

8th Grade

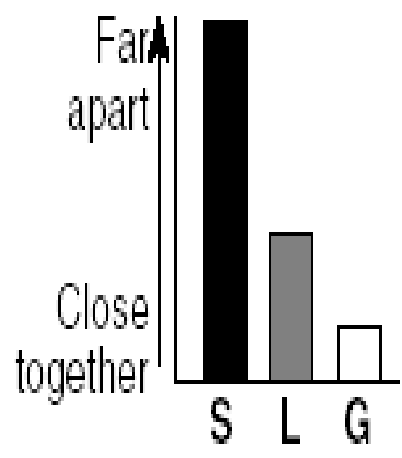
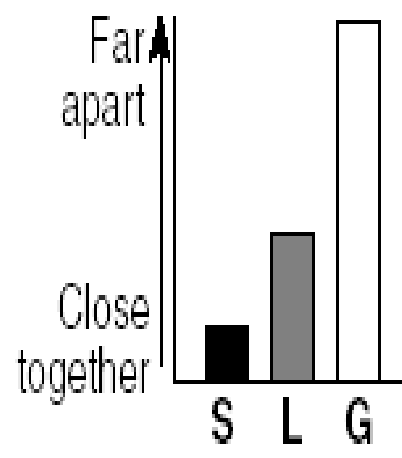
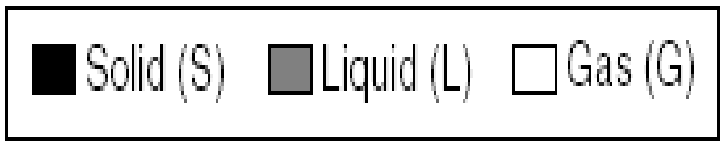
Practice

Assessment Test

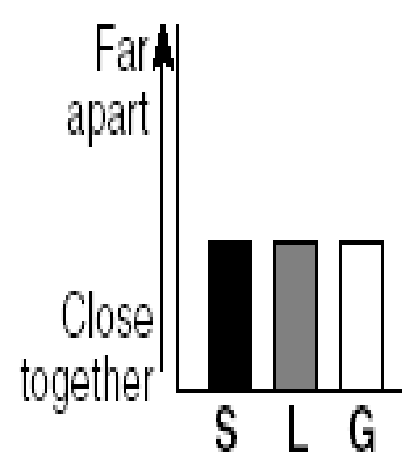
Physical Science

1. Which graph best represents the relative distance between the particles of most substances in their solid, liquid, and gas states?

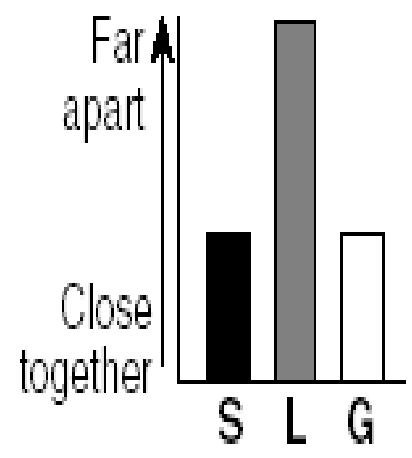
Key



(2)



(3)



(4)

2. Which scientific model could be used to predict the properties of an element?

(1) closed loop system

(2) Punnett square

 Periodic Table

(4) water cycle chart

3. A chemical property of a mineral is evident if the mineral

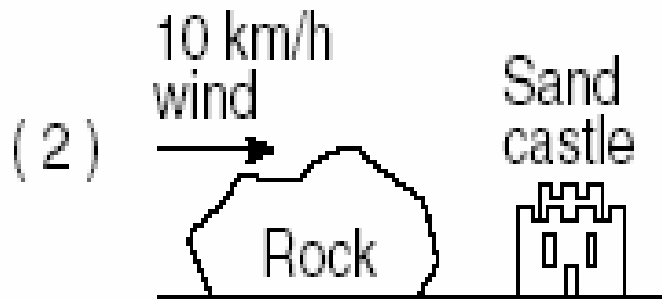
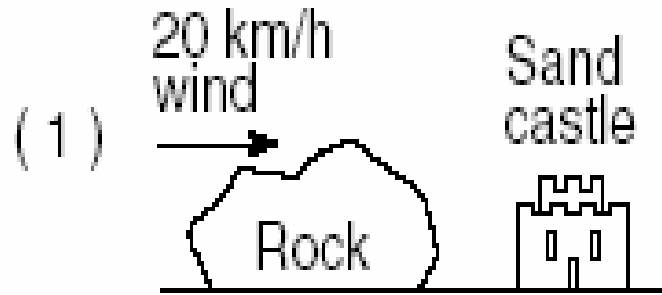
(1) breaks easily when struck with a hammer

 bubbles when acid is placed on it

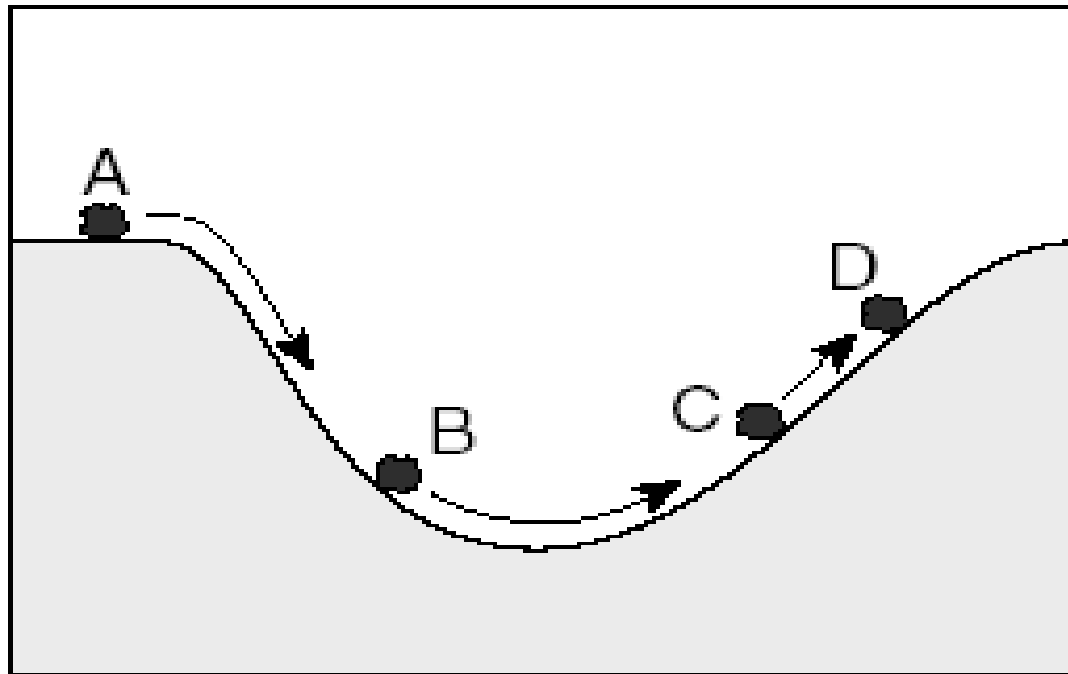
(3) is easily scratched by a fingernail

(4) reflects light from its surface

4. Four identical sand castles are shown below. Which sand castle will most likely be eroded fastest by the wind?



5. The diagram below shows a boulder rolling down a hill into a valley and then up the opposite hill.



At which position does the boulder have the greatest kinetic energy?

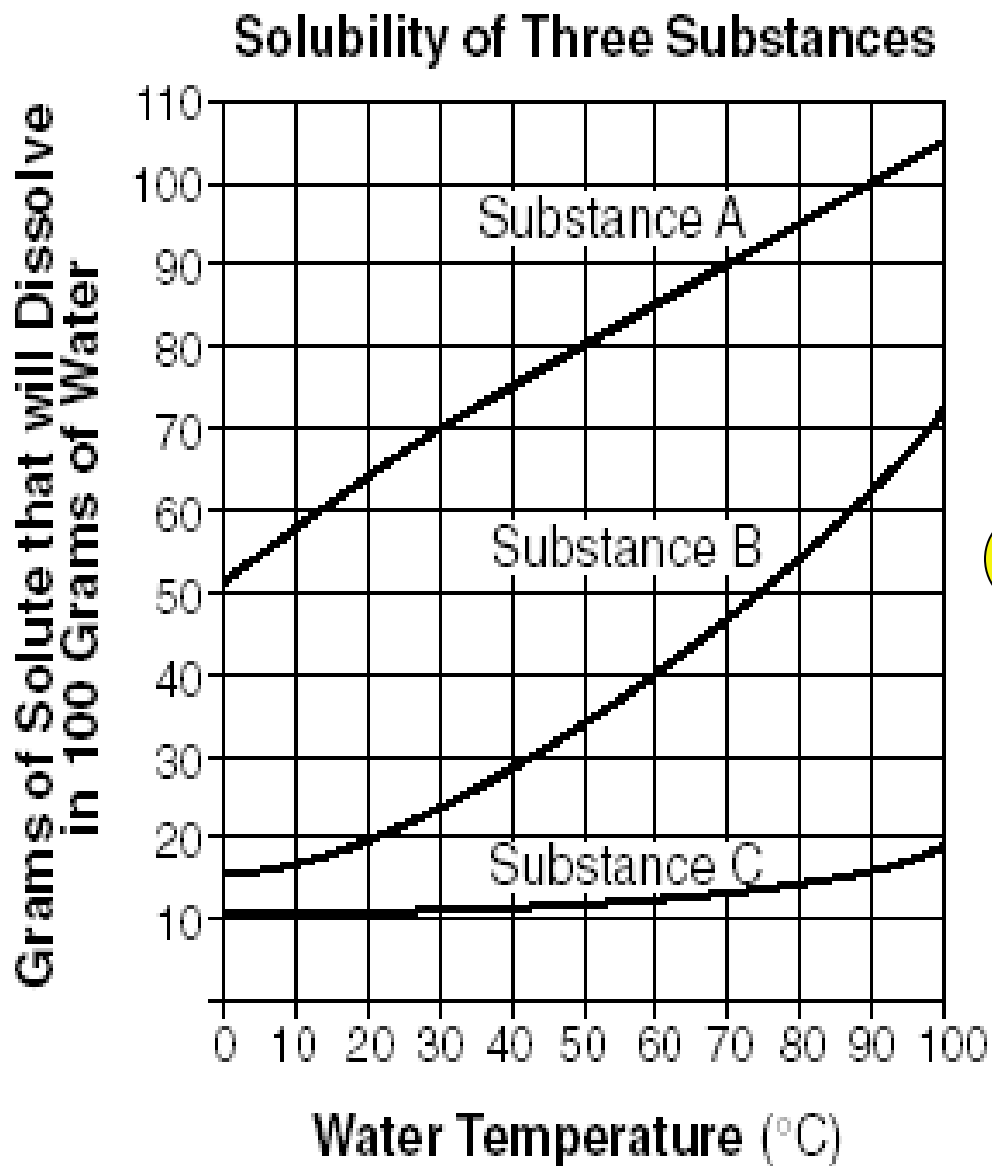
(1) *A*

☺ *B*

(3) *C*


(4) *D*

Base your answers to questions 6 and 7 on the graph below, which shows the solubility (amount that will dissolve in 100 grams of water) of three substances at various water temperatures.



6. Which statement is a correct interpretation of the data in the graph?

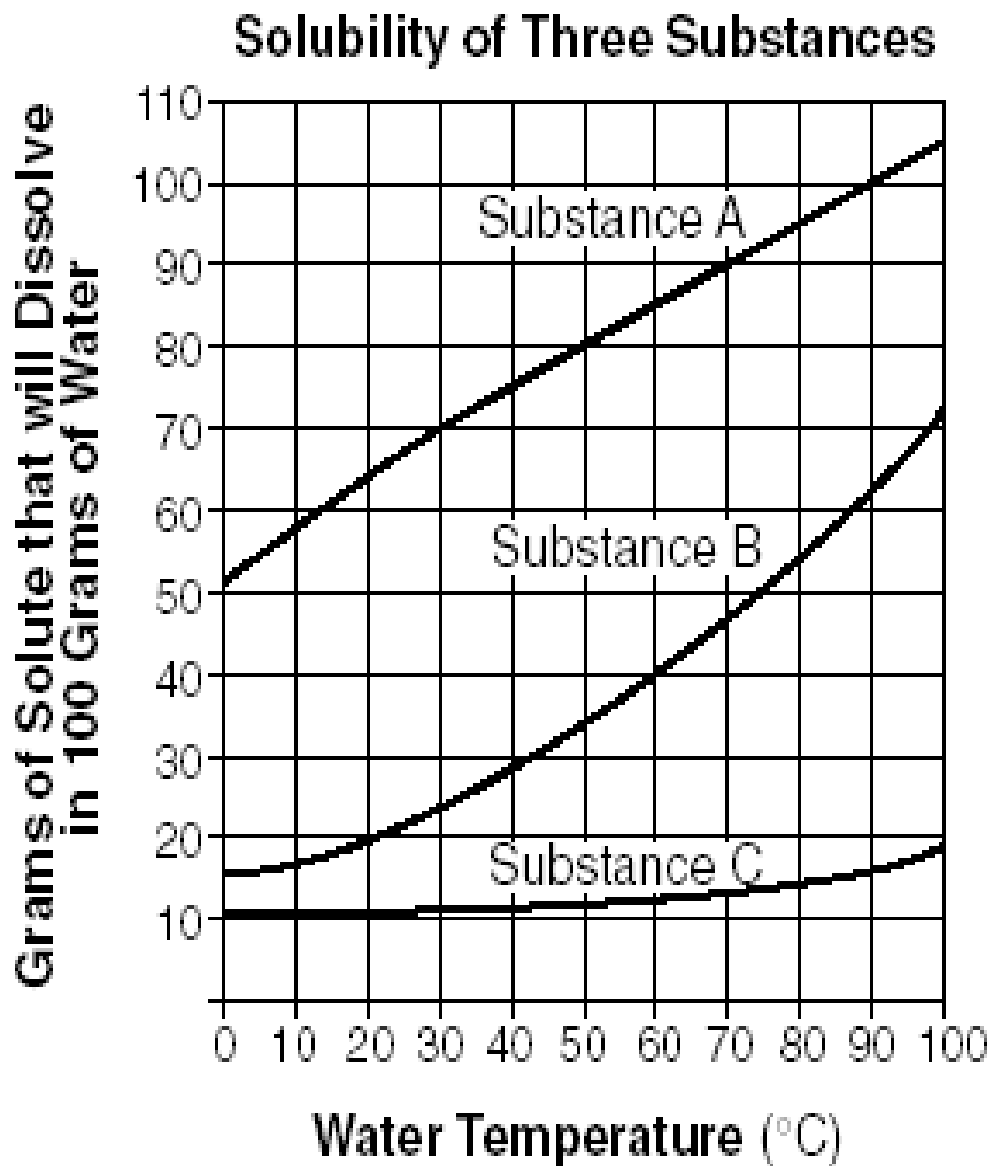
(1) As water temperature increases, solubility decreases.

 (2) As water temperature increases, solubility increases.


(3) As water temperature increases, solubility increases and then decreases.

(4) As water temperature increases, solubility decreases and then increases.

Base your answers to questions 6 and 7 on the graph below, which shows the solubility (amount that will dissolve in 100 grams of water) of three substances at various water temperatures.



7. As the water temperature is increased from 30°C to 70°C, how many more grams of substance A will dissolve in 100 grams of water?

-  20 g
- (2) 40 g
- (3) 50 g
- (4) 90 g

8. City administrators can encourage energy conservation by

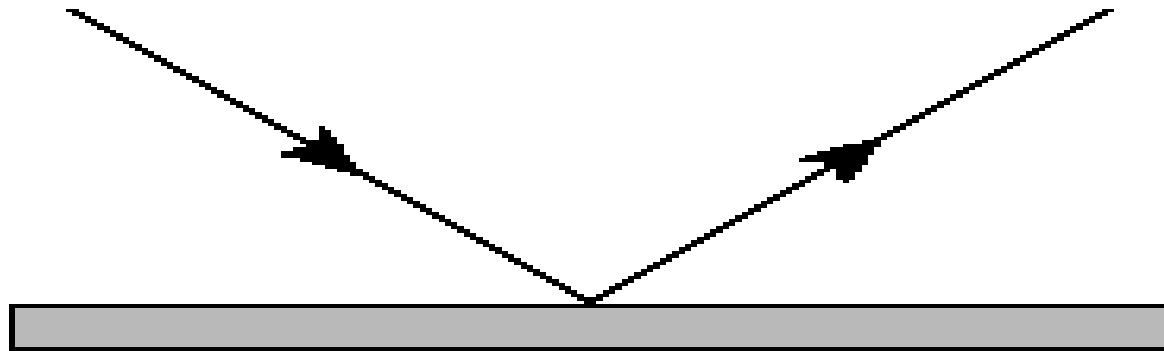
(1) lowering parking fees

(2) building larger parking lots

(3) decreasing the cost of gasoline

 **lowering the cost of bus and subway fares**

9. The diagram below shows a light ray.



In this diagram, the light ray is being

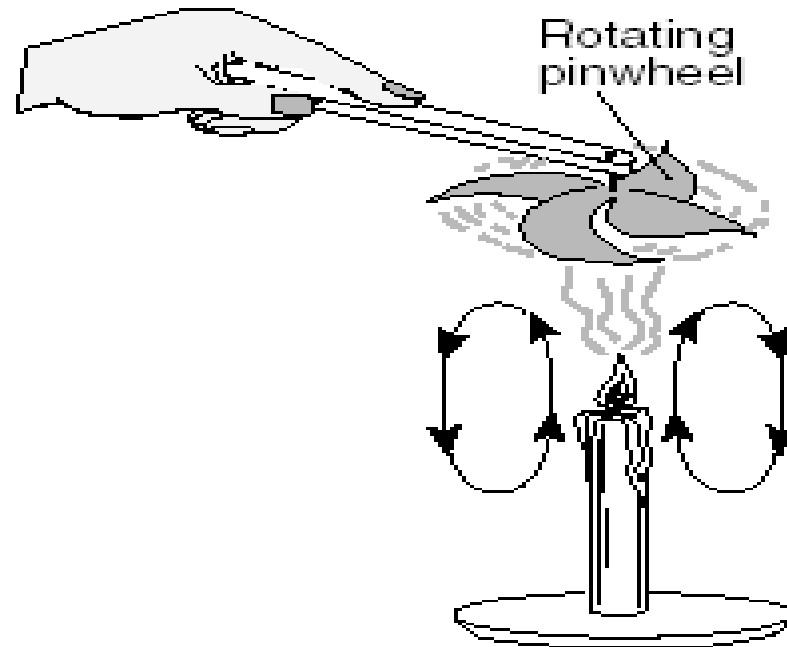
(1) transmitted

(2) absorbed


😊 (3) reflected

(4) refracted

10. The diagram below shows a pinwheel rotating above a lit candle. The arrows indicate the direction of air flow.

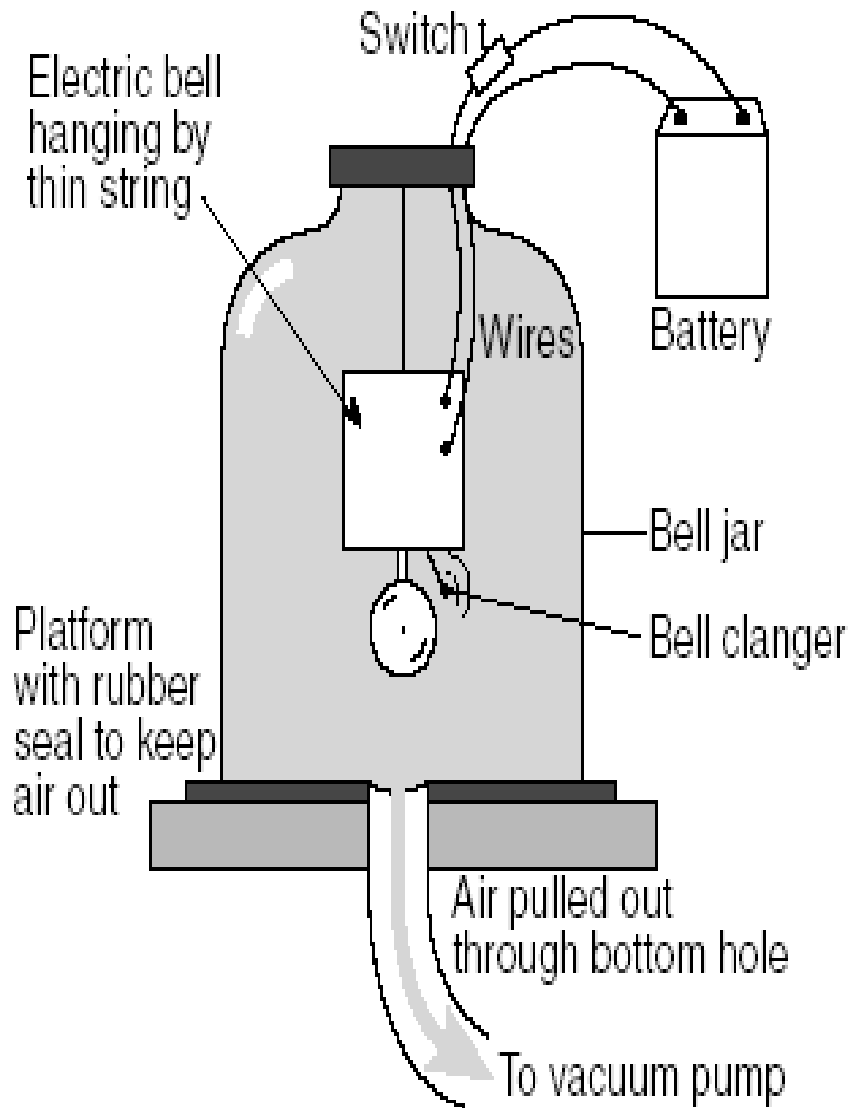


Which energy transformation is best shown in this diagram?

 heat to mechanical
(2) mechanical to light

(3) sound to heat
(4) heat to sound

11. The picture below shows a ringing bell inside a vacuum jar.



As air is pumped from the vacuum jar, the sound level of the ringing bell will decrease until it cannot longer be heard. This happens because air must be present in the jar in order for

- (1) sound to be transferred
- (2) electricity to flow through the wires
- (3) the rubber to seal the jar
- (4) the bell clanger to vibrate

12. Which two factors determine the gravitational attraction between two objects?

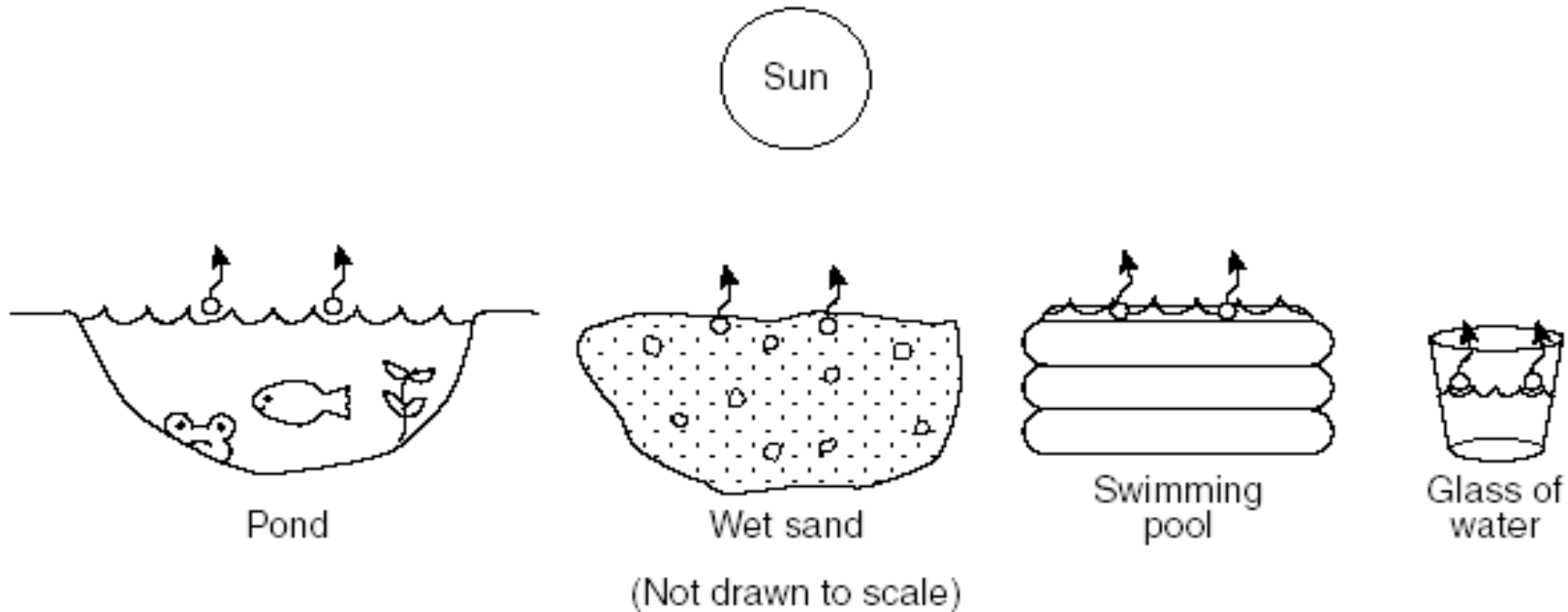
(1) time and temperature

(2) shape and orbital speed

(3) color and hardness

 mass and distance apart

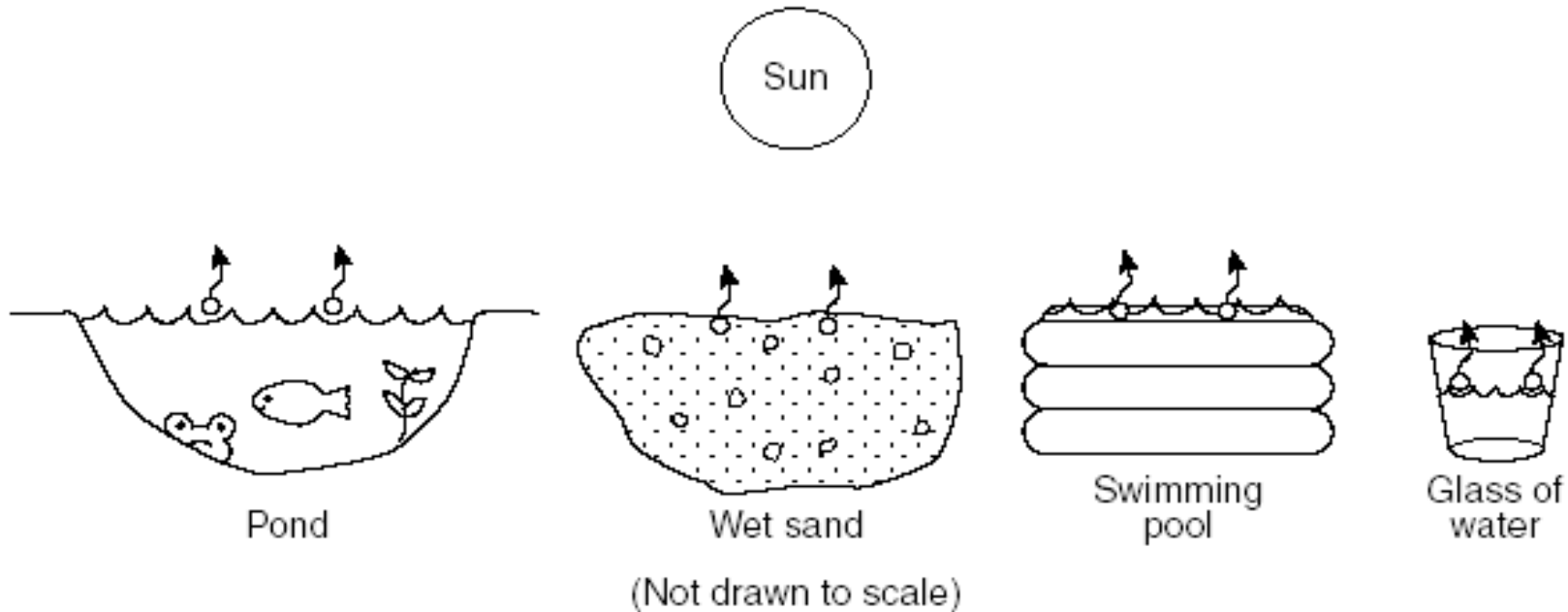
Base your answers to questions 13 and 14 on the diagrams below and your knowledge of science. The diagrams show liquid water changing to water vapor in four different situations.



13. Which observation would be evidence that the water is undergoing a phase change?

- (1) Waves form on the top of the pond.
- (2) Water soaks into the wet sand.
- (3) The water splashes out of the swimming pool.
- ☺ The water level in the glass of water decreases.

Base your answers to questions 13 and 14 on the diagrams below and your knowledge of science. The diagrams show liquid water changing to water vapor in four different situations.



14. How is heat energy transferred within the liquid water in the pond?

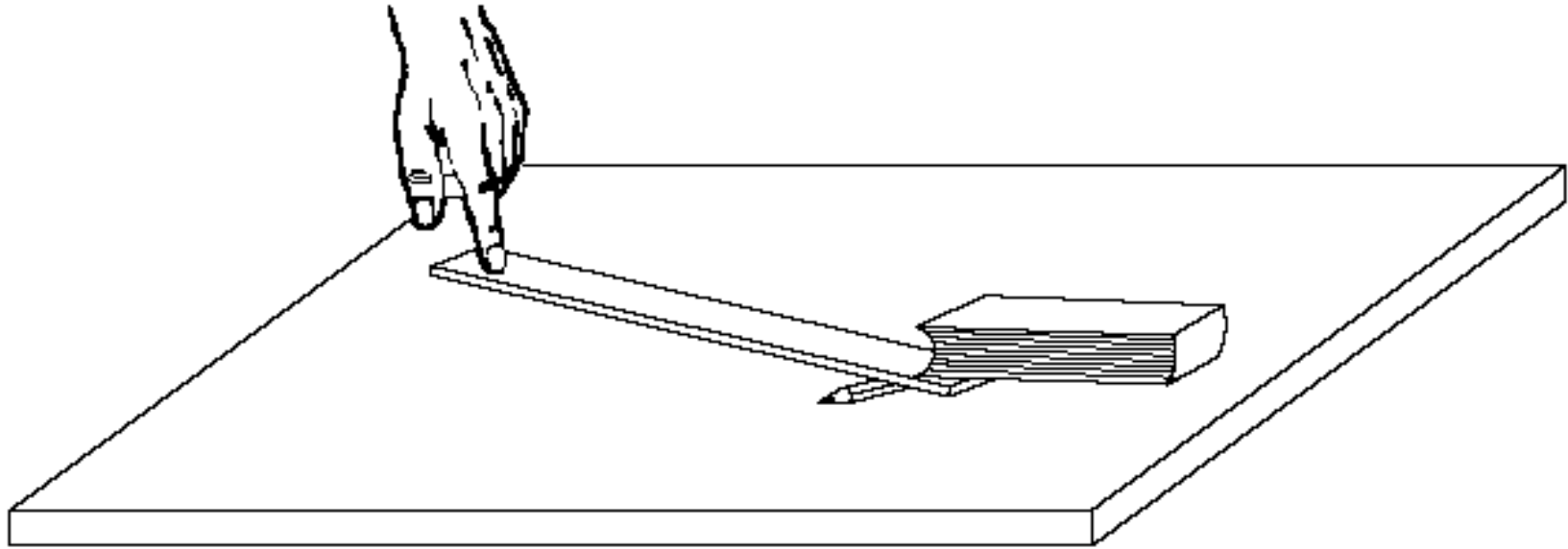
(1) compound formation

😊 convection currents

(3) chemical reactions

(4) nuclear reactions

15. The drawing below shows a person about to lift a book using a ruler and pencil.



This drawing illustrates an example of which simple machine?

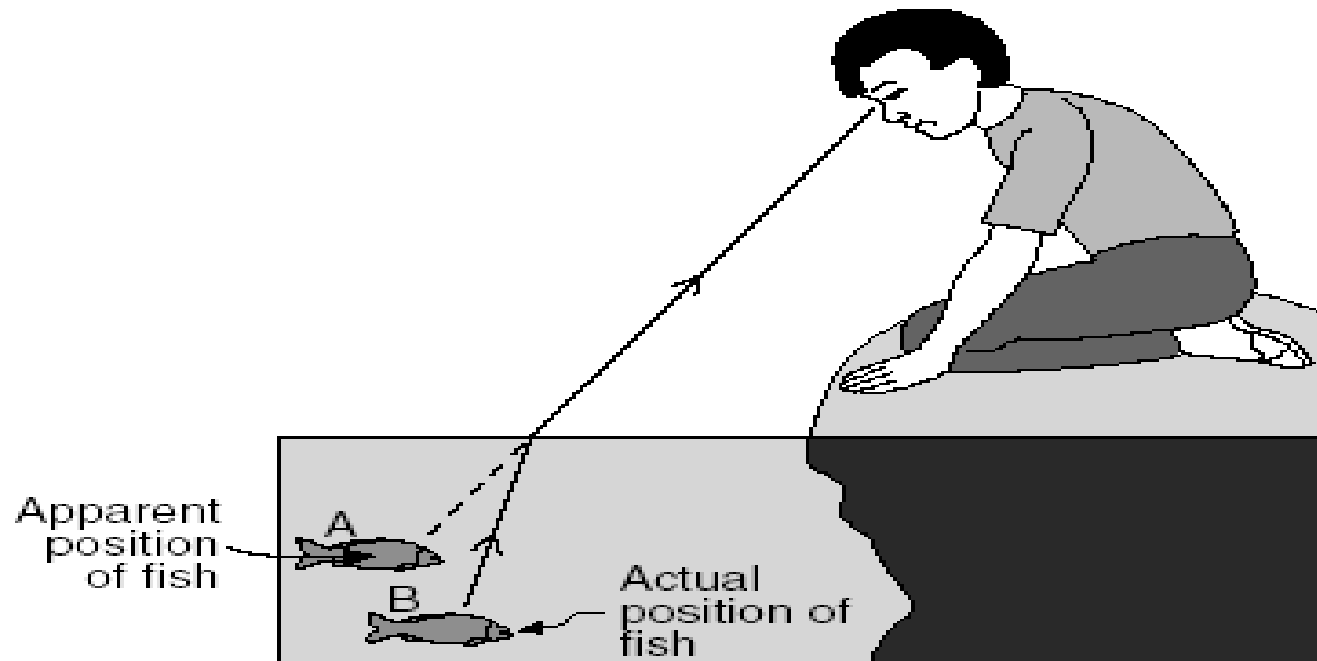
(1) gear

(2) pulley

(3) balance

😊 lever

16. The diagram below shows a boy observing a fish located at position *B* below the surface of the water. The boy sees the fish at position *A*.

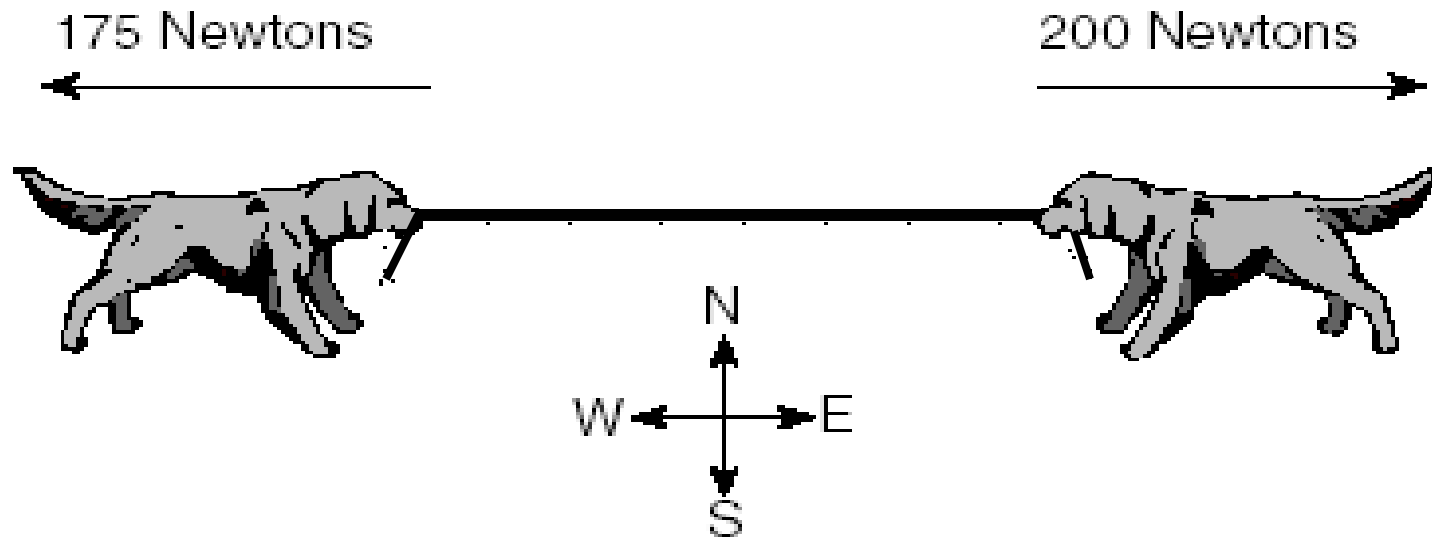


The apparent position of the fish is different from the actual position of the fish. What has happened to the light passing through the water to cause this difference?


- (1) reflection
- (2) absorption

- (3) compression
- 😊 refraction

17. The diagram below shows two dogs pulling on a rope with constant but *unequal* forces.



In which compass direction will both dogs most likely move?

 east
(2) west

(3) north
(4) south

18. A common characteristic of sound waves is that they

(1)  are created by vibrations

(2) travel in straight lines toward the source

(3) travel fastest through empty space

(4) move at the speed of light

19. Energy from the Sun reaches Earth mainly by the process of

(1) conduction

(2) convection

(3) reflection

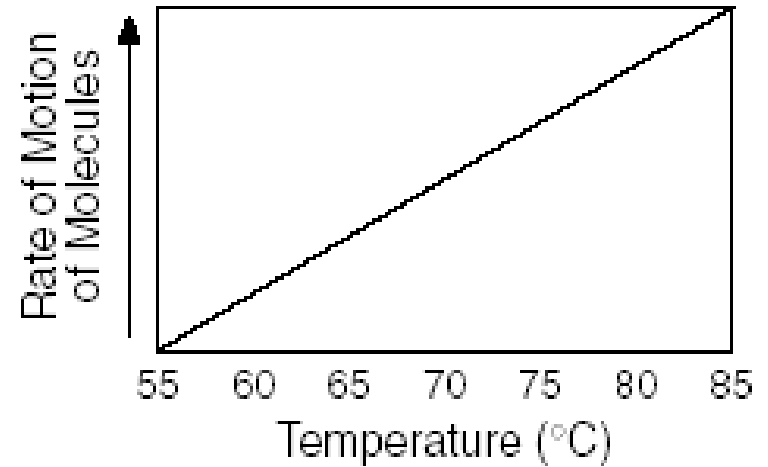
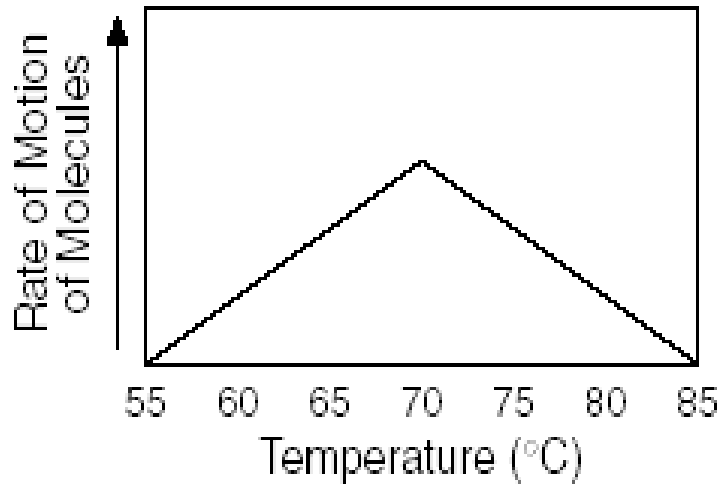
 radiation

20. Magnets *A* and *B* are of equal magnetic strength. In which position will magnets *A* and *B* have the greatest attractive force toward each other?

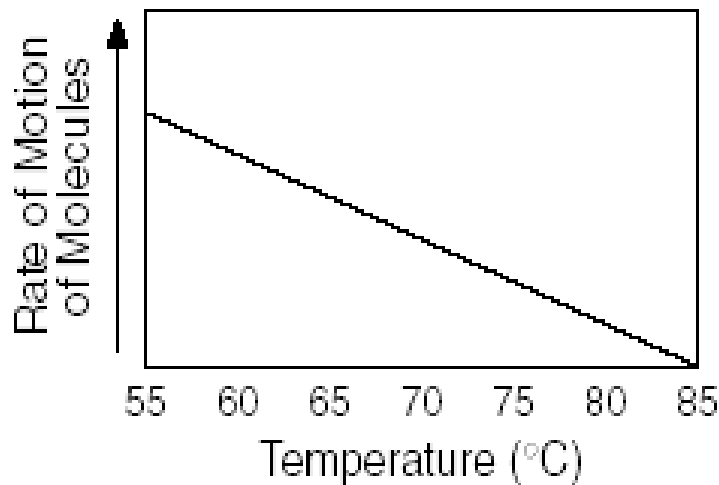


21. Which graph correctly shows the effect of heat energy on the motion of molecules of matter?

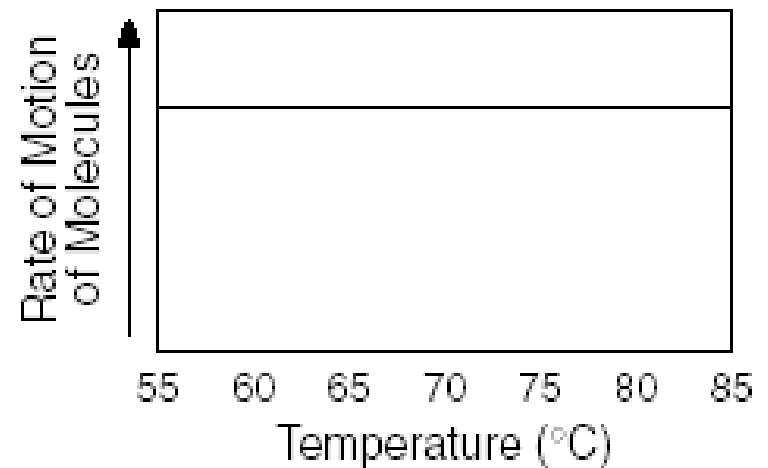
(1)



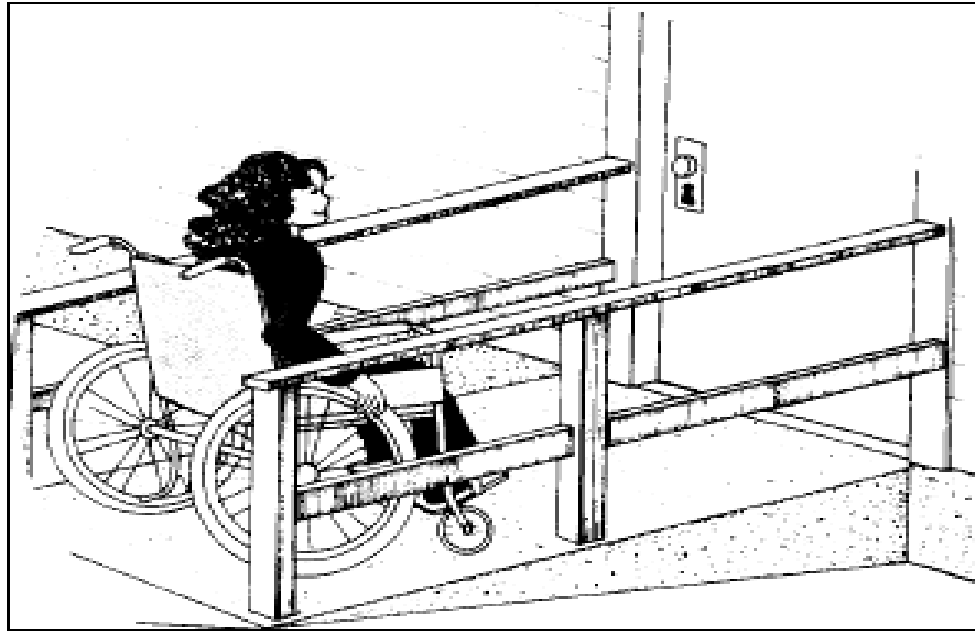
(2)



(4)



22. The illustration below shows a student approaching the door to a building.



Which two simple machines are being used to enable the student to reach the door?

(1) inclined plane and pulley

(2) lever and wheel-and-axle

(3) pulley and lever

😊 wheel-and-axle and inclined plane

23. The tiny particles that make up all matter are called

(1) genes

 atoms

(3) minerals

(4) cells

24. Which energy source is considered a *nonrenewable* resource?

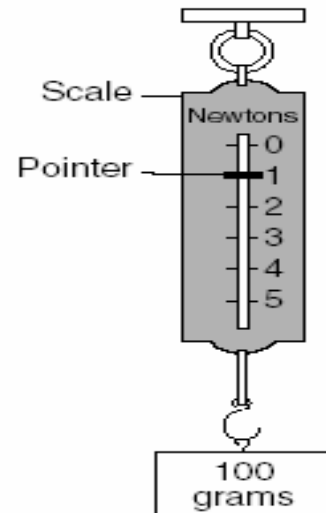
(1) solar

(2) wind

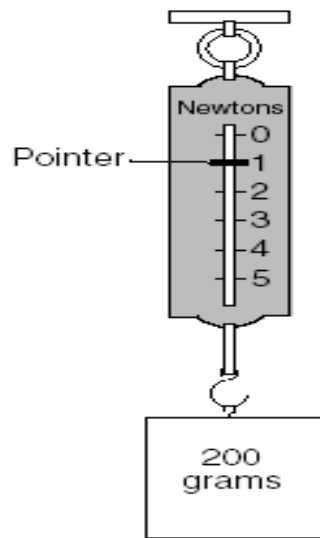
(3) moving water

 fossil fuel

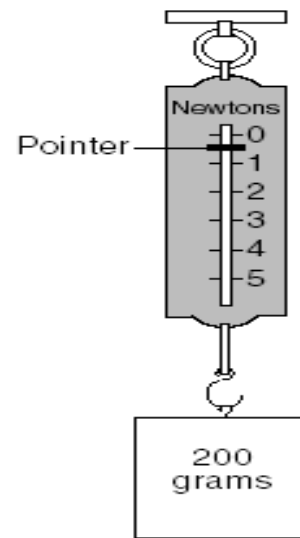
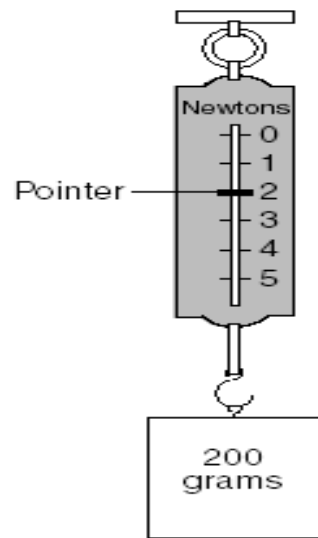
25. The diagram below shows a spring scale being used to weigh a 100-gram mass.



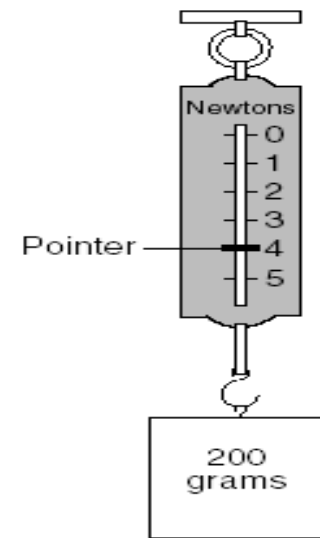
Which diagram best represents the correct reading for the same spring scale being used to weigh a 200-gram mass?



(1)

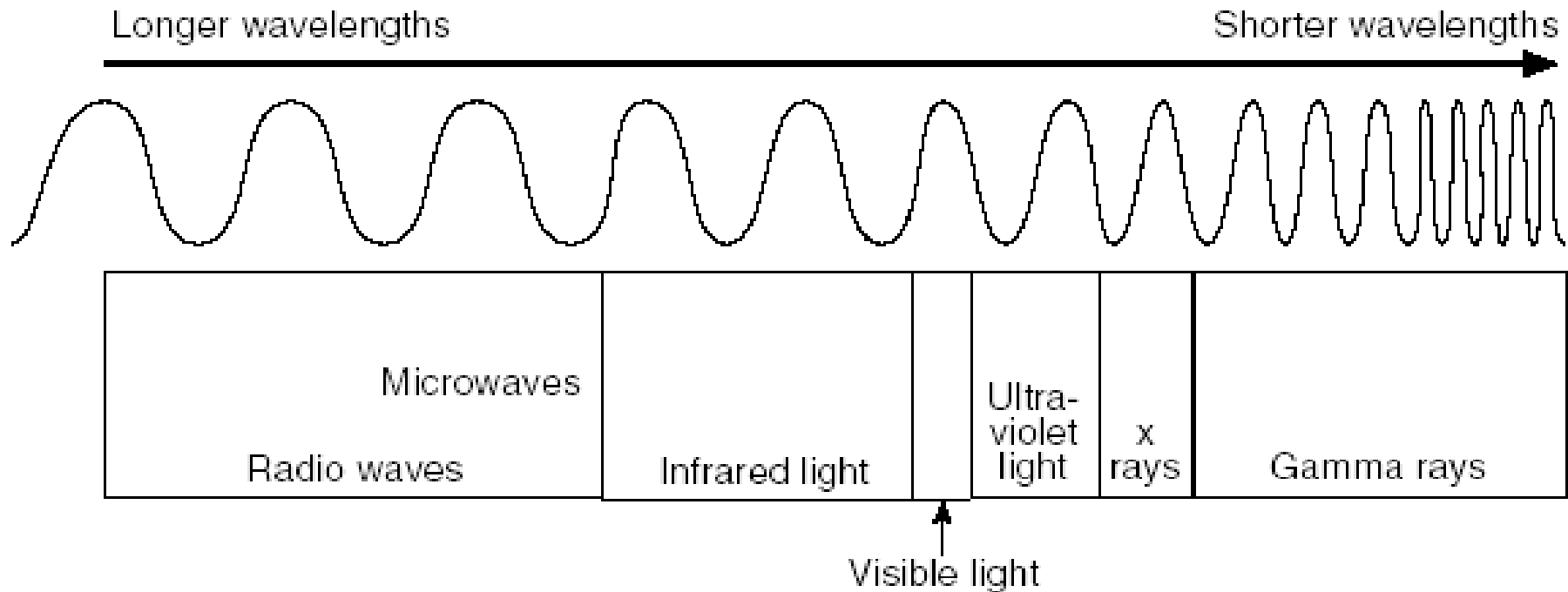


(3)



(4)

26. The diagram below shows the relative wavelengths for several types of electromagnetic energy.



Which type of electromagnetic energy has a shorter wavelength than ultraviolet waves?

- (1) visible light**
- (2) microwaves**

- 😊 x rays**
- (4) infrared light**

27. Plastic is used to cover the copper wires in the power cords of appliances because plastic differs from copper in

(1) density

(2) hardness

(3) phase at room temperature

 electrical conductivity

28. A television set changes electrical energy to sound and light energy. In this process, some energy is

(1) created

(2) destroyed

(3) changed to matter

 changed to heat

29. Which factor contributes to global warming?

(1) increased use of solar-powered cars

 increased burning of fossil fuels

(3) better long-term weather forecasts

(4) changing distance between Earth and the Sun

30. Water vapor changes to liquid water during which process?

(1) dissolving

(2) melting

(3) evaporation

 condensation

31. Skiers often wear sunglasses while they are skiing because snow

(1) radiates light

(2) absorbs light


(3) conducts light

 reflects light

32. A substance has a freezing point of -38°C and a boiling point of 356°C . At what temperature would this substance be in its liquid state?

(1) -100°C

(2) -50°C


 80°C

(4) 375°C

33. Some common substances and their chemical formulas are listed in the chart below.

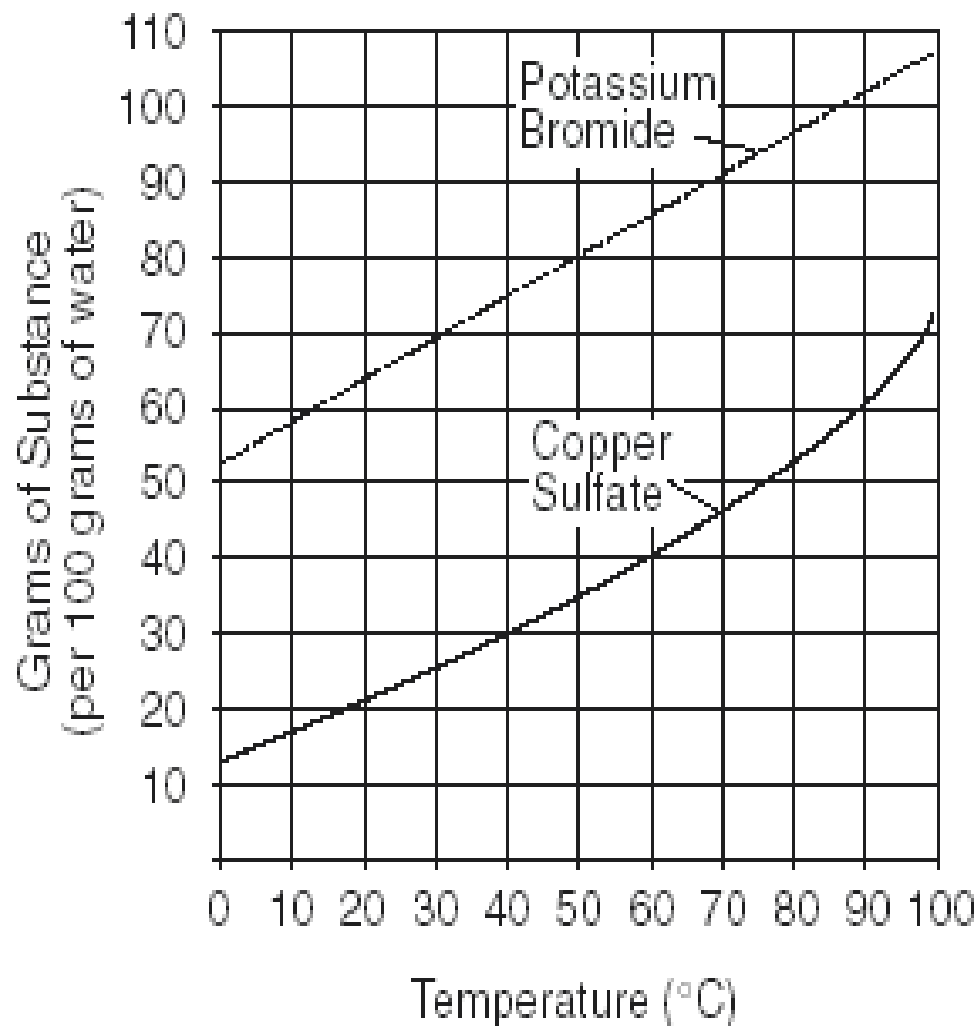
Substance	Formula
Carbonic acid	H_2CO_3
Oxygen	O_2
Hydrochloric acid	HCl
Carbon dioxide	CO_2
Water	H_2O
Helium	He

Which of these substances are elements?

- (1) hydrochloric acid and carbonic acid**
- (2) carbon dioxide and water**
-  oxygen and helium**
- (4) water and oxygen**

34. The graph below shows the solubility of two different chemical compounds.

Solubility Graph



Compared to copper sulfate, approximately how many more grams of potassium bromide would dissolve at 90°C?

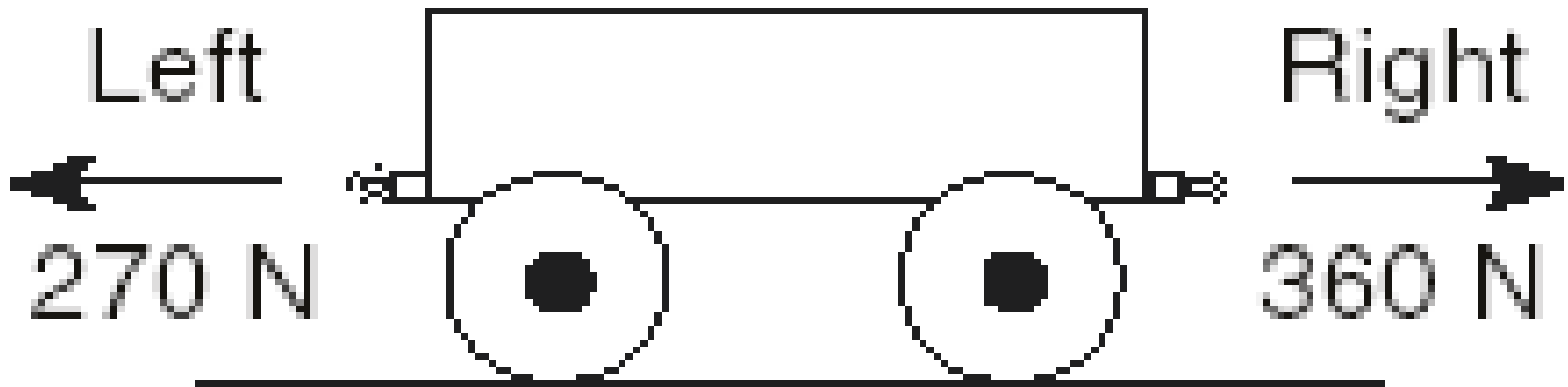
(1) 20

(3) 60

(2) 40

(4) 80

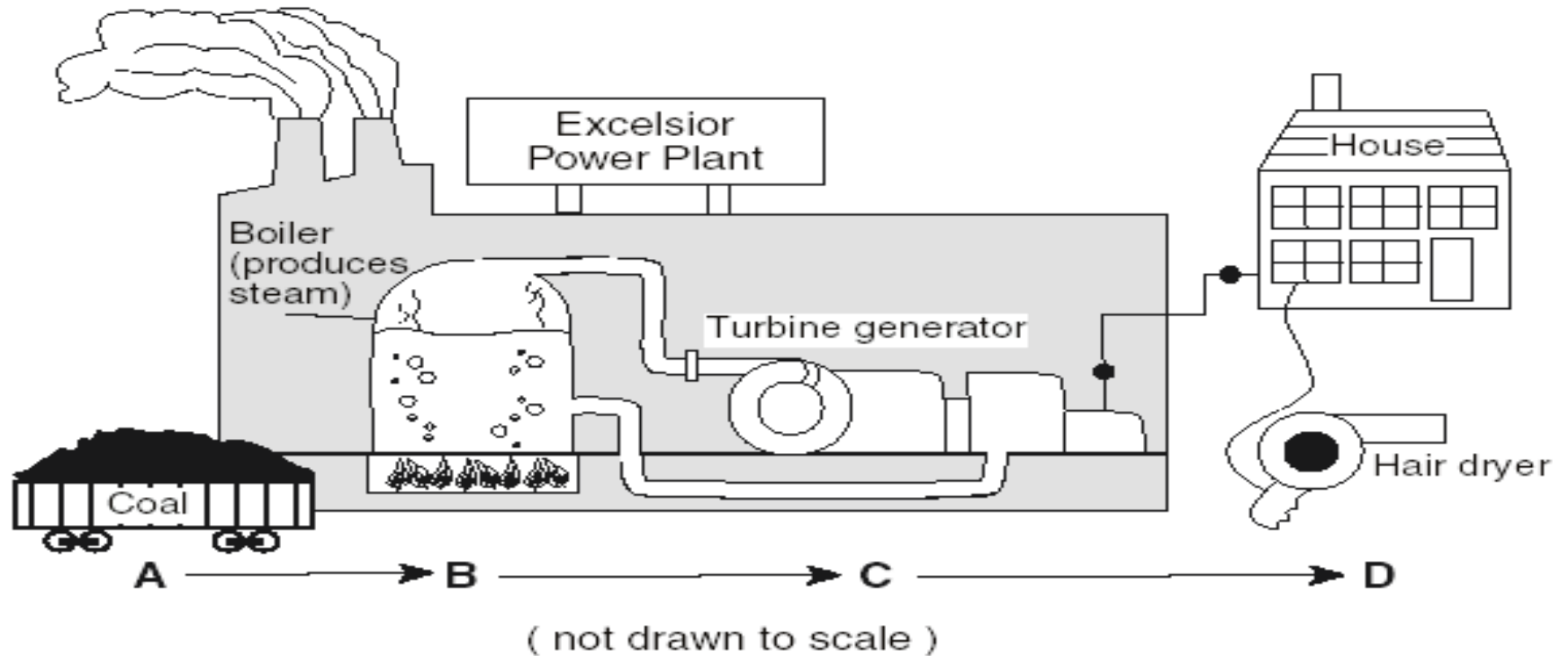
35. The diagram below shows a stationary cart on a frictionless surface. Two *unequal* opposing forces are about to be applied to the cart.



If the *unequal* opposing forces are applied to the cart at the same time, what will occur?

- (1) The cart will move to the left.
- 😊 (2) The cart will move to the right.
- (3) The cart will alternate between moving left and right.
- (4) The cart will remain stationary.

36. The diagram below shows the steps necessary to produce the energy needed to run a hair dryer.



As it moves from location *A* to location *D* in the diagram, the energy stored in the coal

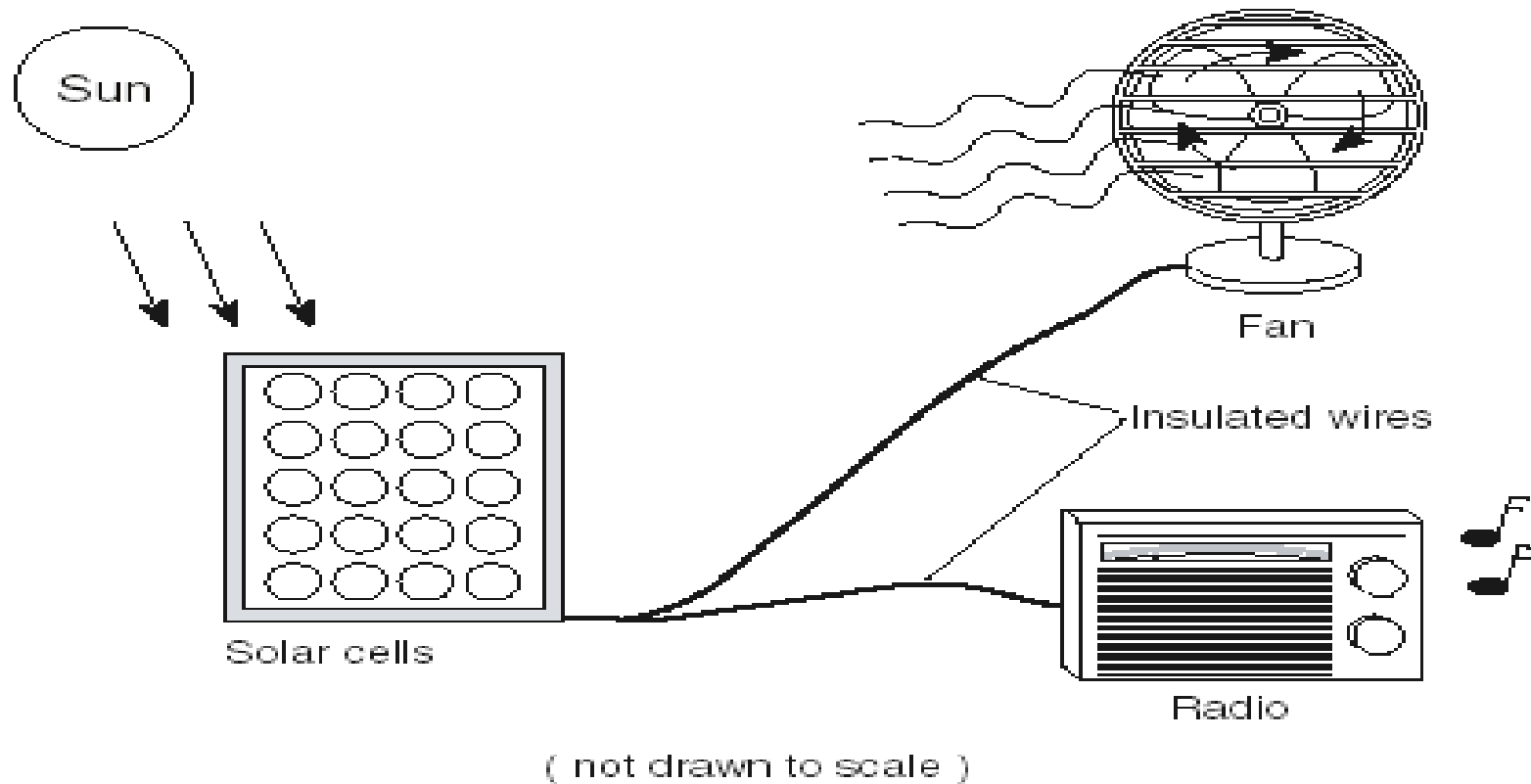
(1) is converted to solar energy

(2) reduces the friction in the hair dryer

(3) is recycled

😊 is transformed

37. The illustration below shows an example of energy changing forms.



Which changes in energy form are illustrated in the diagram?

- (1) electrical → sound → light and mechanical**
- (2) mechanical → light → sound and electrical**
- (3) Sound → mechanical → light and electrical**
- 😊 Light → electrical → mechanical and sound**

38. The cartoon below shows a humorous view of a law of motion.

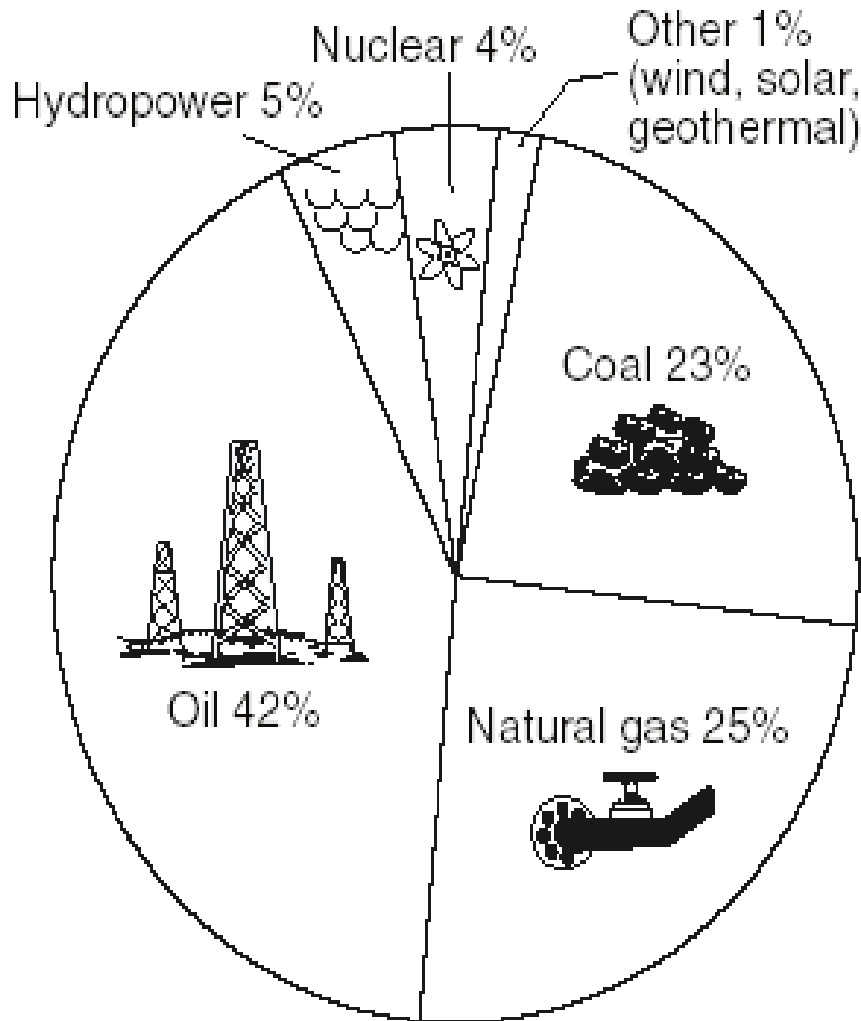
GRAND AVENUE



Which statement best summarizes the scientific concept shown in the cartoon?

- (1) A falling body accelerates at a constant speed.
- (2) The motion of an object is constantly changing due to magnetic forces.
- (3) The force of friction causes an object in motion to move faster.
- ☺ A body in motion will remain in motion unless influenced by an outside force.

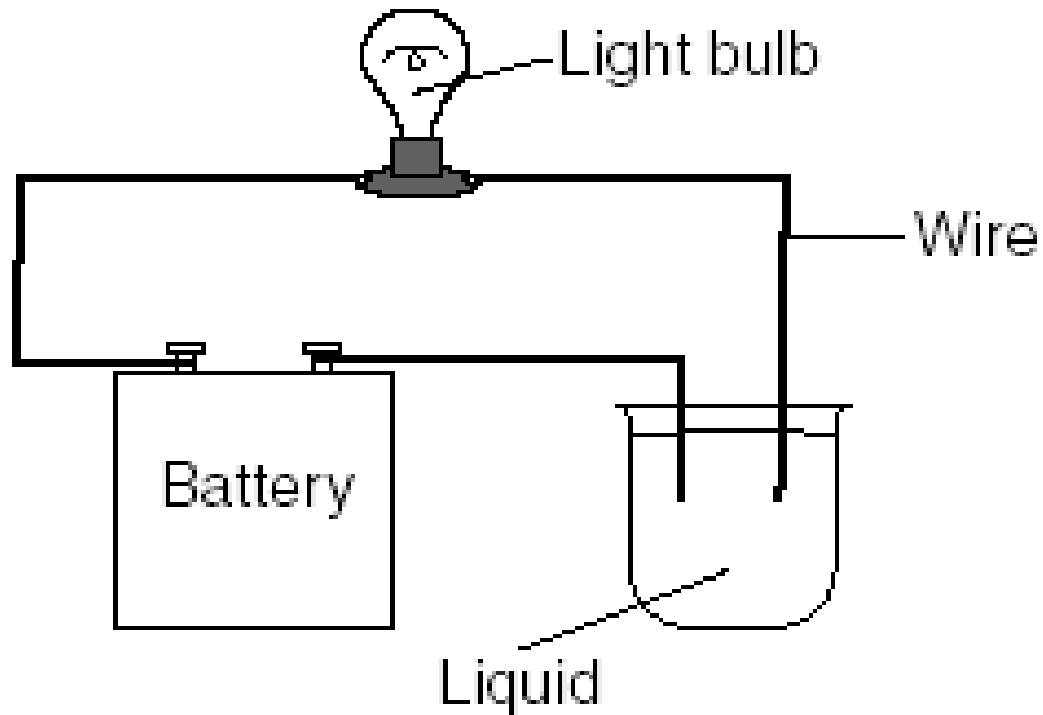
39. The pie chart below compares the amounts of energy from different sources used in the United States each year



Which two energy source together provide more than 50% of the energy needs of the United States?

- (1) nuclear and natural gas
- 😊 (2) oil and coal
- (2) hydropower and oil
- (4) natural gas and coal

40. The diagram below shows an experiment to test a certain property of liquids.



Which property of the liquid is being tested?


(1) density

(2) magnetic attraction


😊 conductivity

(4) freezing point

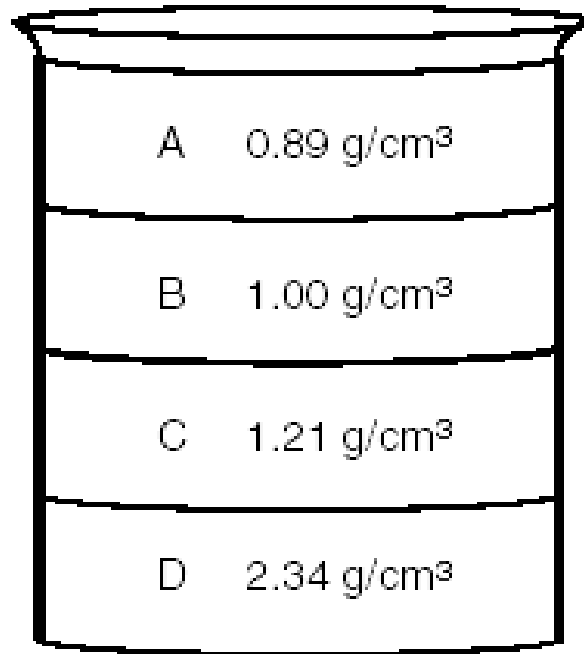
41. A wet shirt is put on a clothesline to dry on a sunny day. The shirt dries because water molecules

- (1) gain heat energy and condense
-  (2) gain heat energy and evaporate
- (3) lose heat energy and condense
- (4) lose heat energy and evaporate


42. Which energy source is renewable?

- (1) oil
-  (2) solar
- (3) coal
- (4) natural gas

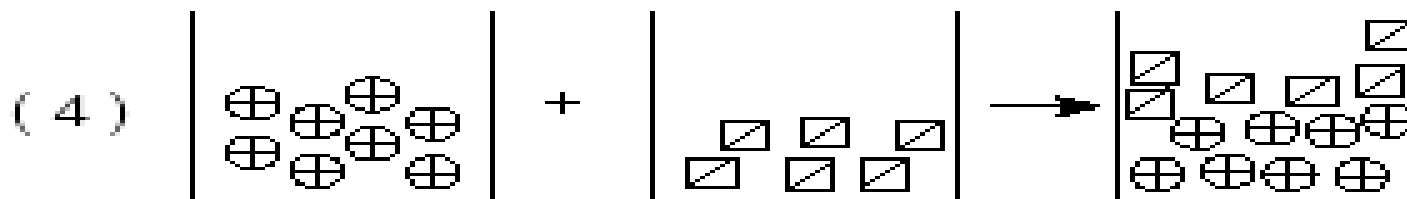
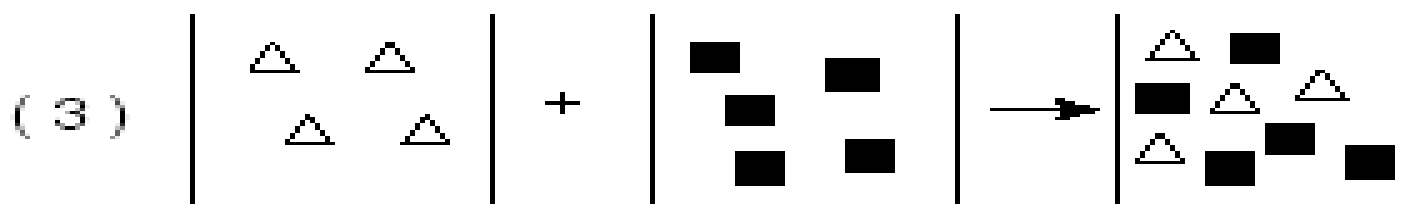
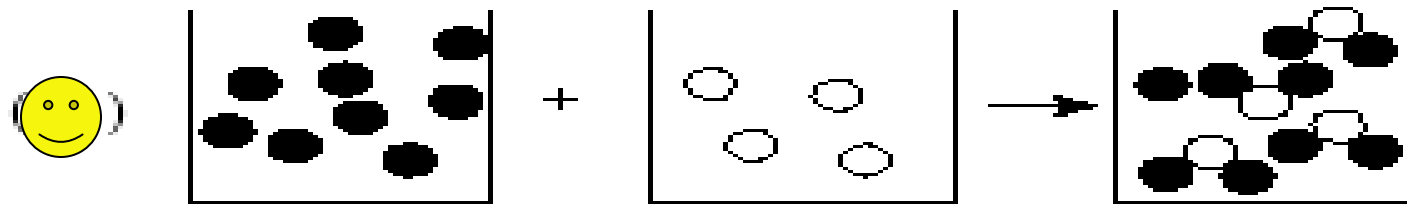
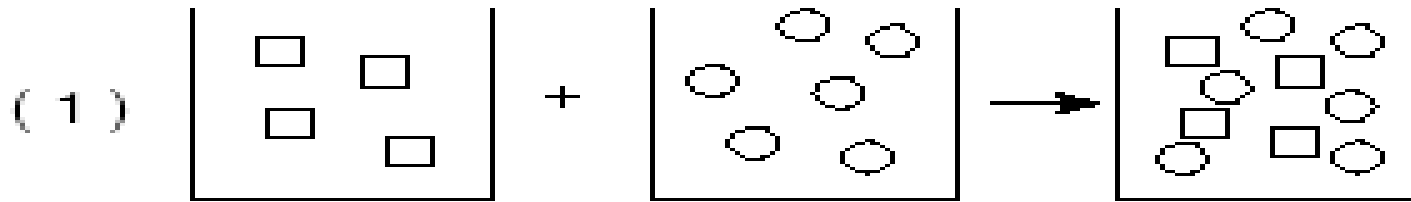
43. The diagram below shows a tall beaker with four different liquids and their densities.



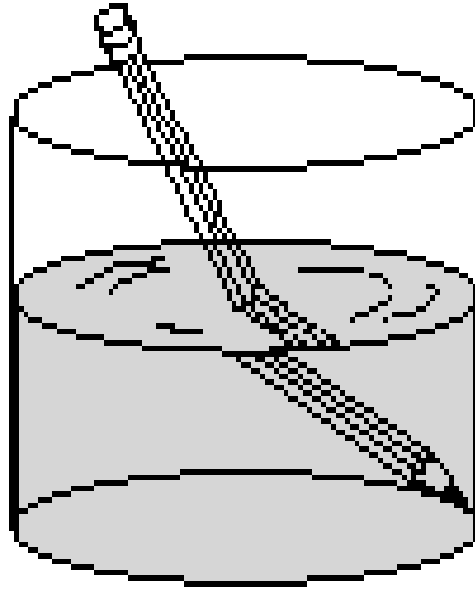
If a ball that has a density of 1.73 g/cm³ is placed in the beaker, where will the ball come to rest?

- (1) on top of liquid *A*
- (2) between liquids *B* and *C*
-  (3) between liquids *C* and *D*
- (4) on the bottom of the beaker

44. The four diagrams below model the results of mixing atoms of different substances. Each atom is represented by a different symbol. Which diagram correctly models a chemical change?

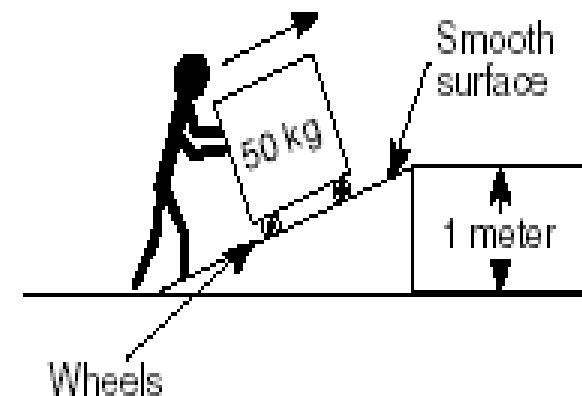
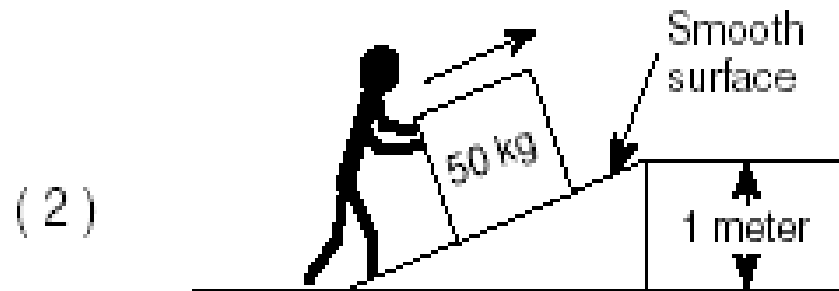
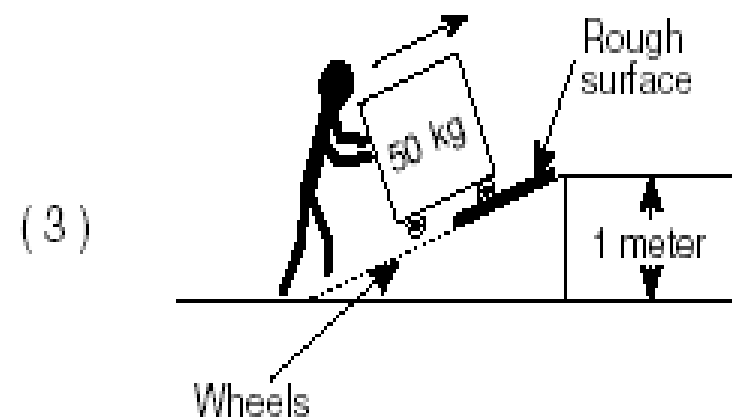


45. Which statement best describes the property of light waves illustrated in the diagram below?

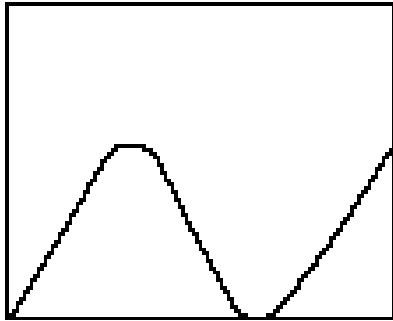


- (1) Some materials absorb light waves.
- (2) Some materials reflect light waves.
- (3) Light waves are refracted by some materials.
- (4) Light waves are emitted by some materials.

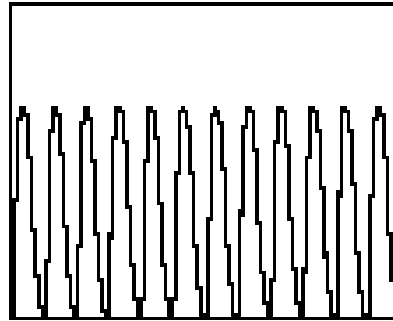
46. The diagrams below show a person moving a 50-kilogram object up a ramp. In which diagram is there the *least* amount of friction on the object?



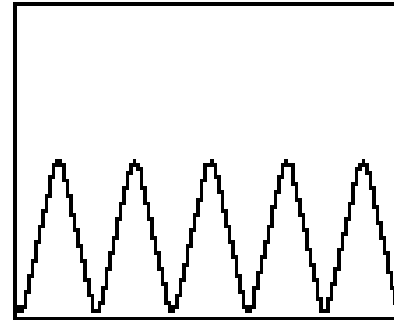
47. The drawings below represent four different forms of electromagnetic energy.



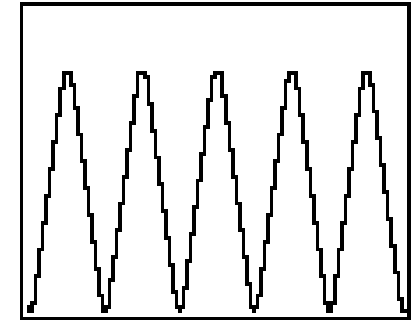
A



B



C



D

Which diagram represents electromagnetic energy with the shortest wavelength?

(1) *A*

😊 *B*

(3) *C*

(4) *D*

48. Four machines that convert electrical energy to mechanical energy were tested for fuel efficiency. The results of the test are shown in the chart below.

Test of Fuel Efficiency

Machine	Units of Electrical Energy Consumed	Equivalent Units of Mechanical Energy Produced
A	120	100
B	130	100
C	135	100
D	160	100

Which machine produced the most heat energy?

(1) *A*

(2) *B*

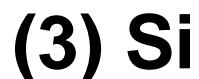
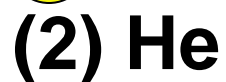
(3) *C*

 *D*

49. The table below shows the chemical symbols for some common elements.

Element	Symbol
Hydrogen	H
Helium	He
Oxygen	O
Silicon	Si
Carbon	C
Iron	Fe

Based on the information in the table, which of the four substances below is a compound?



Base your answers to questions 50 through 52 on the information below and on your knowledge of science.

Maintaining a constant body temperature, no matter what the temperature of its surroundings, is a condition that needs to be balanced in many organisms. This ability is important to the organism's survival. These organisms have many different body structures and behaviors that help maintain a constant body temperature.

50. Whales have a thick layer of blubber (fat) under their skin. How does this blubber help the whales to maintain a constant body temperature?

- 1. The blubber acts as a layer of insulation from cold ocean**
- 2. The blubber keeps the body warm in cold water.**
- 3. The blubber provides fuel to burn for heat and energy.**
- 4. acts as an insulator**

Base your answers to questions 50 through 52 on the information below and on your knowledge of science.

Maintaining a constant body temperature, no matter what the temperature of its surroundings, is a condition that needs to be balanced in many organisms. This ability is important to the organism's survival. These organisms have many different body structures and behaviors that help maintain a constant body temperature.

51. Humans sweat when they are in the hot sun. How does sweating help humans to maintain a constant body temperature?

- 1. The water in the perspiration cools the body when it evaporates.**
- 2. Sweating may release heat.**
- 3. When sweat evaporates, it causes a cooling effect.**

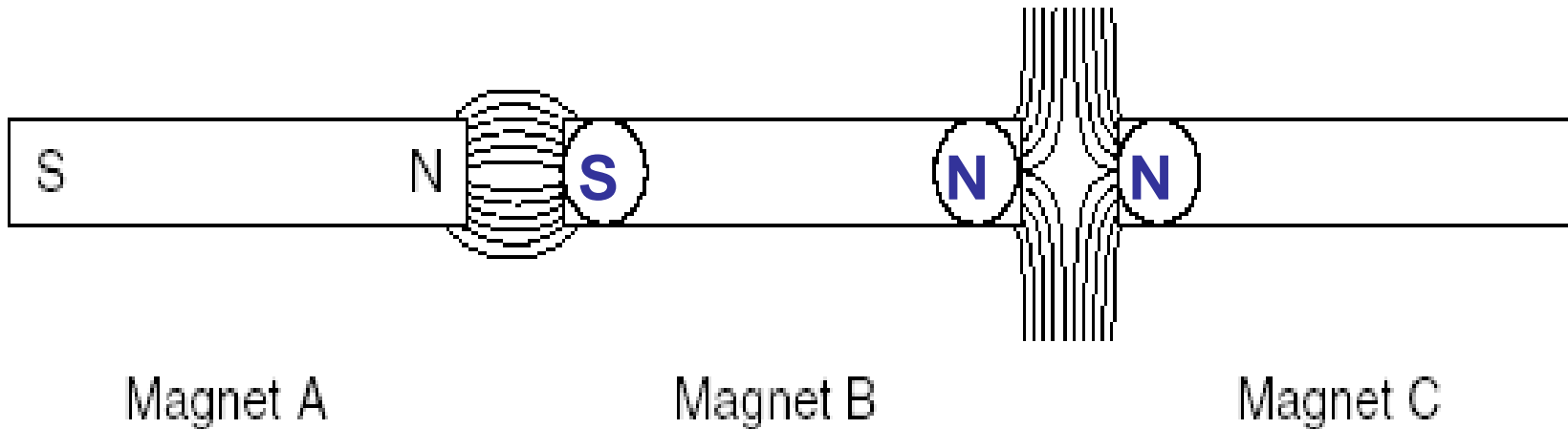
Base your answers to questions 50 through 52 on the information below and on your knowledge of science.

Maintaining a constant body temperature, no matter what the temperature of its surroundings, is a condition that needs to be balanced in many organisms. This ability is important to the organism's survival. These organisms have many different body structures and behaviors that help maintain a constant body temperature.

52. Foxes living in different parts of the world have different-sized ears. The arctic fox, which lives in cold climates, has small ears. The desert fox, which lives in hot climates, has large ears. How does ear size help each of these foxes to maintain a constant body temperature?

The size of the ears determines the amount of heat lost from the body.

53. The diagram below shows three bar magnets. The south and north poles have been labeled *S* and *N* on magnet *A*. The lines between each magnet show how iron filings line up when sprinkled around the magnets.

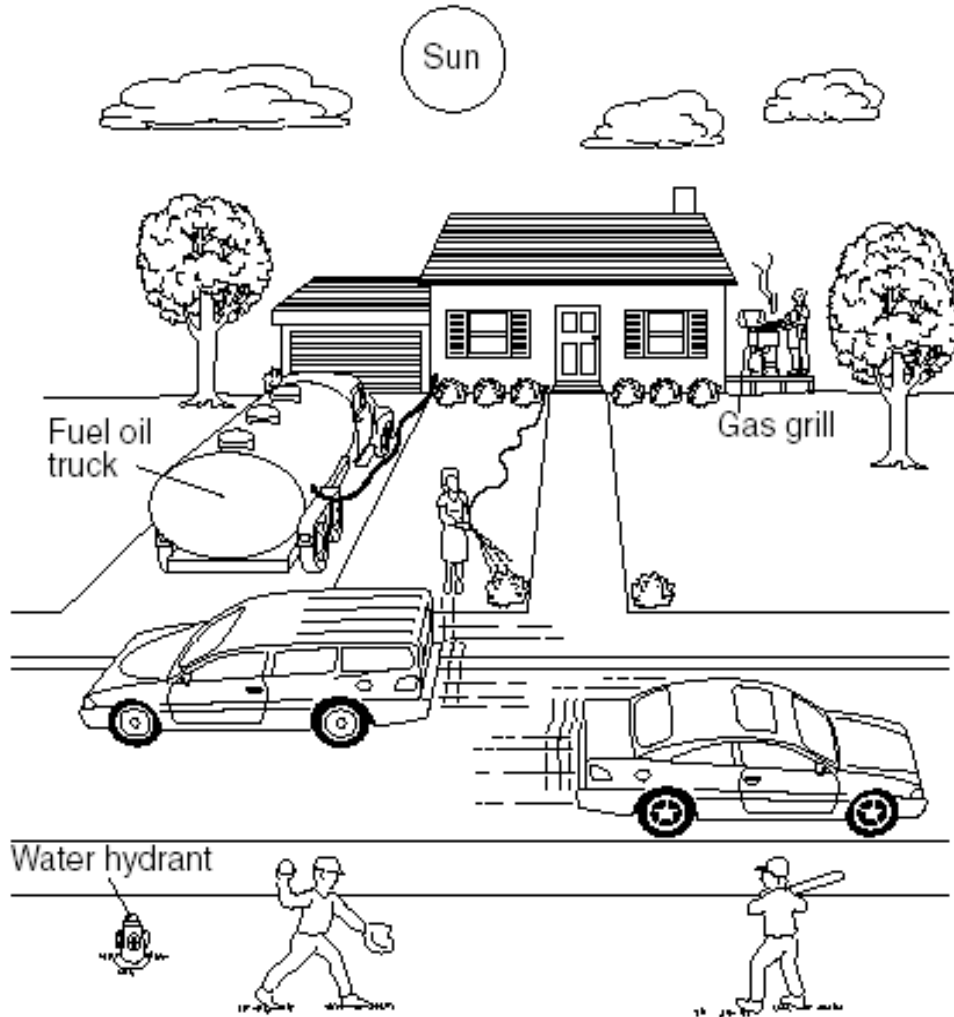


53 (a) On the magnets shown, place an *S* in each circle that is a south pole and an *N* in each circle that is a north pole.

53 (b) State the scientific reasoning you used to label the poles.

Between A & B: Opposites Attract
Between B & C: The Same Repel

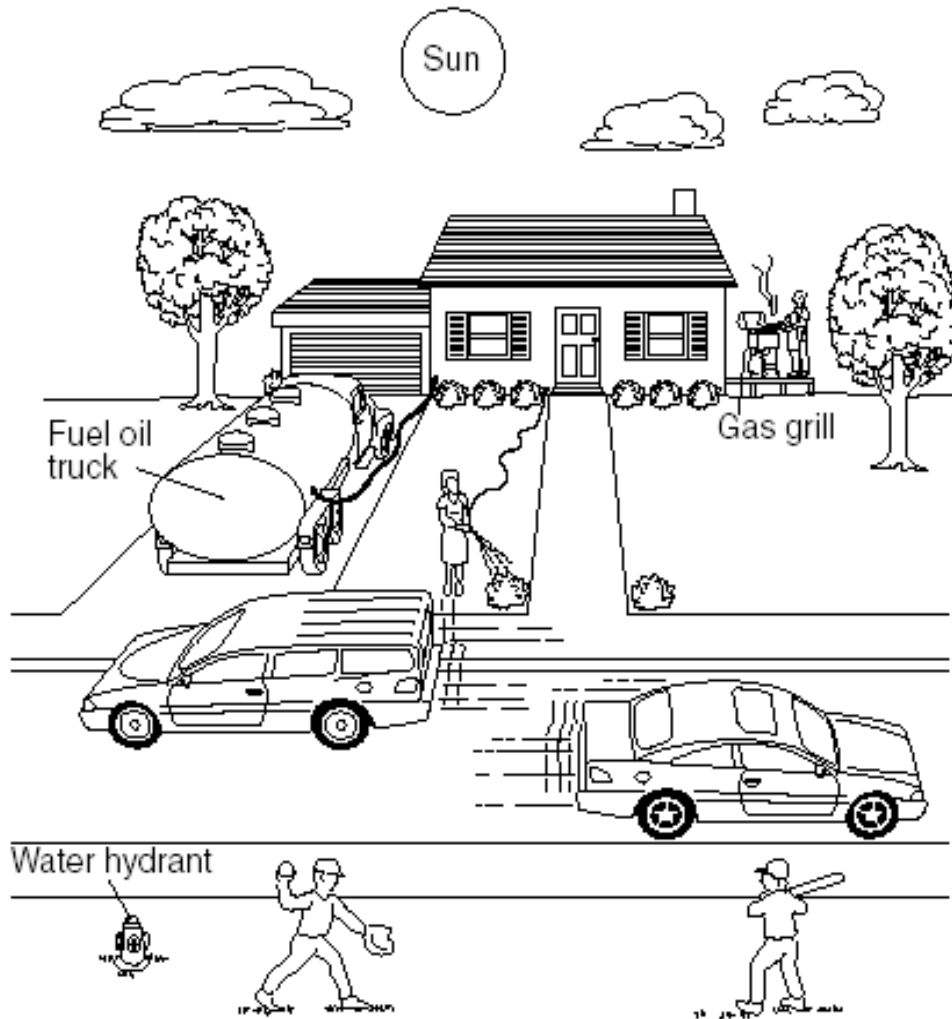
Base your answers to questions 54 through 57 on the illustration below and on your knowledge of science. The illustration shows a number of activities happening on a sunny day.



54. What is the original source of energy for all these activities?

**The Sun
or
Solar**

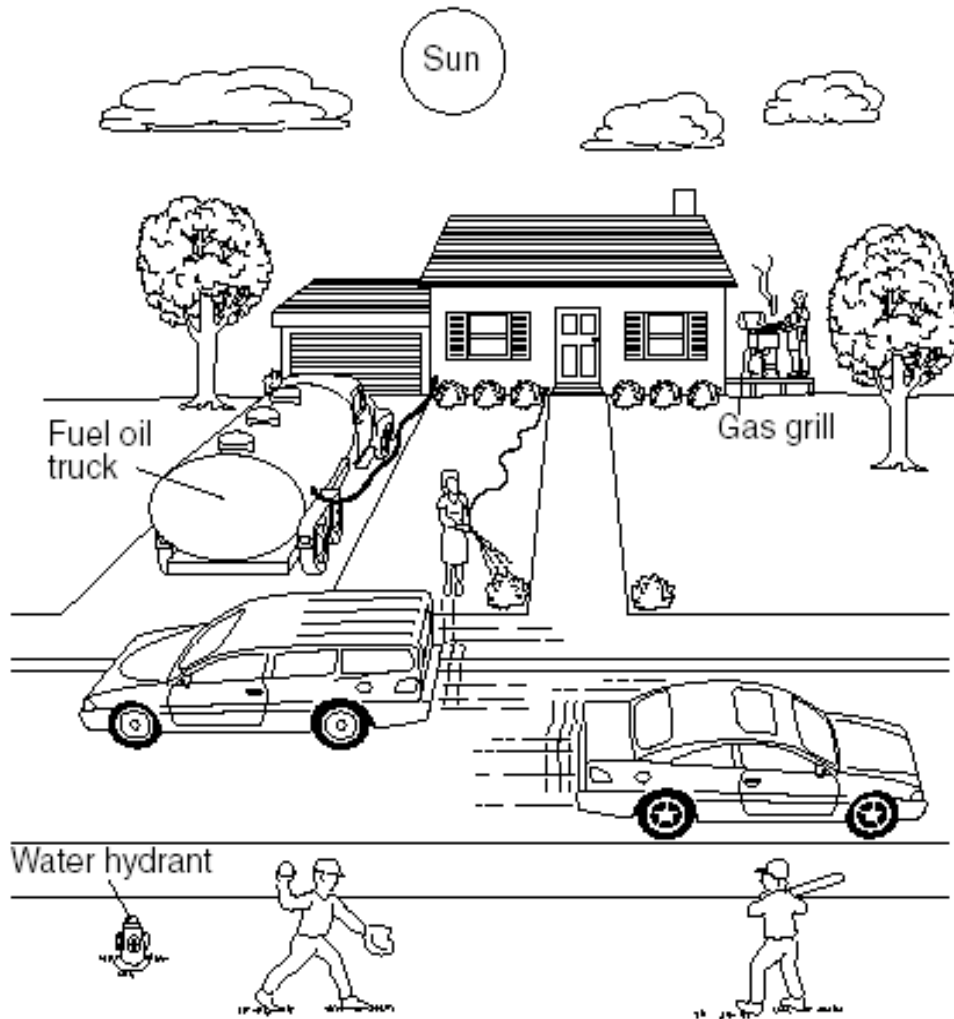
Base your answers to questions 54 through 57 on the illustration below and on your knowledge of science. The illustration shows a number of activities happening on a sunny day.



55. Identify one activity in the diagram that requires the use of fossil fuels.

- 1. Gasoline, to drive**
- 2. Gas Grill, Cooking**
- 3. Fuel Oil, heating**

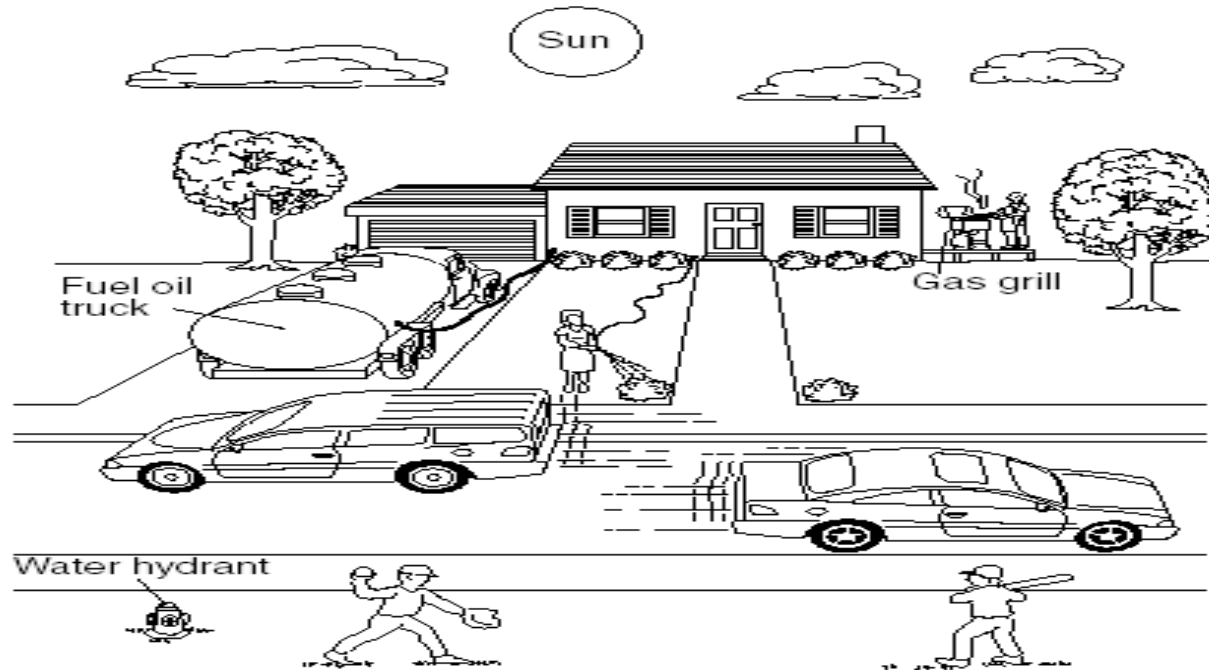
Base your answers to questions 54 through 57 on the illustration below and on your knowledge of science. The illustration shows a number of activities happening on a sunny day.



56. Identify one renewable resource shown in the diagram.

1. Solar (Sun)
2. Water
3. Trees
4. Wind (Air)

Base your answers to questions 54 through 57 on the illustration below and on your knowledge of science. The illustration shows a number of activities happening on a sunny day.



57. An energy transformation occurs when one form of energy is changed to another. Fill in the spaces below to describe an energy transformation that occurs as the children play baseball.

Chemical

is changed to

Mechanical

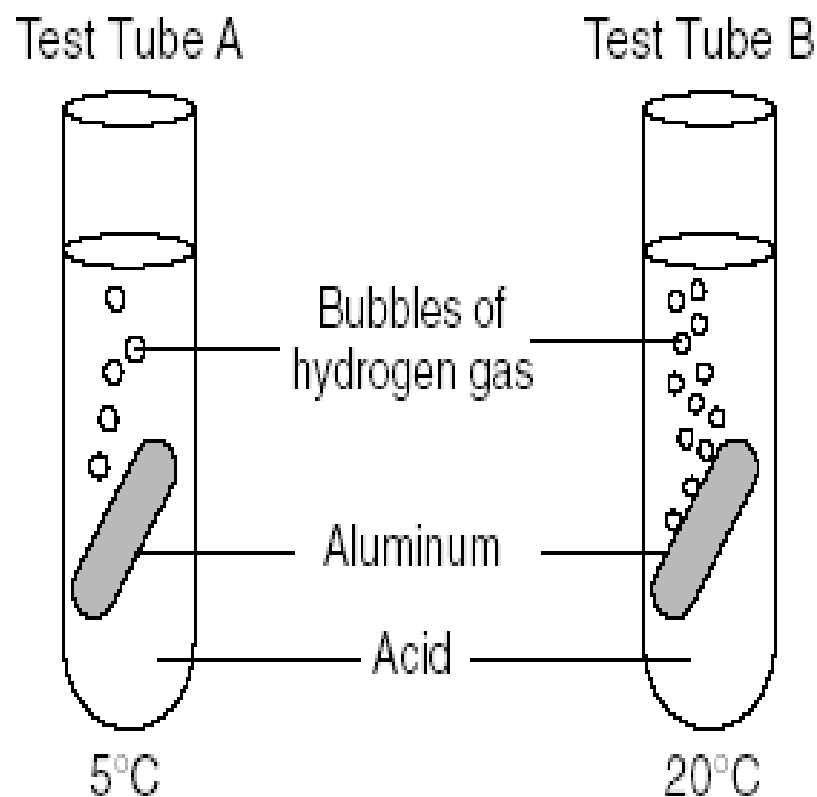
Potential

is changed to

Kinetic

Base your answers to questions 58 through 60 on information below and on your knowledge of science.

Equal-sized pieces of aluminum were placed in test tubes containing equal volumes of acid, at different temperatures. The temperature of the acid in test tube *A* is 5°C. The temperature of the acid in test tube *B* is 20°C.

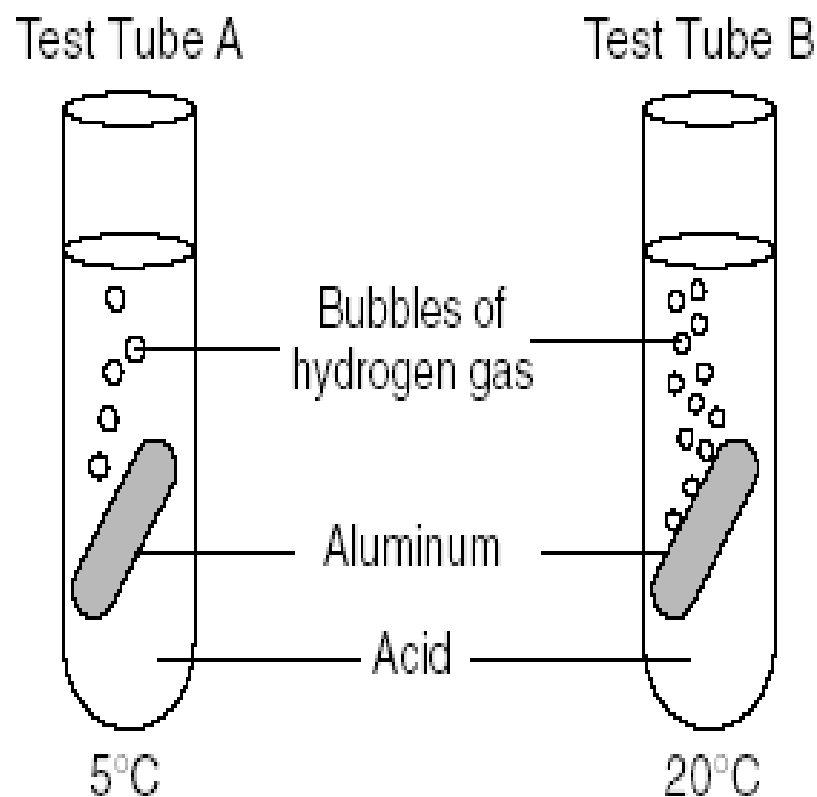


58. What observation would indicate that a chemical reaction is taking place in the test tubes?

- 1. formation of bubbles**
- 2. A new substance is being formed.**
- 3. Gas is being formed.**

Base your answers to questions 58 through 60 on information below and on your knowledge of science.

Equal-sized pieces of aluminum were placed in test tubes containing equal volumes of acid, at different temperatures. The temperature of the acid in test tube *A* is 5°C. The temperature of the acid in test tube *B* is 20°C.

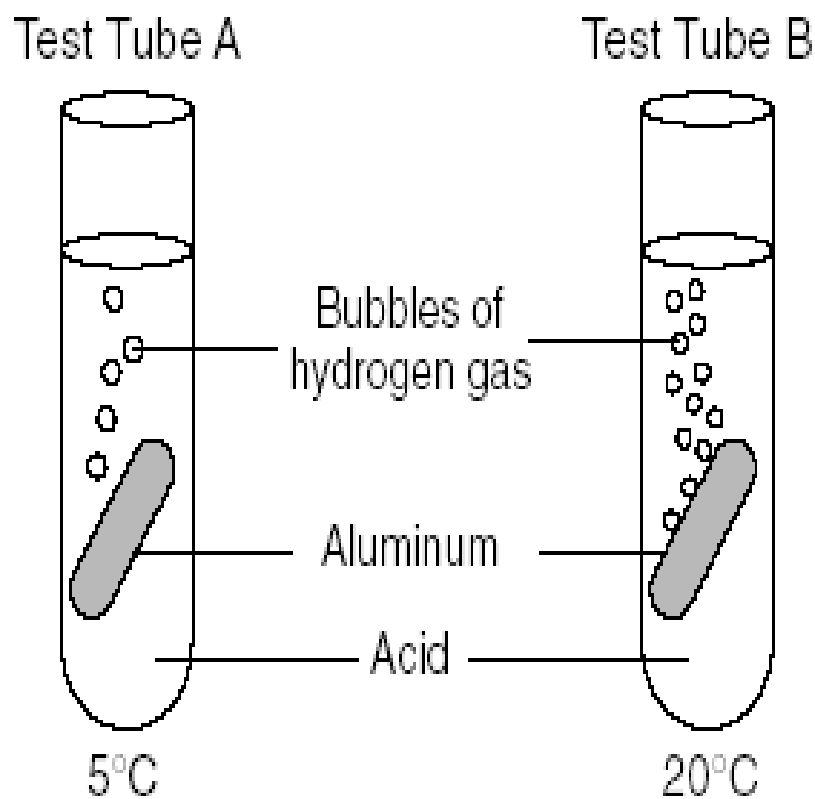


59. What effect does the temperature of the acid have on the rate at which the reaction progresses?

1. As the temperature increases, the reaction rate increases.

Base your answers to questions 58 through 60 on information below and on your knowledge of science.

Equal-sized pieces of aluminum were placed in test tubes containing equal volumes of acid, at different temperatures. The temperature of the acid in test tube *A* is 5°C. The temperature of the acid in test tube *B* is 20°C.



60. Identify *two* actions the student could take to increase the reaction rate in the test tubes.

1. Heat the acid.
2. Heat the aluminum.
3. Use a catalyst.
4. stir or shake the test tube
5. cut or chop the pieces
6. change acids
7. Increase the concentration of the acid.
8. Make the acid stronger.
9. Change the metal used in the test tubes.

Base your answers to questions 61 through 63 on the information below and on your knowledge of science.

A student adds a mixture of oil, sand, and salt to a beaker of water and stirs. The student stops stirring and observes that the salt is no longer visible, the oil floats to the top, and the sand sinks to the bottom of the beaker.

61. Explain why the oil floats after the stirring stops.

- 1. The oil floats because it less dense than water.**
- 2. The oil floats because its density is less than 1.**
- 3. Oil and water have different densities.**
- 4. Oil is less dense than the sand.**

Base your answers to questions 61 through 63 on the information below and on your knowledge of science.

A student adds a mixture of oil, sand, and salt to a beaker of water and stirs. The student stops stirring and observes that the salt is no longer visible, the oil floats to the top, and the sand sinks to the bottom of the beaker.

62. Explain why the salt is no longer visible after the stirring stops.

- 1. The salt dissolved in the water.**
- 2. Salt is soluble in water.**
- 3. The water has absorbed the salt molecules.**

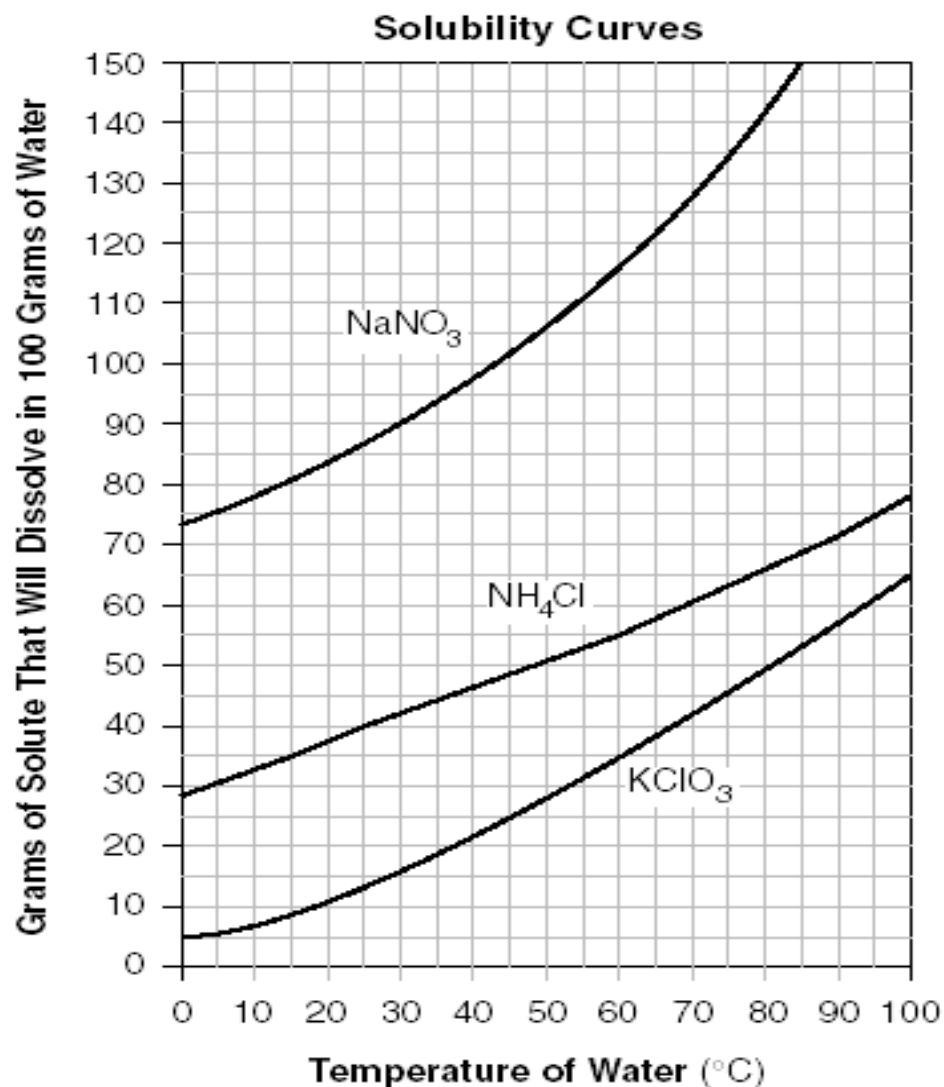
Base your answers to questions 61 through 63 on the information below and on your knowledge of science.

A student adds a mixture of oil, sand, and salt to a beaker of water and stirs. The student stops stirring and observes that the salt is no longer visible, the oil floats to the top, and the sand sinks to the bottom of the beaker.

63. Identify one way to remove the sand from the mixture in the beaker.

- 1. The sand could be removed from the water by filtering.**
- 2. The sand could be removed using a strainer/sifter.**
- 3. filtering**
- 4. sifting**

Base your answers to question 64 on the graph below . The graph shows the amounts of three solid solutes that will dissolve in 100 grams of water at various temperatures.



64. Using the graphed data, describe the relationship between the temperature of the water and the amount of solute that will dissolve.

Temperature increases the amount of solute that will dissolve

65. The data table shows the solubility of a fourth solid solute, KBr, in 100 grams of water at different temperatures.

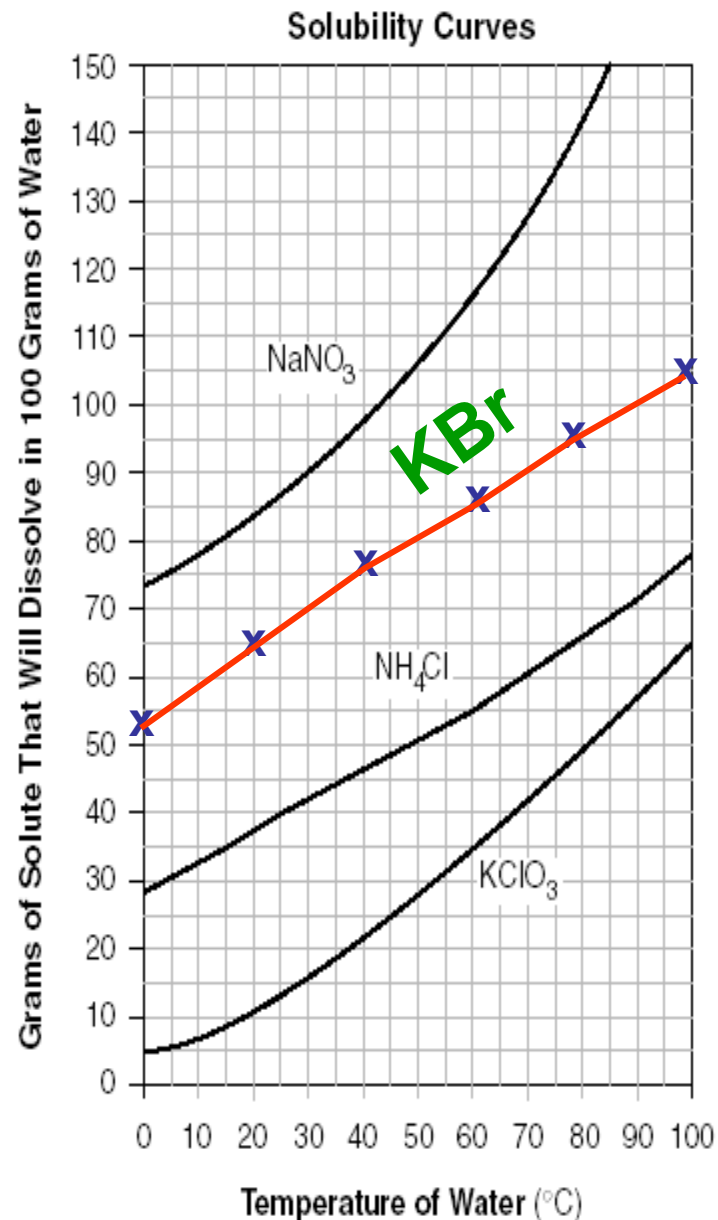
Solubility of KBr

Temperature of Water (°C)	Grams of KBr Solute That Will Dissolve in 100 Grams of Water
0	53
20	65
40	76
60	88
80	95
100	104

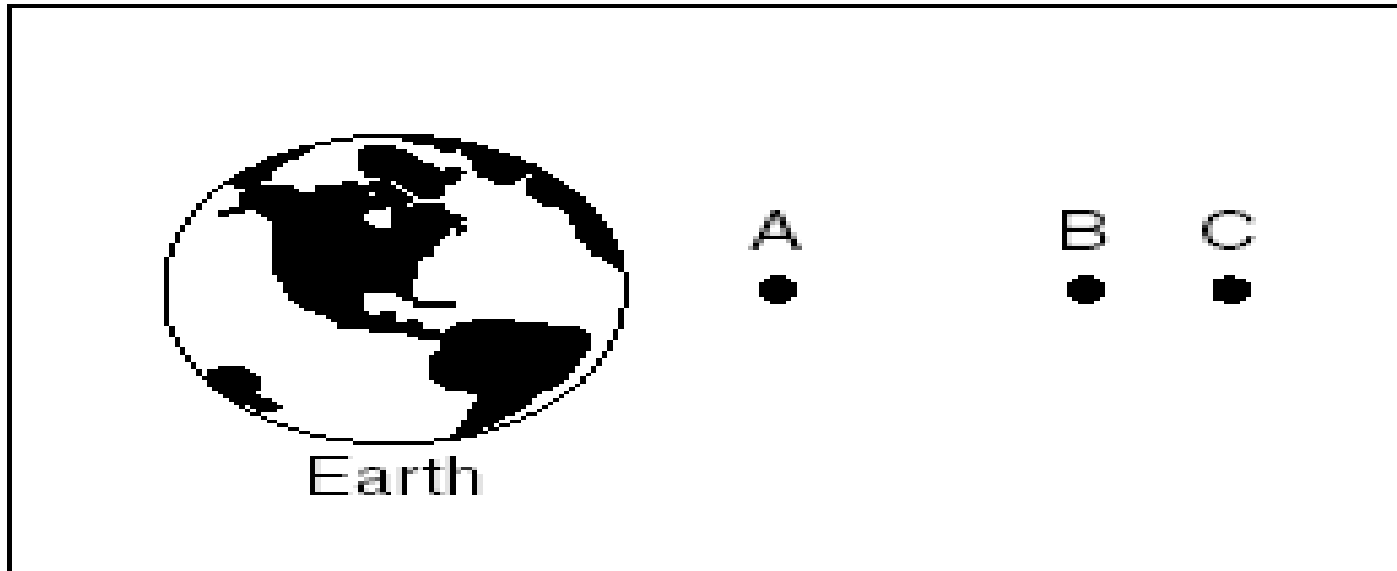
Using the data in the table, construct a line graph on the grid below to illustrate the solubility of KBr.

Follow the directions below.

- Use an X to plot the location of each point on the data table.
- Connect the Xs with a line.
- Label this line KBr.



66. In the diagram below, the letters *A*, *B*, and *C* represent three identical satellites and their relative distances from Earth as seen from space.



(not drawn to scale)

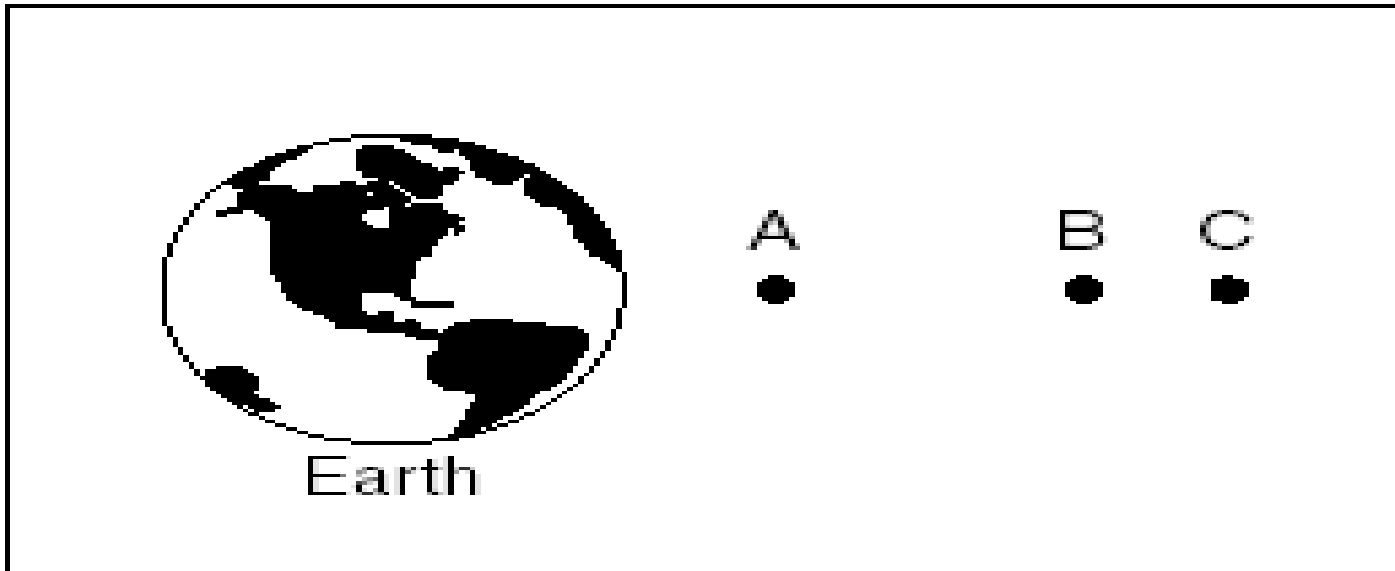
- (A) Which satellite would experience the strongest pull of Earth's gravity?

A

- (B) State a scientific principle that explains your answer in part a.

Gravity is determined by mass and distance. Smaller distance equals greater gravity.

67. In the diagram below, the letters *A*, *B*, and *C* represent three identical satellites and their relative distances from Earth as seen from space.

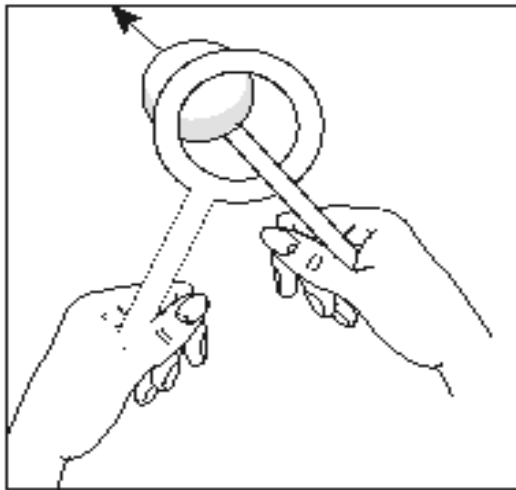


(not drawn to scale)

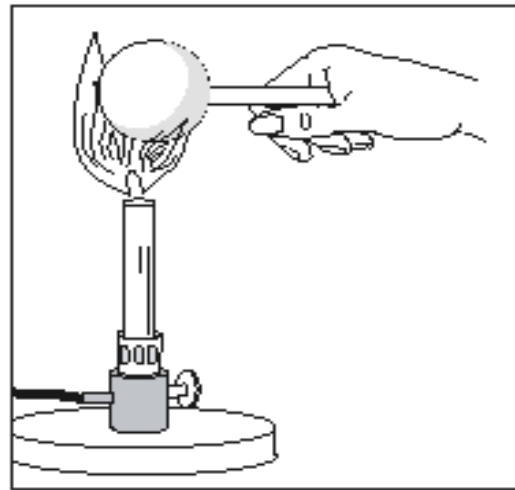
Predict what might happen to satellite *B* if the forces acting on it become unbalanced.

It would move in the direction of the greater force

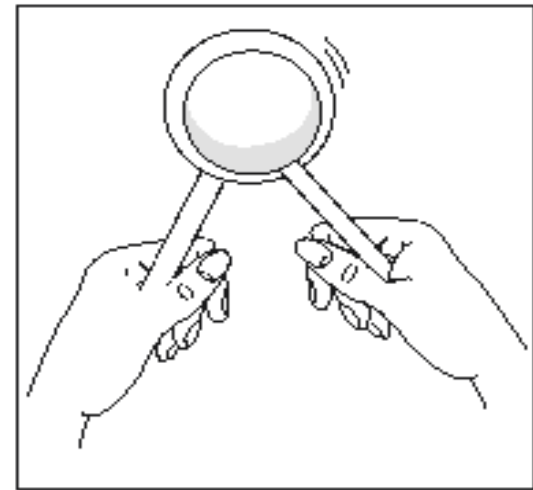
The illustration below shows a solid metal ball and a ring before and after heat is applied to the metal ball. Before heat is applied, the metal ball passes easily through the ring. After heat is applied, the metal ball does *not* pass through the ring.



Before heating metal ball



Heating metal ball

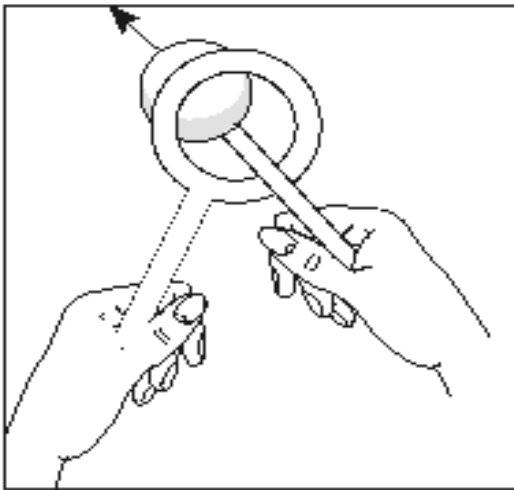


After heating metal ball

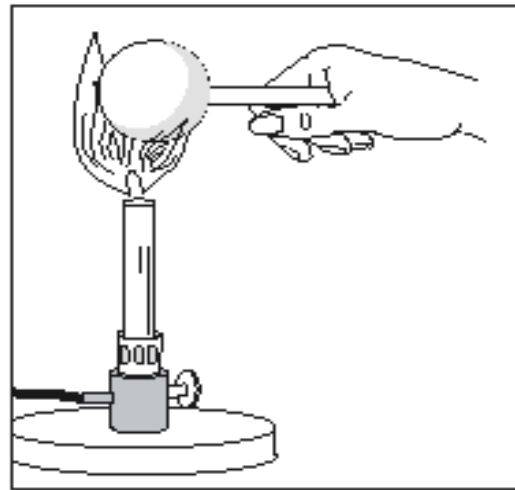
68. What evidence shows that a physical change took place in the metal ball?

The ball can't fit through the ring

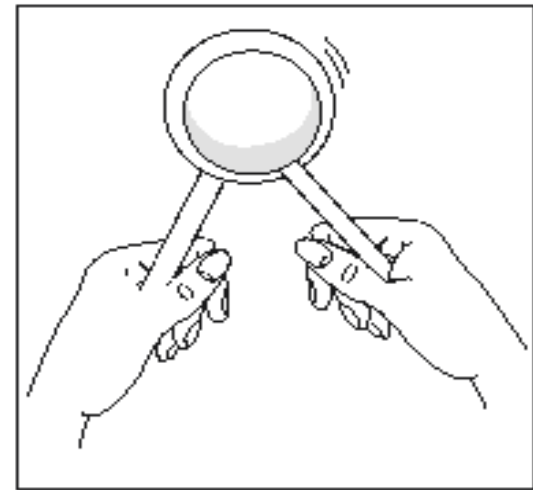
The illustration below shows a solid metal ball and a ring before and after heat is applied to the metal ball. Before heat is applied, the metal ball passes easily through the ring. After heat is applied, the metal ball does *not* pass through the ring.



Before heating metal ball



Heating metal ball

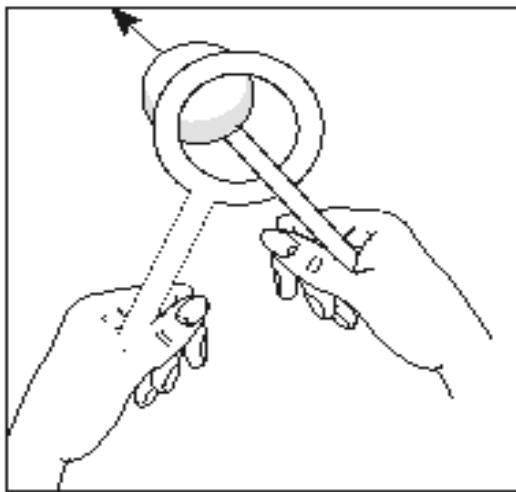


After heating metal ball

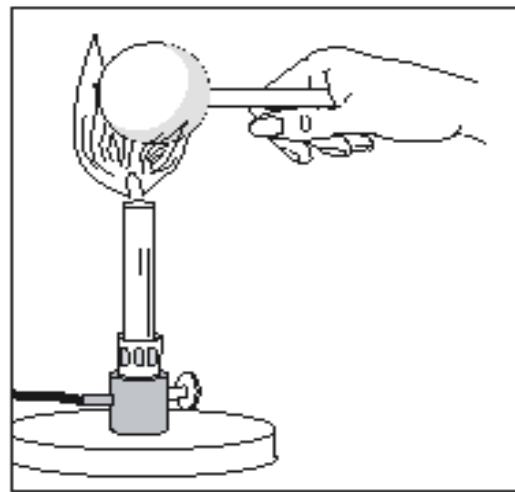
69. Explain why heating the metal ball caused this physical change.

Most matter expands when heated

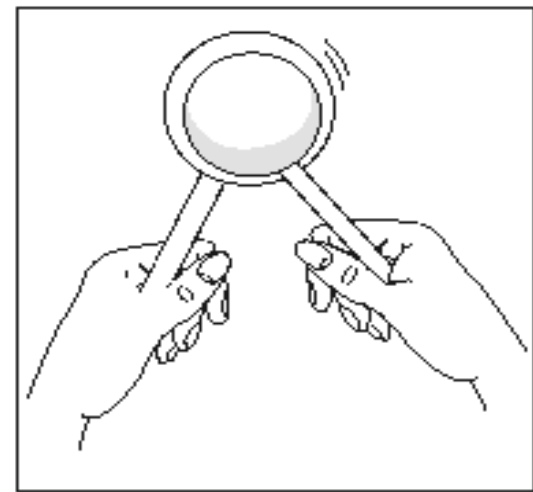
The illustration below shows a solid metal ball and a ring before and after heat is applied to the metal ball. Before heat is applied, the metal ball passes easily through the ring. After heat is applied, the metal ball does *not* pass through the ring.



Before heating metal ball



Heating metal ball



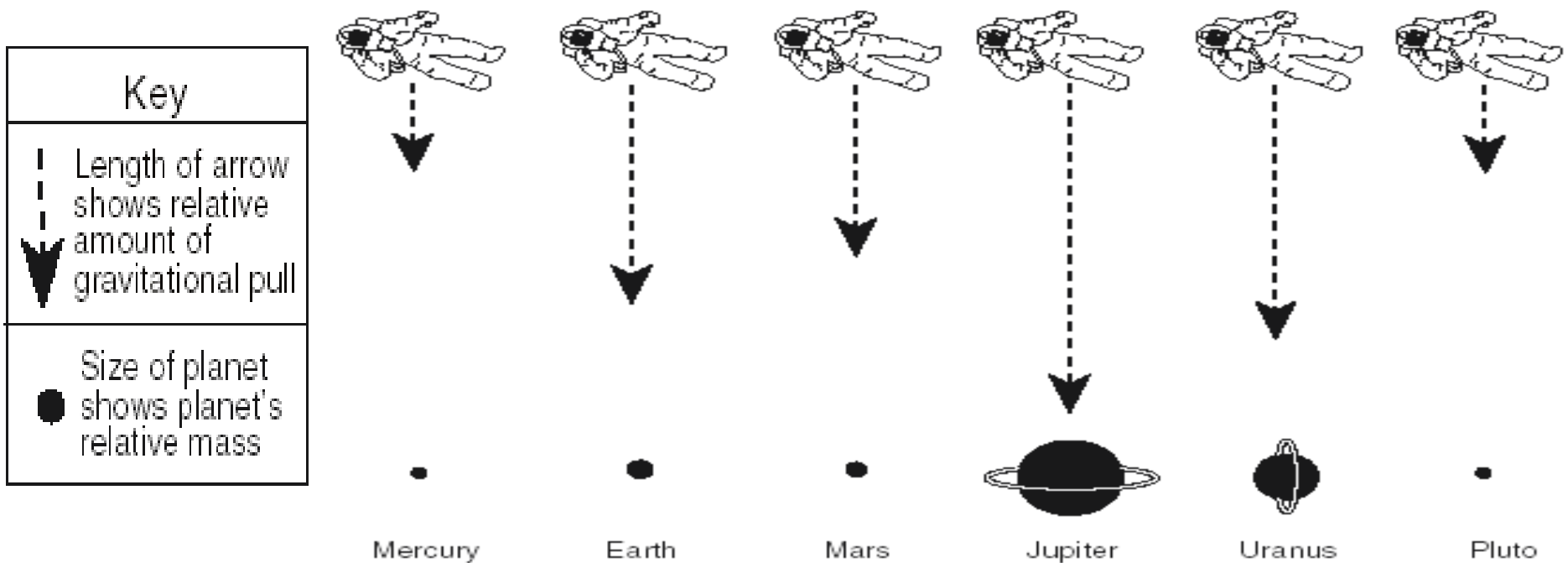
After heating metal ball

70. Explain why this is not evidence of a chemical change.

No new substance was formed

Base your answers to questions 71 and 72 on the diagram below. The diagram shows the relative strengths of the gravitational force for planets of different masses. The size of each planet represents the planet's relative mass. The arrow length indicates the relative amount of gravitational pull that each planet would exert on an astronaut in space.

Relative strengths of gravitational force for planets of different mass

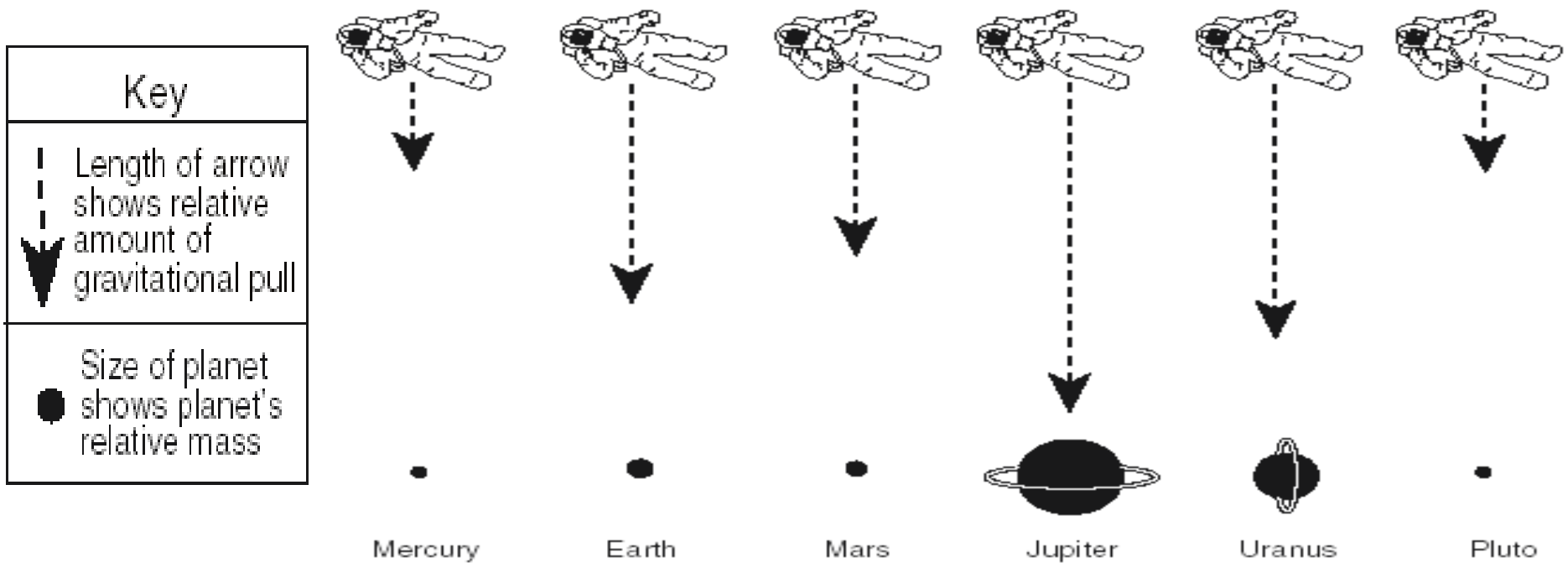


71. What is the relationship between the mass of the planets and the relative strength of their gravitational pull?

Greater the mass, greater the gravitational force

Base your answers to questions 71 and 72 on the diagram below. The diagram shows the relative strengths of the gravitational force for planets of different masses. The size of each planet represents the planet's relative mass. The arrow length indicates the relative amount of gravitational pull that each planet would exert on an astronaut in space.

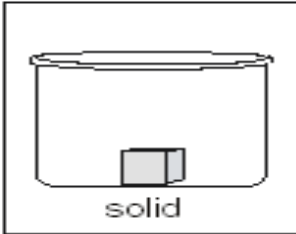
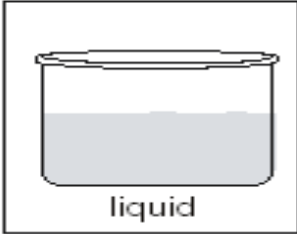
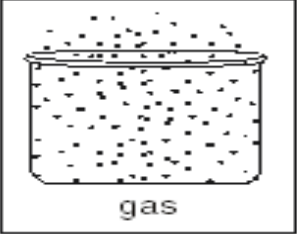
Relative strengths of gravitational force for planets of different mass



72. Which three planets shown have *less* gravitational pull than Earth?

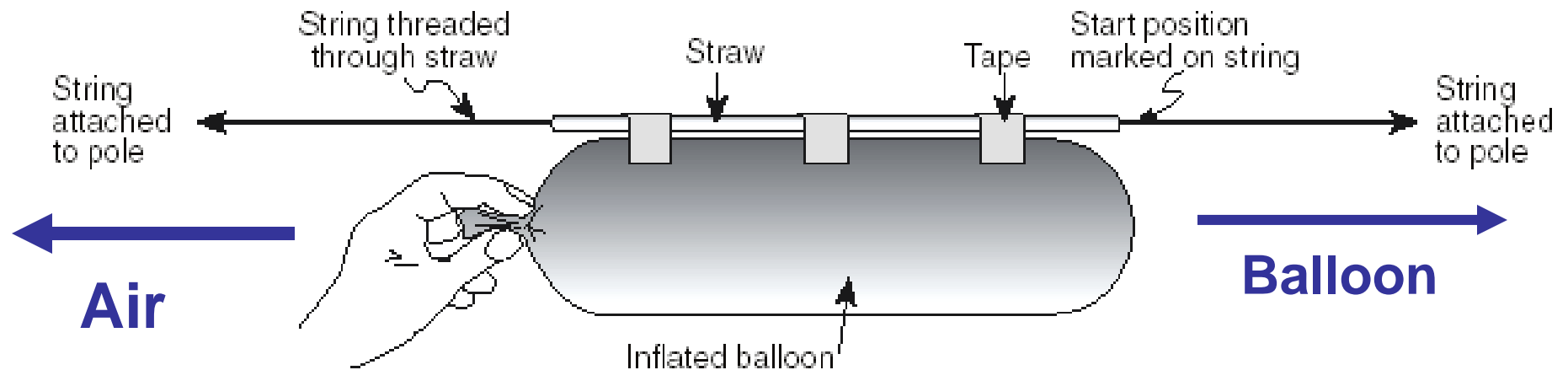
Mercury, Mars, & Pluto

73. The drawings on the top row of the chart below represent water in its three phases (solid, liquid, and gas) in open containers. Complete this chart by filling in the answers that correspond to the drawing at the top of each column and the question in each row. Make sure you fill in an answer in every empty box.

			
Does this phase of matter have a definite shape? Write Yes or No in each box.	Yes	No	No
Does this phase of matter have a definite volume? Write Yes or No in each box.	Yes	Yes	No
How do these phases rank in order of the relative speed of their particles? Rank them 1, 2, 3 , with 1 having the slowest particles and 3 having the fastest particles.	1	2	3

Base your answers to questions 74 through 77 on the diagram and information below.

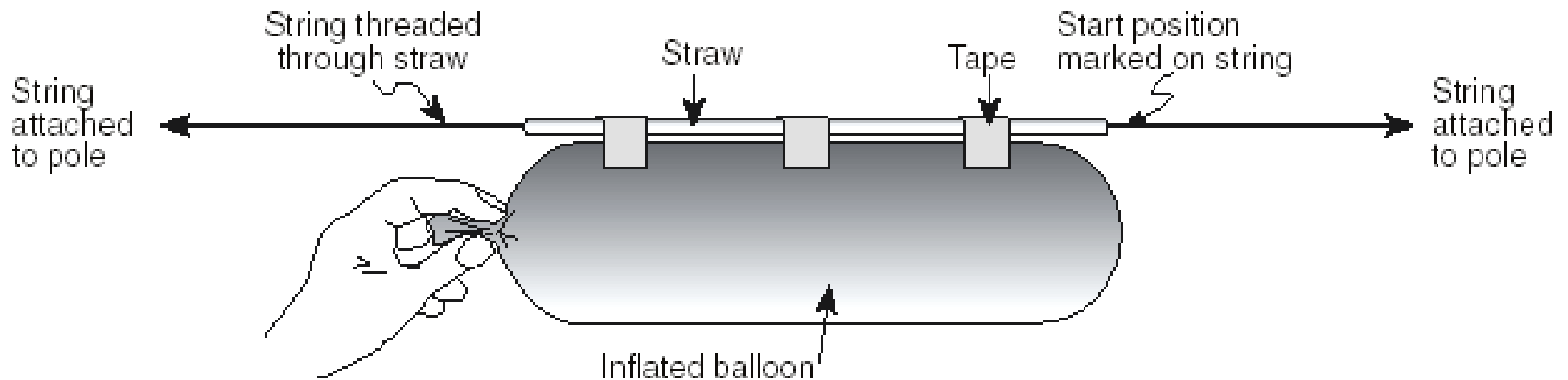
A student made a rocket balloon using an inflated balloon, a straw, a long piece of string, two poles, and some tape. It looked similar to the diagram below.



74. On the diagram above draw and label arrows to show the motion of the air and the motion of the balloon that would occur when the student releases the inflated balloon.

Base your answers to questions 74 through 77 on the diagram and information below.

A student made a rocket balloon using an inflated balloon, a straw, a long piece of string, two poles, and some tape. It looked similar to the diagram below.

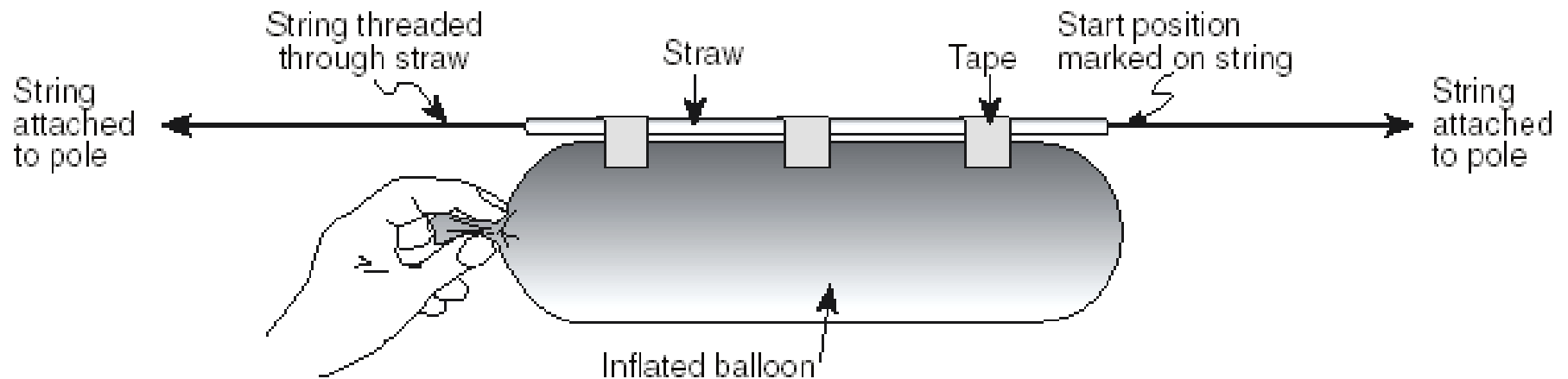


75. Why is marking the starting position important if the student wants to calculate the average speed of the balloon?

**So you can measure how far it went.
To find speed you need to know distance
and time.**

Base your answers to questions 74 through 77 on the diagram and information below.

A student made a rocket balloon using an inflated balloon, a straw, a long piece of string, two poles, and some tape. It looked similar to the diagram below.

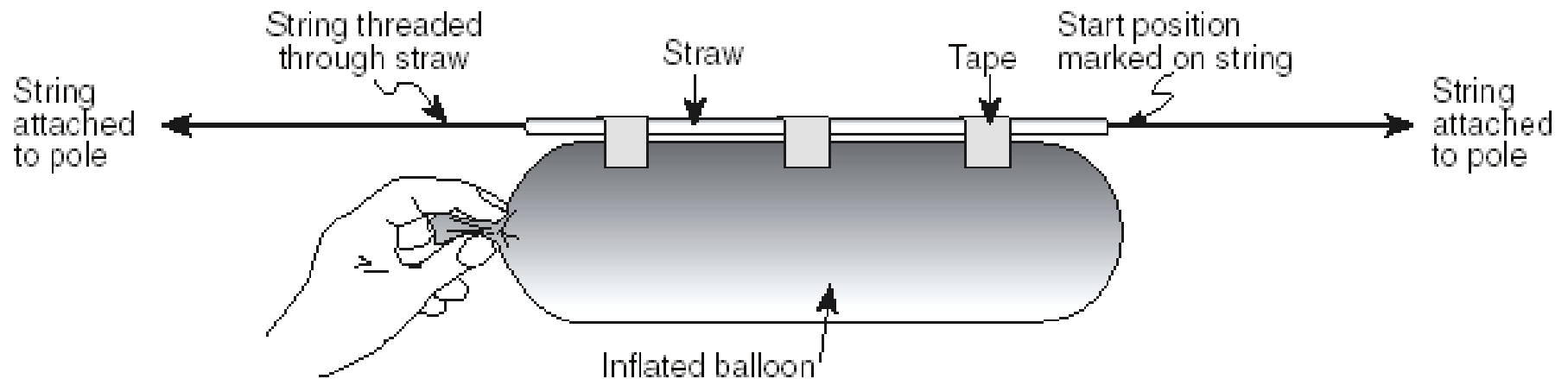


76. How would taping a coin (adding mass) to the balloon affect the overall motion of the balloon?

The balloon would slow down.

Base your answers to questions 74 through 77 on the diagram and information below.

A student made a rocket balloon using an inflated balloon, a straw, a long piece of string, two poles, and some tape. It looked similar to the diagram below.



77. If the string were extremely long, what would eventually happen to the motion of the balloon? Explain why.

It would stop because of friction.

Base your answers to questions 78 through 80 on the information below.

Models are often used to explain natural phenomena. Develop a model to show the relationship between heat energy and the motion and position of particles in a sample of matter. Use a group of 20 students in an empty room to represent the particles in a sample of matter.

78. How should the students be placed in the room to represent the arrangement of particles in a solid?

- 1. very close together**
- 2. tightly packed**
- 3. touching**
- 4. close**

Base your answers to questions 78 through 80 on the information below.

Models are often used to explain natural phenomena. Develop a model to show the relationship between heat energy and the motion and position of particles in a sample of matter. Use a group of 20 students in an empty room to represent the particles in a sample of matter.

79. What instruction should be given to the 20 student “particles” to represent a liquid?

- 1. changing their position in the sample**
- 2. move a lot further apart**
- 3. move around faster than the solid**

Base your answers to questions 78 through 80 on the information below.

Models are often used to explain natural phenomena. Develop a model to show the relationship between heat energy and the motion and position of particles in a sample of matter. Use a group of 20 students in an empty room to represent the particles in a sample of matter.

80. What instruction should be given to the 20 student “particles” to represent a gas?

- 1. Move faster than a liquid**
- 2. Move throughout the entire room**
- 3. Move very rapidly**

81. The usage of electricity in the United States has increased dramatically over the past 20 years. Most of this electricity is currently produced by burning fossil fuels.

State one reason for this increased usage of electricity.

**increased use of technology
and / or
increased population.**

82. The usage of electricity in the United States has increased dramatically over the past 20 years. Most of this electricity is currently produced by burning fossil fuels.

Describe a strategy to reduce the amount of fossil fuels people use in the United States.

- 1. lowering thermostats**
- 2. replacing windows**
- 3. using a wood stove**
- 4. Lowering electricity use**
- 5. use alternative energy sources**
- 6. use public transportation/car pool**
- 7. turning off lights**
- 8. using energy efficient appliances**

Your done

Great Job!