904 Bromine	Kr 83.80 Krypton		
5	Rb 85.468 Rubidium	Sr 87.62 Strontium	Y 88.906 Yttrium	Zr 91.224 Zirconium	Nb 92.906 Niobium	Mo 95.94 Molybdenum	Tc (98) Technetium	Ru 101.07 Ruthenium	Rh 102.906 Rhodium	Pd 106.42 Palladium	Ag 107.868 Silver	Cd 112.41 Cadmium	In 114.82 Indium	Sn 118.71 Tin	Sb 121.763 Antimony	Te 127.60 Tellurium	I 126.904 Iodine	Xe 131.29 Xenon		
6	Cs 132.905 Cesium	Ba 137.33 Barium	La 138.906 Lanthanum	Hf 178.49 Hafnium	Ta 180.948 Tantalum	W 183.84 Tungsten	Re 186.207 Rhenium	Os 190.23 Osmium	Ir 192.22 Iridium	Pt 195.08 Platinum	Au 196.967 Gold	Hg 200.59 Mercury	Tl 204.383 Thallium	Pb 207.2 Lead	Bi 208.980 Bismuth	Po (209) Polonium	At (210) Astatine	Rn (222) Radon		
7	Fr (223) Francium	Ra 226.025 Radium	Ac 227.028 Actinium	Rf (261) Rutherfordium	Db (262) Dubnium	Sg (263) Seaborgium	Bh (262) Bohrium	Hs (265) Hassium	Mt (266) Meitnerium											
			Lanthanide Series																	
			Actinide Series																	
			Ce 58 Cerium	Pr 59 Praseodymium	Nd 60 Neodymium	Pm 61 Promethium	Sm 62 Samarium	Eu 63 Europium	Gd 64 Gadolinium	Tb 65 Terbium	Dy 66 Dysprosium	Ho 67 Holmium	Er 68 Erbium	Fm 100 Fermium	Md (258) Mendelevium	No (259) Nobelium	Lr (262) Lawrencium			

Mass numbers in parentheses are those of the most stable or most common isotope.

DIRECTIONS

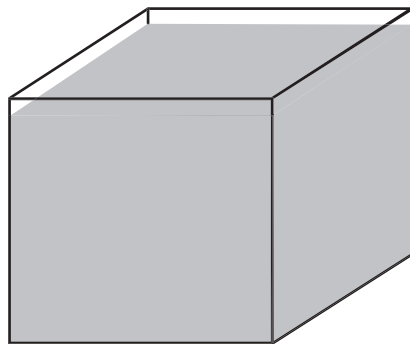
Read each question and choose the best answer. Then fill in the correct answer on your answer document.

SAMPLE A

When a 10% hydrochloric acid solution is heated in an open test tube, the test tube should always be pointed —

- A** so bubbles are visible
- B** at a 180° angle from the flame
- C** toward a ventilated area
- D** away from nearby people

SAMPLE B



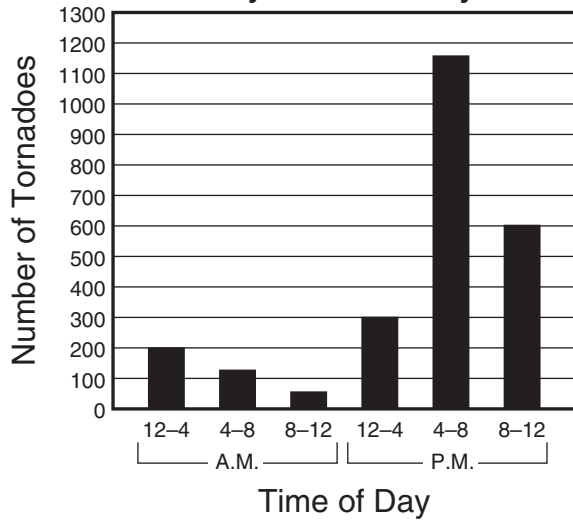
Mass = 40 g

Volume = 20 mL

The picture shows a cube that contains 20 mL of a solution. The solution has a mass of 40 grams. What is the density in g/mL of this solution? Record and bubble in your answer on the answer document.



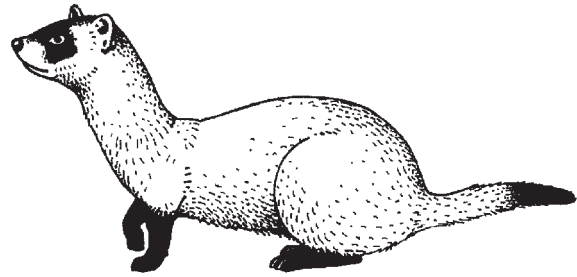
Number of Tornadoes
by Time of Day



- 1 A student prepared this graph of tornadoes reported over a 50-year period in a midwestern state. Which statement is supported by these data?
- A Tornadoes are less frequent in the morning.
 - B Darkness increases the strength of tornadoes.
 - C Tornadoes occurring at night are brief.
 - D The probability of a tornado is the same throughout the day.

Save Our Species Poster: Black-Footed Ferret

This slender animal depends mainly on prairie dogs for food and shelter. The ferret lives in prairie dogs' underground tunnels and hunts them at night. When prairie dogs became scarce, so did black-footed ferrets. In 1986 the 18 ferrets known to be alive were moved to a Wyoming research institute. The number of ferrets has increased, and recently a few were released into managed wildlife areas.



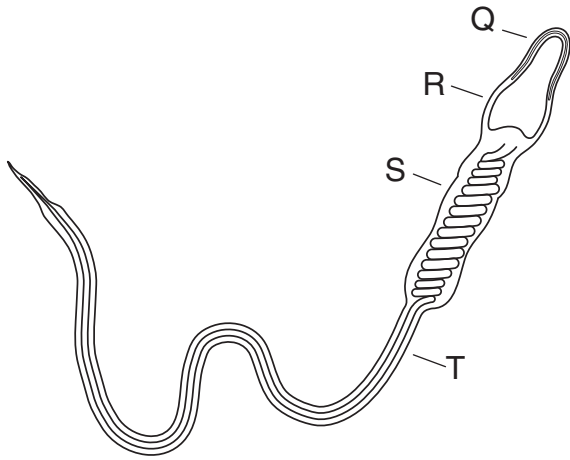
- 2 According to the information above, which of these is responsible for the decrease in the black-footed ferret population?
- F Competition with prairie dogs for resources
 - G Reduced numbers of prairie dogs
 - H Activity of research institutes
 - J Development of managed wildlife areas
-
- 3 A driver traveled 270 km in 3 hours. The driver's destination was still 150 km away. What was the driver's average speed at this point?
- A 40 km/h
 - B 90 km/h
 - C 140 km/h
 - D 420 km/h

PUBLIC SERVICE ANNOUNCEMENT: Facts About the Flu Vaccine

1. The vaccine may be administered either as a nasal spray or as an injection.
2. Prior to administration, nasal-spray vaccines must be stored at 15°C or lower.
3. In an experiment, vaccine recipients had 85% fewer flu episodes than nonrecipients.
4. The vaccine virus is heat sensitive and fails to replicate at temperatures of 38°C–39°C.

4 Which statement above makes the most valid argument in favor of receiving the flu vaccine?

- F** Statement 1
- G** Statement 2
- H** Statement 3
- J** Statement 4



5 The diagram shows different parts of a human sperm cell. Which part of the cell is most likely specialized for mobility?

- A Q
- B R
- C S
- D T

Hypothesis: At the end of each summer, Texas red oak (*Quercus buckleyi*) leaves turn red and fall off the trees. This is most likely caused by changes in air temperature and sunlight intensity.

6 Which equipment is most useful when measuring the two environmental changes mentioned above?

- F Barometer and voltmeter
- G Light meter and barometer
- H Voltmeter and thermometer
- J Thermometer and light meter

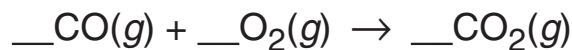
7 A person pushes a large box across a level floor by applying a horizontal force of 200 N. If the person pushes the box a distance of 5 meters in 10 seconds, how much work does the person do on the box?

- A 2000 joules
- B 1000 joules
- C 400 joules
- D 100 joules

8 A man treated his home with a pesticide that kills roaches. The first application of the pesticide killed 92% of the roaches. Two months later he applied the pesticide to his home again, but the second application killed only 65% of the roaches. What would best explain the decrease in the effectiveness of the pesticide?

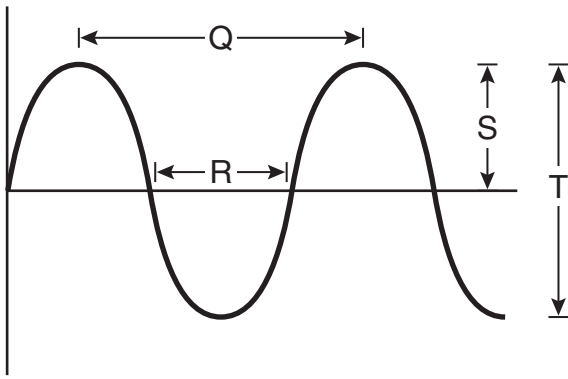
- F The pesticide is effective only against mature roaches.
- G Once roaches learned how to fight the pesticide, they taught others.
- H The surviving roaches were naturally resistant to the pesticide, and that resistance was inherited by their offspring.
- J The pesticide caused some of the roaches' digestive systems to mutate and metabolize the pesticide.

Carbon monoxide (CO) burns readily in oxygen (O₂), forming carbon dioxide (CO₂):



9 What coefficient values will balance the reaction shown above?

- A 2, 2, 1
- B 1, 1, 1
- C 2, 1, 2
- D 1, 2, 2



10 Which label on the model represents a wavelength?

- F Q
- G R
- H S
- J T

Car Model	City Mileage (kilometers per liter)	Highway Mileage (kilometers per liter)
J	25.4	21.7
K	25.1	28.0
L	10.3	13.2
M	8.5	11.1

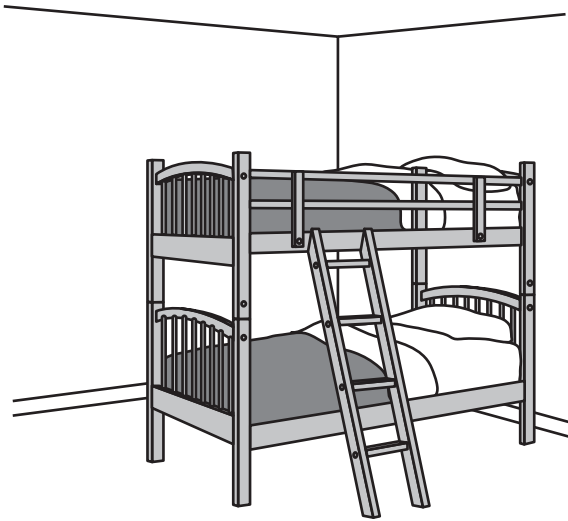
11 Greenhouse emissions from cars may contribute to global warming. Cars with better gas mileage emit smaller amounts of greenhouse gases. Which car would emit the least amount of greenhouse gases if most of the driving were done on the highway?

- A J
- B K
- C L
- D M

12 Rust (Fe_2O_3) forms on an iron (Fe) pipe after prolonged exposure to humid air. What type of change does this illustrate?

- F Mechanical
- G Nuclear
- H Chemical
- J Physical

- 13** Which of these is a function of the cell membrane in all cells?
- A** Producing cellular nutrients
 - B** Preserving cellular wastes
 - C** Neutralizing chemicals
 - D** Maintaining homeostasis



- 14** In winter the air just above the top bunk of a bunk bed is warmer than the air just above the bottom bunk because warm air rises. Which of the following describes the method of heating that causes this difference in temperature?
- F** Radiation from the room
 - G** Heat transfer through the walls
 - H** Convection currents in the room
 - J** Heat conduction through the bed

- 15** Hemoglobin carries oxygen to body cells. Which body system contains hemoglobin?
- A** Circulatory system
 - B** Respiratory system
 - C** Endocrine system
 - D** Nervous system

- 16** Some mesquite trees have deeper roots than any other plant in the desert. How are deep roots an adaptation for survival in the desert?
- F** Deep roots can protect the tree from predators.
 - G** Roots encounter cooler conditions far below the desert surface.
 - H** Roots can extend great distances to reach water.
 - J** Deep roots interact with beneficial bacteria below the surface.

17 Which of the following is found in both cells and viruses?

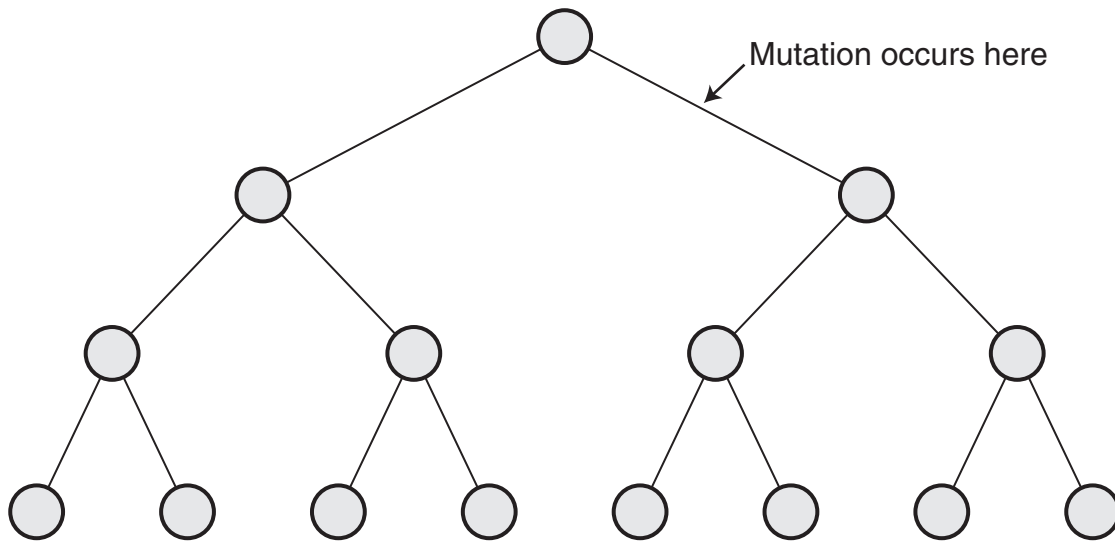
- A** Silica
- B** Genetic material
- C** Digestive cavity
- D** Flagella

18 Sheets of ice containing mostly pure water can be formed by decreasing the temperature of saltwater. Which of these best describes this change?

- F** Chemical change
- G** Physical change
- H** Nuclear change
- J** Atomic change

19 Which of these is the best example of heat transfer by radiation?

- A** A satellite is warmed by sunlight.
- B** Butter melts on warm bread.
- C** A ceiling fan cools a warm room.
- D** Puddles of water cool a warm tile floor.

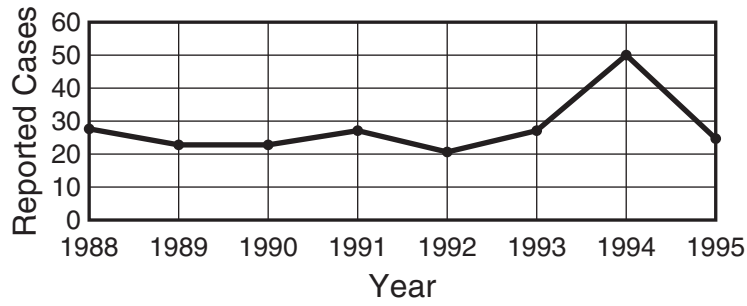


- 20** The diagram shows three generations of cells produced by a single cell through mitosis. In the process, a single mutation occurred at the point indicated. The mutation caused changes within a dominant allele. How many of the 15 cells contain the mutation? Record and bubble in your answer on the answer document.

- 21** People infected with the human immunodeficiency virus (HIV) have an increased risk of dying from secondary infections. Which of these best explains how HIV increases the danger of secondary infections?
- A** HIV produces antigens that damage red blood cells.
 - B** HIV adds genetic material from harmful microbes.
 - C** HIV destroys helper T cells.
 - D** HIV consumes beneficial microbes in the body.

- 22** Students in a chemistry lab measure the time it takes four different 100 mL solutions to pass through a hole in the bottom of a cup. Which of the following properties of the solutions is most likely being measured?
- F** Buoyancy
 - G** Mass
 - H** Viscosity
 - J** Volume

Reported Botulism Cases
in the United States, 1988–1995



Conclusion: Food poisoning by botulism
is increasing in the United States.

- 23** The graph shows data for botulism, a form of food poisoning. The conclusion in the box is based on these data. Which of the following is the best reason this conclusion may be unreliable?
- A** The greatest number of reported botulism cases was 50.
 - B** The number of reported botulism cases remained relatively constant from 1988 to 1995.
 - C** More botulism cases were reported in the 1980s than in the 1990s.
 - D** The number of reported botulism cases decreased after 1994.

- 24** Many species of bacteria can be found in the human mouth. Which of these explains the great variety of bacteria in the mouth?
- F** Large volumes of air cause bacteria to change form.
 - G** Salivary glands cause mutations in bacterial populations.
 - H** The presence of nutrients makes the mouth a favorable habitat.
 - J** Calcium in the teeth provides a suitable pH environment.

How One Fungus Gets Nutrients

- A certain type of fungus grows sticky structures when roundworms are near.
- Roundworms that come close to the sticky structures can become trapped.
- The fungus penetrates and digests trapped roundworms.

- 25** Which word best describes the fungus in the situation above?
- A** Predator
 - B** Producer
 - C** Parasite
 - D** Decomposer

Use the information below and your knowledge of science to answer questions 26–29.

Watersheds

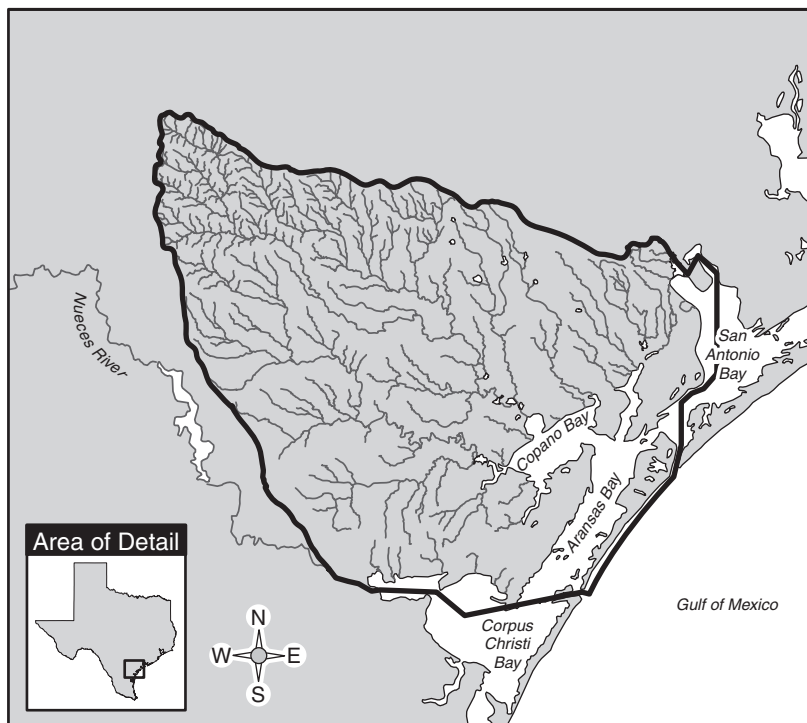
The San Antonio–Nueces Coastal Basin, shown in the map below, consists mainly of flatland. The soil in the area is mostly sandy and porous. Rainfall that collects in this area drains into the Gulf of Mexico by a series of waterways.

The San Antonio–Nueces Coastal Basin is one of more than 20 major watersheds in Texas. A watershed is a geographic area that drains water collected on its surface. Watersheds provide a way for water to move from areas of higher elevation to areas of lower elevation. Sediment and dissolved materials are also moved to lower elevations.

Rivers and streams form a general pattern within a watershed. The map shows this general pattern within the San Antonio–Nueces Coastal Basin. This type of pattern is called a dendritic pattern and can be observed in many natural structures, including the network of nerves in the human nervous system and branching patterns in trees.

Watersheds can change as the geography and other features of an area change. Some of the causes of change are more obvious than others. For example, the clearing of wooded areas for the construction of buildings may change the way rainfall collects and drains from an area.

San Antonio–Nueces Coastal Basin



26 In which general direction do rivers flow in this watershed?

- F** North
- G** West
- H** Northwest
- J** Southeast

27 Which of the following is an adaptation most likely observed in plants growing along Aransas Bay?

- A** Sensitivity to green light
- B** Tolerance of saltwater
- C** Extension of root length
- D** Resistance to predation

Results of a Scientific Study

In natural areas such as forests, about 50% of the rain seeps into the ground and becomes groundwater. In some large cities only about 30% of the rain becomes groundwater.

28 The information above could be used most effectively in arguing against which of these proposals?

- F** Adding chemicals to a local water supply
- G** Permitting a water well to be drilled in a state park
- H** Limiting the use of waterways for recreation
- J** Paving a meadow to create a parking area

29 A sample of water from a stream has a greater density than a sample of distilled water. Which is the best explanation for the difference in density?

- A** Streams have kinetic energy.
- B** Distilled water has a neutral pH.
- C** Streams can contain dissolved salts.
- D** Distilled water can contain dissolved gases.



© Getty Images (6211.JPG)

30 The picture shows a piece of rotting wood. Which of these does the picture demonstrate?

- F** Photosynthesis occurring
- G** Wood regenerating
- H** Decomposers growing
- J** Genes transforming

31 Which is a characteristic of members of the plant kingdom that distinguishes them from members of the animal kingdom?

- A** Storage of energy in chemical bonds
- B** Exchange of H_2O with the environment
- C** Use of mRNA during protein production
- D** Use of chlorophyll for solar-energy transformation

32 Which of these are composed of two or more different substances that are chemically combined in a definite ratio?

- F** Compounds
- G** Mixtures
- H** Elements
- J** Solutions

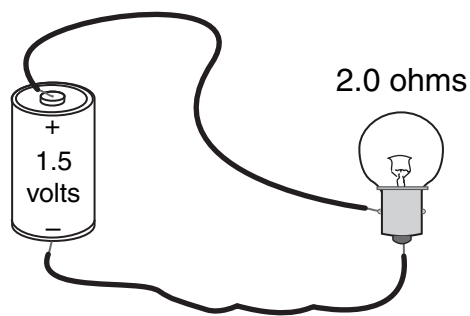
33 Which of the following is most useful in determining the kinetic energy of a 50 g battery-powered car traveling a distance of 10 m?

- A** Beaker
- B** Voltmeter
- C** Thermometer
- D** Stopwatch

T	tall
t	short
S	smooth
s	wrinkled

34 If a plant that is homozygous tall and wrinkled is crossed with a short, wrinkled plant, which percentage of genotypes would most likely be found in the first-generation offspring?

- F 50% TTss, 50% ttSS
- G 100% TtSs
- H 100% Ttss
- J 50% TtSS, 50% ttSS



35 In this circuit, how much current flows through the lightbulb?

- A 0.75 amp
- B 1.50 amps
- C 2.0 amps
- D 3.0 amps

Viral Disease	Common Method of Transmission
Smallpox	Direct contact
AIDS	Exchange of body fluids
West Nile virus	Mosquito vector
Influenza	Deposition of airborne droplets

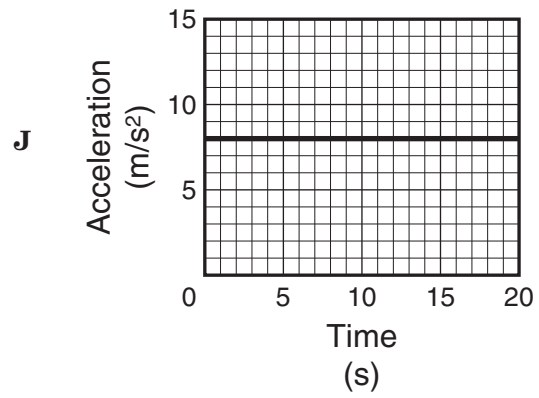
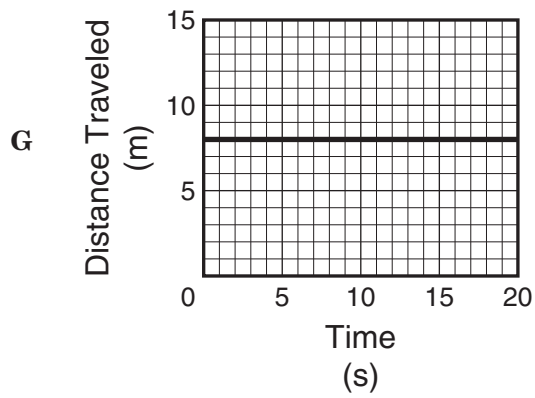
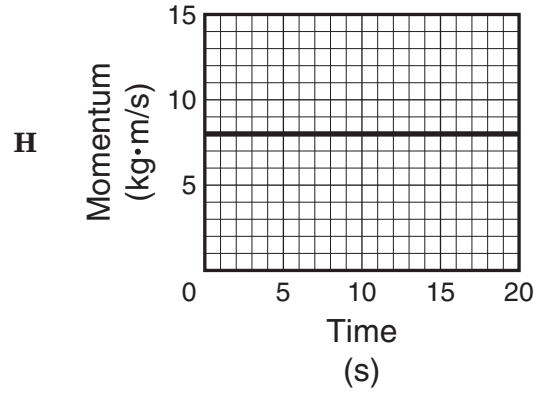
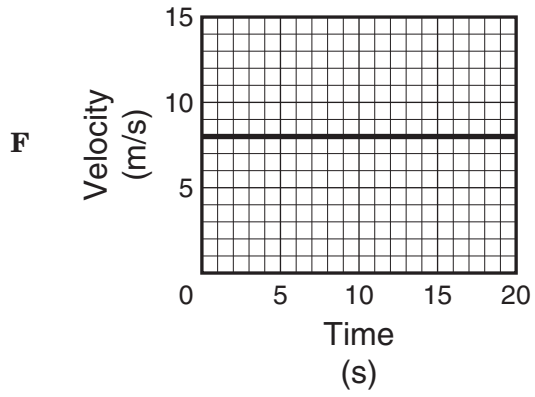
36 Viruses can be transmitted in a variety of ways. The virus that causes SARS (severe acute respiratory syndrome) can be transmitted when an infected person coughs or sneezes. This virus is transmitted in a manner most similar to the transmission of —

- F smallpox
- G AIDS
- H West Nile virus
- J influenza

37 A recipe calls for 210 grams of sugar to be dissolved in 0.25 liter of water. After the mixture is stirred, some sugar crystals remain in the water. What can be added to the mixture to help dissolve the remaining sugar crystals?

- A Thermal energy
- B 2.0 g of baking soda
- C Ice cubes
- D 2.0 g of sodium chloride

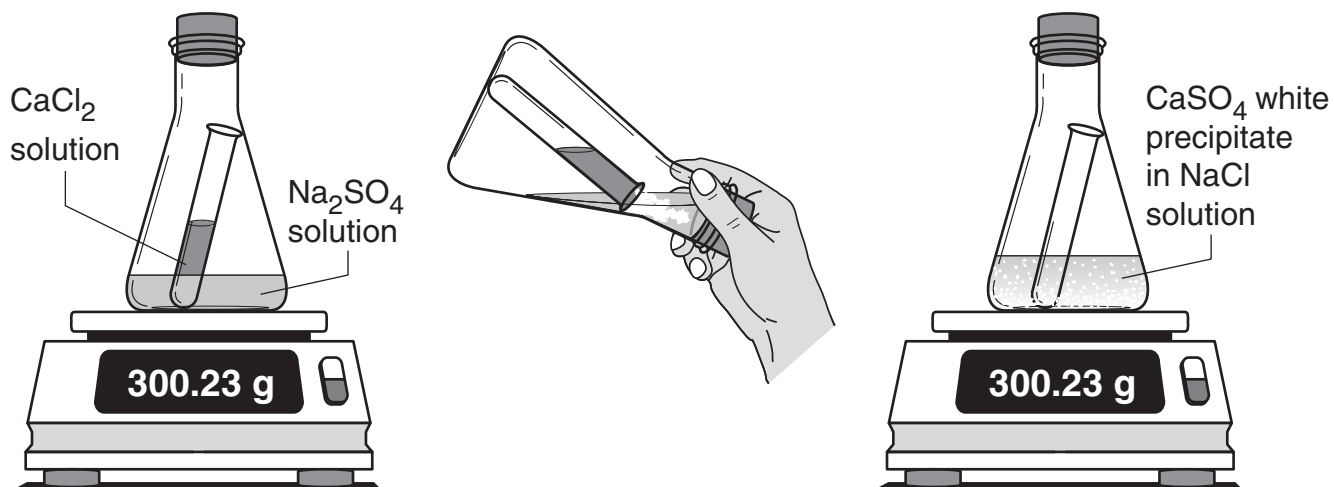
38 Which graph can represent an object at rest?





39 This illustration is an example of a normal DNA sequence. Which of the following represents a single base change in the sequence?

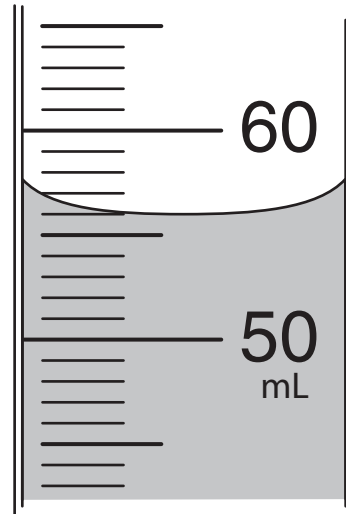




- 40 In the procedure shown above, a calcium chloride solution is mixed with a sodium sulfate solution to create the products shown. Which of the following is illustrated by this activity?
- F The law of conservation of mass
 - G The theory of thermal equilibrium
 - H The law of conservation of momentum
 - J The theory of covalent bonding



- 41 The information in the box identifies some of the organs of the kitten. Which of the following is identical for every cell in each of the four organs?
- A Amount of ATP
 - B Function of cell
 - C Size of cells
 - D Genes in DNA



- 42 What volume should be reported for the solution in this graduated cylinder?
- F 64.0 mL
 - G 56.2 mL
 - H 56.0 mL
 - J 50.6 mL

Density of Seawater
from the Gulf of Mexico

Density (g/mL)	Group 1	Group 2	Group 3	Group 4
Trial 1	0.998	1.052	1.008	1.019
Trial 2	1.020	1.054	0.986	1.018
Trial 3	1.051	1.053	1.039	1.029
Average	1.023	1.053	1.011	1.022

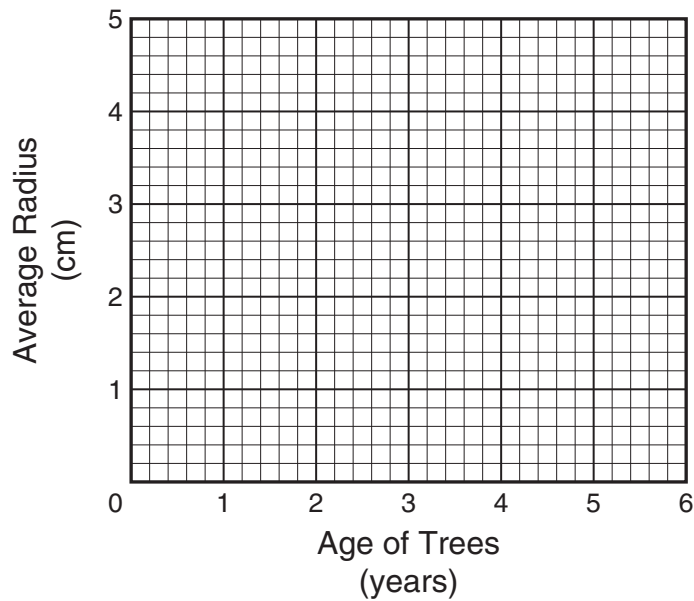
- 43 The chart shows the density of seawater samples collected from the Gulf of Mexico by four different groups. Which group's data are most precise?
- A Group 1
 - B Group 2
 - C Group 3
 - D Group 4

-
- 44 Cacti grow slowly compared to most other plants. The fact that cacti keep their stomata closed for much of the day can help explain this growth characteristic. Which of these best explains the advantage of keeping stomata closed during the day?
- F It limits water loss through transpiration.
 - G It conserves oxygen produced in photosynthesis.
 - H It recycles carbon dioxide within plant systems.
 - J It protects plant tissues from predators.

Average Radius of Trees in a Forest

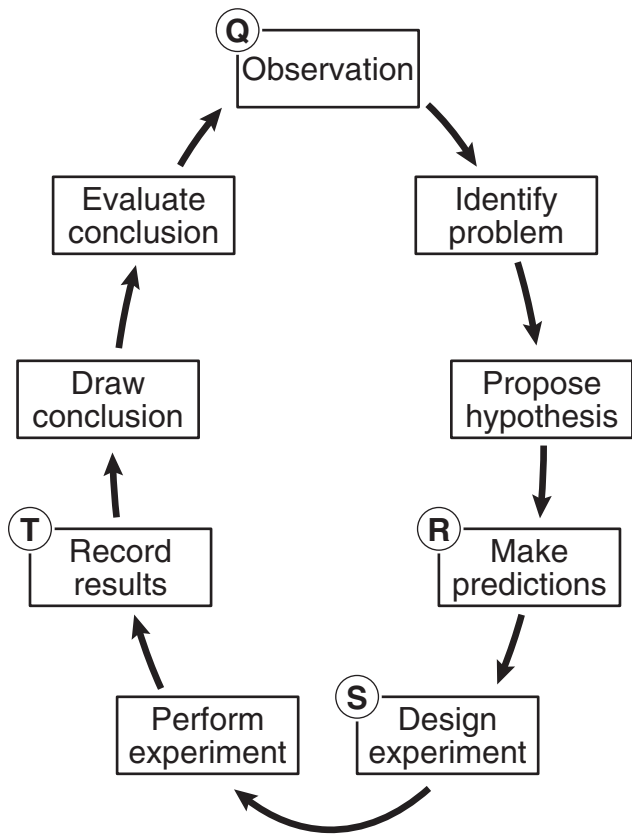
Age of Trees (years)	Average Radius (cm)
1	2.2
2	2.6
3	
4	
5	
6	4.4

Average Radius of Trees in a Forest



- 45 The data table shows how the thickness of tree trunks in a certain forest is related to tree age. Use these data to plot points on the graph above. Draw a straight line to show a linear relationship for the data. According to these data, what is the most likely average radius of 4-year-old trees in this forest?
- A 3.0 cm
 - B 3.3 cm
 - C 3.6 cm
 - D 3.9 cm

Investigation Cycle



46 In what part of this process should safety precautions be planned?

- F Q
- G R
- H S
- J T

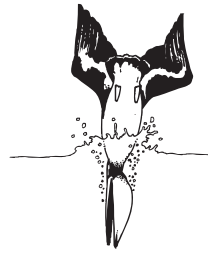
Pelican Fish-Catching Behavior



- Identifies prey



- Plunges toward prey



- Folds wings at moment of impact with water

47 Pelicans prevent serious wing damage by entering the water in the manner shown above. Which two organ systems in the pelican work together the most to accomplish this maneuver?

- A Circulatory and nervous systems
- B Nervous and muscular systems
- C Muscular and digestive systems
- D Digestive and circulatory systems

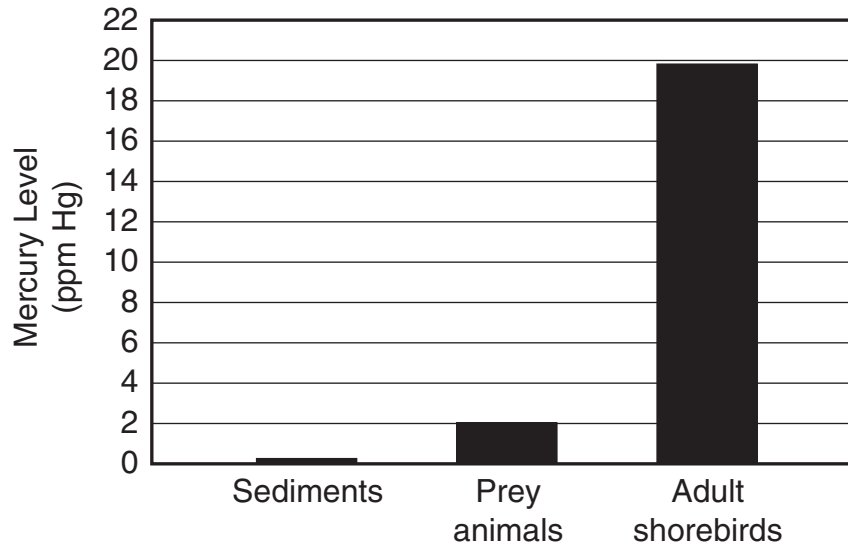
48 The guppy is a species of small freshwater fish. Scientists observed that the average size of guppies in a pond decreased over a few years after a guppy predator was introduced into the pond. Which of the following best explains the change in guppy size?

- F** Speciation
- G** Convergent evolution
- H** Inbreeding
- J** Natural selection

Time (min)	Mass of Alcohol and Beaker (g)
0	73.97
5	73.46
10	72.94
20	71.91
30	70.88
40	69.85

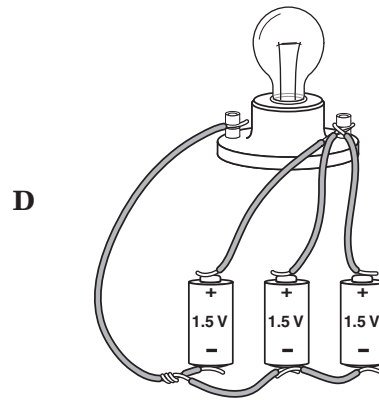
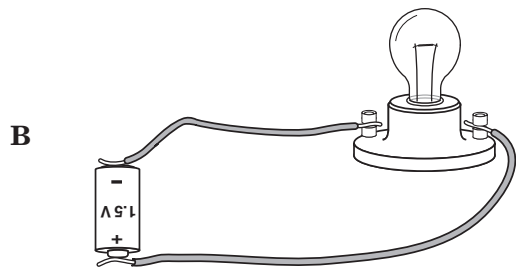
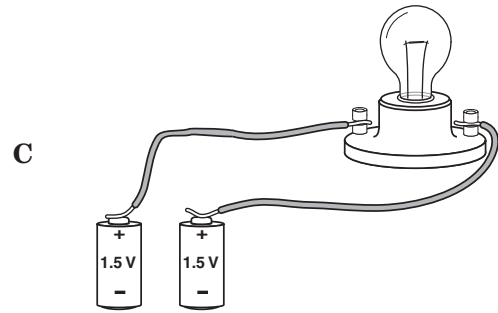
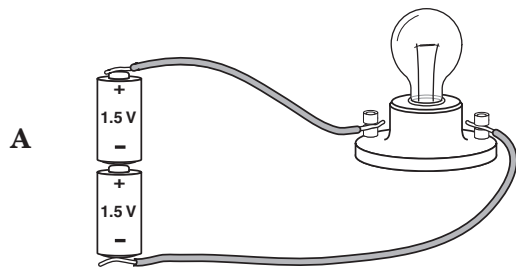
Mass of beaker = 59.02 g

- 49** These data show how the mass of an undisturbed beaker of alcohol varied during a class period. Which of the following is the best conclusion that can be made about the investigation?
- A** The beaker absorbed moisture from the air.
 - B** A chemical change occurred in the beaker.
 - C** The beaker experienced a change of state.
 - D** Some material evaporated from the beaker.



- 50** The graph shows mercury levels found in sediments, prey animals, and adult shorebirds in a bay along the Gulf Coast. Which inference can best be drawn from these data?
- F** Mercury levels are elevated by the presence of shorebirds.
 - G** Mercury concentrations are highest in shorebirds.
 - H** Mercury is produced by sediments.
 - J** Mercury assures the survival of prey animals.

- 51 The bulb will light when a current supplied by at least one 1.5 V battery is available. Which circuit will fail to light the bulb?



Characteristics of a Newly Discovered Organism

- Absorbs blue light
- Emits infrared radiation
- Contains RNA in nucleus
- Appears as a red organism in full daylight
- Can obtain nutrition through photosynthesis

52 Knowledge of which of these is most important in classifying this new organism into a kingdom?

- F** The color of light absorbed by the organism
- G** The type of radiation emitted
- H** The use of photosynthesis
- J** The color of the organism

Clear Your Home of Asthma Triggers

Secondhand Smoke

Asthma can be triggered by the smoke from a burning cigarette, pipe, or cigar or by the smoke breathed out by a smoker.

- Choose not to smoke in your home or car and do not allow others to do so either.

Pets

Your pet's saliva, skin flakes, and urine can be asthma triggers.

- Consider keeping pets outdoors or even finding a new home for your pets, if necessary.
- Keep pets out of bedrooms at all times and keep bedroom doors closed.
- Keep pets away from fabric-covered furniture, carpets, and stuffed toys.



Not all the asthma triggers addressed in this brochure affect every person with asthma. Not all asthma triggers are listed here.

See your doctor or health-care provider for more information.

53 Which of these is supported by the information above?

- A Pets should be kept away from public parks.
- B Smokers should get frequent medical checkups.
- C Pet immunizations should be kept up to date.
- D Smoking in enclosed places should be discouraged.

Protein and Fiber Content of Different Flours

Type of Flour	Protein Content (grams per serving)	Dietary Fiber Content (grams per serving)
Whole wheat	4	4
White wheat	3	<1
Oat	4	3
Rice	3	1

- 54 Protein and dietary fiber are beneficial to health. According to the information in the table, which flour is the most nutritious?
- F Whole wheat
 - G White wheat
 - H Oat
 - J Rice

California Sea Lions

- Mammals
- Hold breath while diving
- Can dive as deep as 250 m
- Hunt on land and at sea
- Preyed on by orcas and great white sharks
- Establish large communities
- Males compete for females
- Males can reach a mass of 300 kg
- Females can reach a mass of 150 kg

55 Male sea lions can be twice the size of female sea lions. Which best explains the difference in size between male and female sea lions?

- A** Orcas and sharks prey on sea lions.
- B** Male and female sea lions hunt on land and at sea.
- C** Sea lions hold their breath while diving.
- D** Males compete with one another for females.

BE SURE YOU HAVE RECORDED ALL OF YOUR ANSWERS
ON THE ANSWER DOCUMENT.

