A solution of hydrochloric acid (HCl) in water will turn blue litmus paper red. A solution of the base sodium hydroxide (NaOH) in water will turn red litmus paper blue. If the acid and base solutions above are mixed in the right proportion, the resulting solution will cause neither red nor blue litmus paper to change color.

Explain why the litmus paper does not change color in the mixed solution.

Item Number: S032057

Fanning can make a wood fire burn hotter because the fanning

Ⓐ makes the wood hot enough to burn

Ⓑ adds more oxygen needed for burning

Ⓒ increases the amount of wood there is to burn

Ⓓ provides the energy needed to keep the fire going

Item Number: S012003

Some chemical reactions absorb energy, while others release energy. Of the chemical reactions in burning coal and exploding fireworks, which will release energy?

Ⓐ Burning coal only

Ⓑ Exploding fireworks only

Ⓒ Both burning coal and exploding fireworks

Ⓓ Neither burning coal nor exploding fireworks

Item Number: S022188

Which is a chemical change?

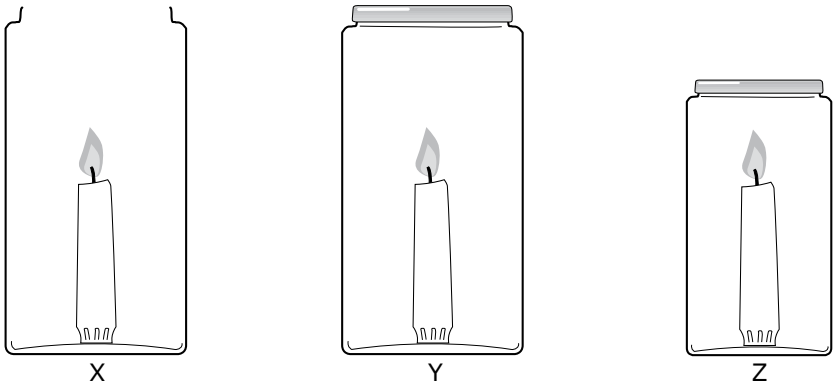
Ⓐ Element 1 is polished to form a smooth surface.

Ⓑ Element 2 is heated and evaporates.

Ⓒ Element 3 develops a white, powdery surface after standing in air.

Ⓓ Element 4 is separated from a mixture by filtration.

Item Number: S022198



Three identical candles are placed in the three jars shown above and lit at the same time. Jars Y and Z are then sealed with lids, and Jar X is left open.

Which candle flame will go out first (X, Y, or Z)? _____

Explain your answer.

Item Number: S022191

Which of the following is NOT a mixture?

Ⓐ Smoke

Ⓑ Sugar

Ⓒ Milk

Ⓓ Paint

Item Number: S022187

David makes a solution by dissolving 10 grams of salt in 100 ml of water. He wants a solution that is half as concentrated. What should he add to the original solution to obtain a solution that is about half as concentrated?

Ⓐ 50 ml of water

Ⓑ 100 ml of water

Ⓒ 5 grams of salt

Ⓓ 10 grams of salt

Item Number: S032564

Oxygen, hydrogen, and water are substances.
Which of these substances are elements?

Ⓐ oxygen, hydrogen and water

Ⓑ oxygen and hydrogen only

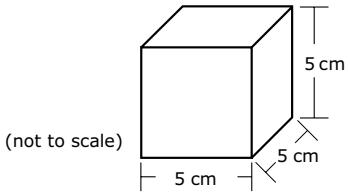
Ⓒ oxygen only

Ⓓ water only

Item Number: S032574

The scientists decided to compare the densities of the crown and a block of metal just like the original block. The density of a substance is the mass of a sample of the substance divided by its volume (density = mass/volume).

The scientists found the volume of the block and computed its density based on its known mass (2,400 g). The diagram below shows the dimensions of the block of metal that the scientists measured.



What is the density of the block of metal?

Answer: _____ g/cm^3

Item Number: S032709

A powder made up of both white specks and black specks is likely to be

Ⓐ a solution

Ⓑ a pure compound

Ⓒ a mixture

Ⓓ an element

Item Number: S012016

When chlorine gas reacts with sodium metal, what type of substance is formed?

Ⓐ A mixture

Ⓑ A compound

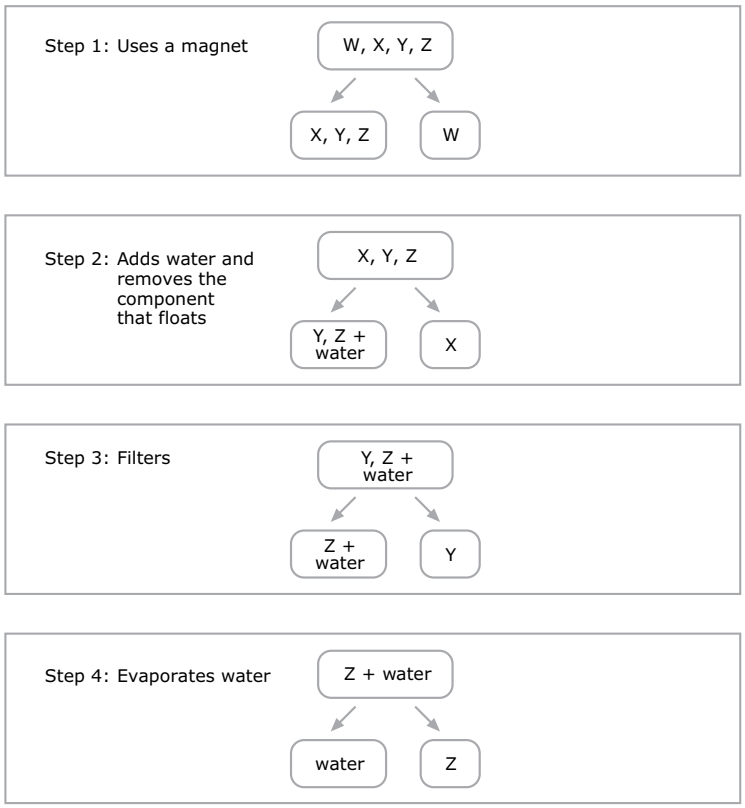
Ⓒ An element

Ⓓ An alloy

Ⓔ A solution

Item Number: S022206

Teresa is given a mixture of salt, sand, iron filings, and small pieces of cork. She separates the mixture using a 4-step procedure as shown in the diagram. The letters W, X, Y, and Z are used to stand for the four components but do not indicate which letter stands for which component.



Identify what each component is by writing *salt, sand, iron,* or *cork* in the correct spaces below

Component W is: _____

Component X is: _____

Component Y is: _____

Component Z is: _____

Item Number: S032562

The table below lists the density for different metals.

Metal	Density (g/cm^3)
Platinum	21.4
Gold	19.3
Silver	10.5
Copper	8.9
Zinc	7.1
Aluminum	2.7

A. Look at the density you computed for the block of metal. What was the block of metal most likely made of?

Answer: _____

Explain your answer.

B. The density of the crown was found to be 12.0 g/cm^3. What would you report to the king about what metal or mixture of metals the jeweler used to make the crown?

Item Number: S032713A

The table below lists the density for different metals.

Metal	Density (g/cm^3)
Platinum	21.4
Gold	19.3
Silver	10.5
Copper	8.9
Zinc	7.1
Aluminum	2.7

A. Look at the density you computed for the block of metal. What was the block of metal most likely made of?

Answer: _____

Explain your answer.

B. The density of the crown was found to be 12.0 g/cm^3. What would you report to the king about what metal or mixture of metals the jeweler used to make the crown?

Item Number: S032713B

If you took all of the atoms out of a chair, what would be left?

Ⓐ The chair would still be there, but it would weigh less.

Ⓑ The chair would be exactly the same as it was before.

Ⓒ There would be nothing left of the chair.

Ⓓ Only a pool of liquid would be left on the floor.

Item Number: S012040

The nucleus of MOST atoms consists of

Ⓐ neutrons only

Ⓑ protons and neutrons

Ⓒ protons and electrons

Ⓓ neutrons and electrons

Item Number: S012025

What is formed when a neutral atom gains an electron?

Ⓐ A mixture

Ⓑ An ion

Ⓒ A molecule

Ⓓ A metal

Item Number: S022202

The planet Jupiter is bigger than Earth's moon but it appears to be smaller when viewed from Earth. Why is this?

Item Number: S022283

The shape of the moon appears to change regularly during each month. Which of the following best explains why the shape of the moon appears to change?

Ⓐ The Earth turns on its axis.

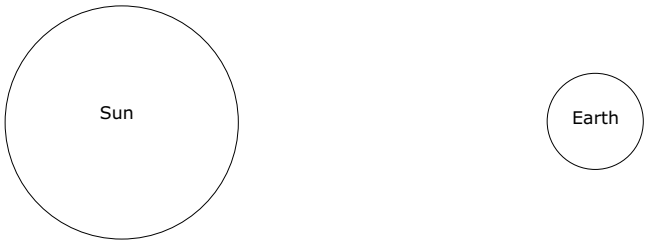
Ⓑ The Moon turns on its axis.

Ⓒ The Moon orbits around the Earth.

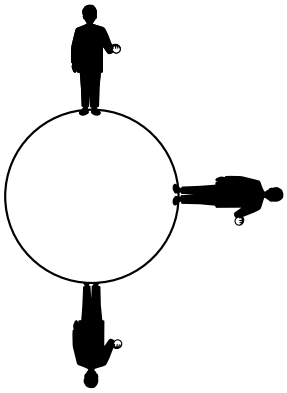
Ⓓ Clouds cover the Moon.

Item Number: S032437

Draw the position of the Moon on the diagram below to show what is meant by an eclipse of the Sun.

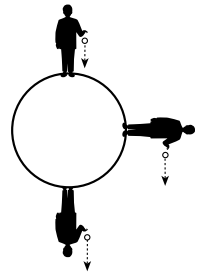


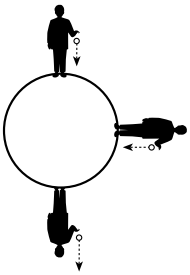
Item Number: S032532

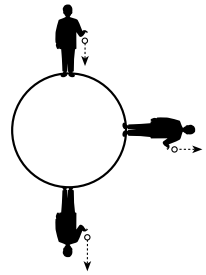


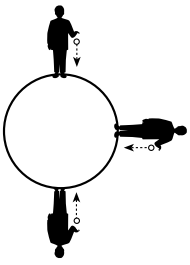
The diagram above shows a person holding a ball standing at three different places on Earth. If the person drops the ball, gravity will make it fall.

Which of the following diagrams best shows the direction the dropped ball will fall at the three different positions?

Ⓐ 

Ⓑ 

Ⓒ 

Ⓓ 

Item Number: S032714

The Sun is an example of which of the following?

Ⓐ comet

Ⓑ planet

Ⓒ galaxy

Ⓓ star

Item Number: S032150

The table shows some information about the planets Venus and Mercury.

	Average Surface Temperature (°C)	Atmospheric Composition	Mean Distance from the Sun (millions of km)	Time to Revolve Around the Sun (Number of Days)
Venus	470	Mostly Carbon Dioxide	108	225
Mercury	300	Trace amounts of gases	58	88

Which of the following best explains why the surface temperature of Venus is higher than that of Mercury?

Ⓐ There is less absorption of sunlight on Mercury because of the lack of atmospheric gases.

Ⓑ The high percentage of carbon dioxide in the atmosphere of Venus causes a greenhouse effect.

Ⓒ The longer time for Venus to revolve around the Sun allows it to absorb more heat from the Sun.

Ⓓ The Sun's rays are less direct on Mercury because it is closer to the Sun.

Item Number: S032301

The pictures show two different mountains. The mountains in Picture A are rough and jagged. The mountains in Picture B are smooth and rounded.

Picture A

Picture B

Which statement about these mountains is probably true?

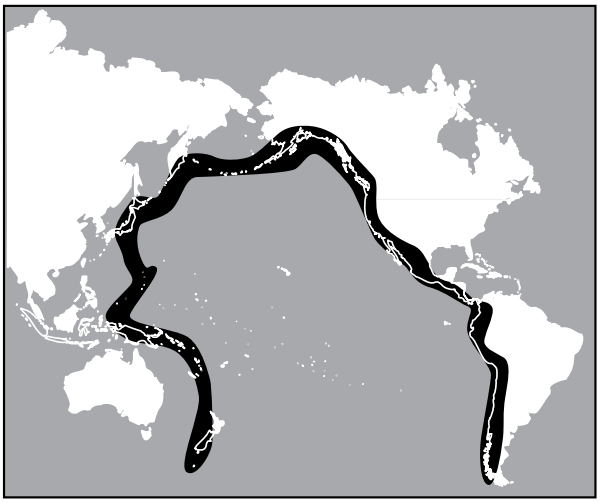
Ⓐ The mountains in Picture A are older.

Ⓑ The mountains in Picture B are older.

Ⓒ The mountains are about the same age but were formed in different ways.

Ⓓ The mountains are about the same age but are in different hemispheres.

Item Number: S012013



The diagram above shows the Pacific Ring of Fire. Earthquakes and volcanic activity occur along the Ring of Fire. Which of the following best explains why?

Ⓐ It is located at the boundaries of tectonic plates.

Ⓑ It is located at the boundary of deep and shallow water.

Ⓒ It is located where the major ocean currents meet.

Ⓓ It is located where ocean temperature is the highest.

Item Number: S032656

Which is NOT a fossil fuel?

Ⓐ Coal

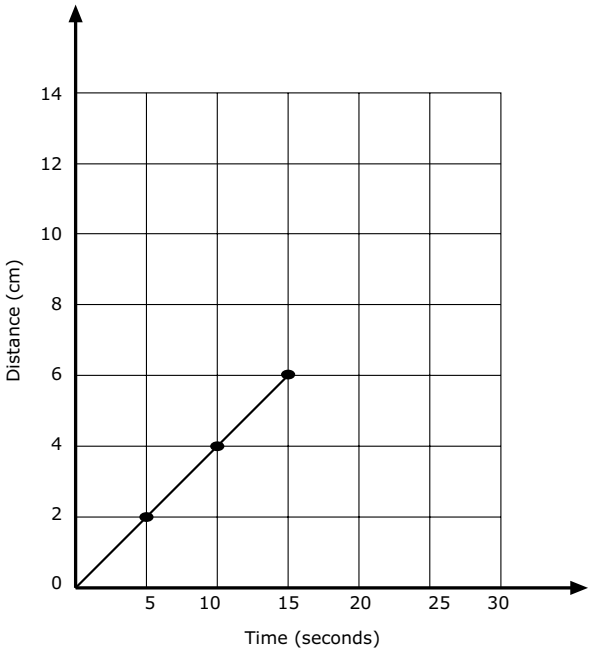
Ⓑ Oil

Ⓒ Wood

Ⓓ Natural gas

Item Number: S012018

The graph shows the progress made by a beetle moving along a straight line.



If the beetle keeps moving at the same speed, how long will it take to travel 10 cm?

Ⓐ 4 seconds

Ⓑ 6 seconds

Ⓒ 20 seconds

Ⓓ 25 seconds

Item Number: S012041

Fossil fuels were formed from

Ⓐ volcanoes

Ⓑ the remains of living things

Ⓒ gases in the atmosphere

Ⓓ water trapped inside rocks

Item Number: S022074

The table gives the temperature at a certain place at different times of the day for three days.

	6 a.m.	9 a.m.	12 noon	3 p.m.	6 p.m.
Monday	15˚C	17˚C	20˚C	21˚C	19˚C
Tuesday	15˚C	15˚C	15˚C	5˚C	4˚C
Wednesday	8˚C	10˚C	14˚C	14˚C	13˚C

When did the wind become much colder?

Ⓐ Monday morning

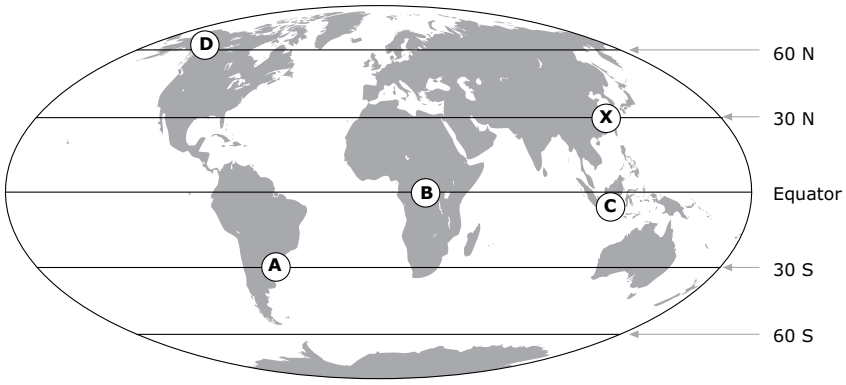
Ⓑ Monday afternoon

Ⓒ Tuesday morning

Ⓓ Tuesday afternoon

Ⓔ Wednesday afternoon

Item Number: S012027



The diagram above shows a map of the world with the lines of latitude marked. Which of the following places marked on the map is most likely to have an average yearly temperature similar to location **X**?

Ⓐ location A

Ⓑ location B

Ⓒ location C

Ⓓ location D

Item Number: S032652

Most underground caves are formed by the action of water on

Ⓐ granite

Ⓑ limestone

Ⓒ sandstone

Ⓓ shale

Item Number: S012030

Three gases found in Earth's atmosphere are carbon dioxide, nitrogen, and oxygen. What is their order of abundance from greatest to least?

Ⓐ nitrogen, oxygen, carbon dioxide

Ⓑ nitrogen, carbon dioxide, oxygen

Ⓒ oxygen, nitrogen, carbon dioxide

Ⓓ carbon dioxide, oxygen, nitrogen

Item Number: S022275

A small, fast-moving river is in a V-shaped valley on the slope of a mountain. If you follow the river to where it passes through a plain, what will the river most likely look like compared with how it looked on the mountain?

Ⓐ Much the same

Ⓑ Deeper and faster

Ⓒ Slower and wider

Ⓓ Straighter

Item Number: S012006

The burning of fossil fuels has increased the carbon dioxide content of the atmosphere. What is a possible effect that the increased amount of carbon dioxide is likely to have on our planet?

Ⓐ A warmer climate

Ⓑ A cooler climate

Ⓒ Lower relative humidity

Ⓓ More ozone in the atmosphere

Item Number: S012017

One of the main causes of acid rain is

Ⓐ Waste from nuclear power plants

Ⓑ Spills from chemical manufacturing plants

Ⓒ Gases from burning fossil fuels

Ⓓ Gases from aerosol spray cans

Item Number: S022240

Which of these daily activities can most directly help reduce air pollution in a city?

Ⓐ turning down the volume on the television

Ⓑ using biodegradable materials

Ⓒ using public transportation instead of driving

Ⓓ recycling paper

Item Number: S032446

Oil is an example of a natural resource that is not renewable. Which is another example of a nonrenewable resource?

Ⓐ Wood

Ⓑ Seawater

Ⓒ Sunlight

Ⓓ Coal

Item Number: S012042

Write down one renewable energy source and describe one way that people make use of it.

Energy Source: _____

Use:

Item Number: S032242

Which group of energy sources are ALL renewable?

Ⓐ coal, oil, and natural gas

Ⓑ solar, oil, and geothermal

Ⓒ wind, solar, and tidal

Ⓓ natural gas, solar, and tidal

Item Number: S032422

Overgrazing of land by livestock contributes to a major problem. That problem is

Ⓐ depletion of ground water

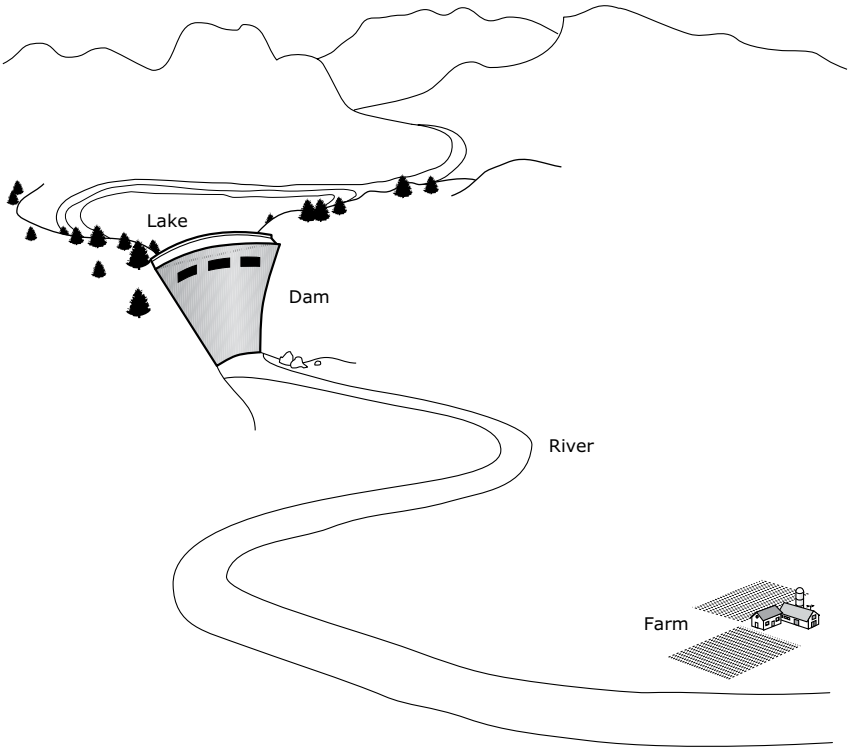
Ⓑ increased pollution

Ⓒ erosion of soil

Ⓓ acid rain

Item Number: S012005

The diagram shows a farm in a valley where a dam has just been built.



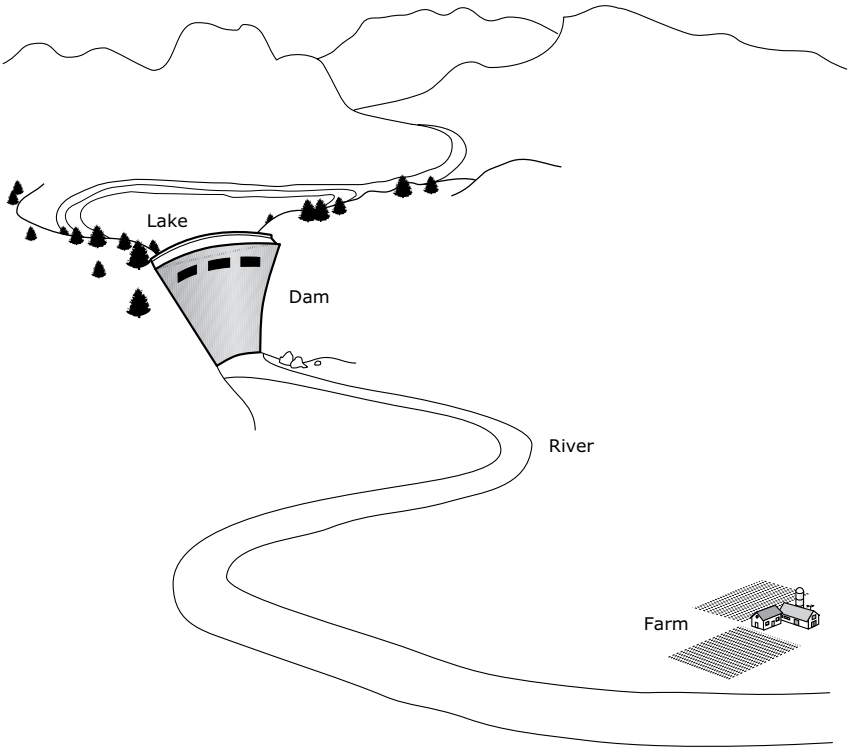
The presence of the dam can have both positive and negative effects on farming in the valley.

A. Describe one positive effect of the dam on farming.

B. Describe one negative effect of the dam on farming.

Item Number: S022088A

The diagram shows a farm in a valley where a dam has just been built.



The presence of the dam can have both positive and negative effects on farming in the valley.

A. Describe one positive effect of the dam on farming.

B. Describe one negative effect of the dam on farming.

Item Number: S022088B

Sea water contains dissolved salts and is not suitable for drinking. Describe a procedure that can be used to obtain a cup of drinking water from a bucket of sea water.

Item Number: S032063

What is the main function of red blood cells?

Ⓐ To fight disease in the body

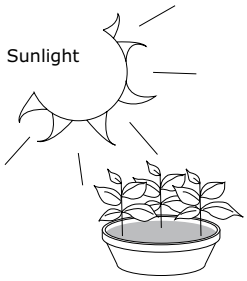
Ⓑ To carry oxygen to all parts of the body

Ⓒ To remove carbon monoxide from all parts of the body

Ⓓ To produce materials which cause the blood to clot

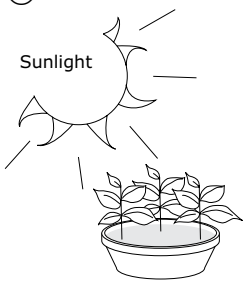
Item Number: S012038

A girl has an idea that green plants need sand in the soil for healthy growth. In order to test her idea she uses two pots of plants. She sets up one pot of plants as shown below.

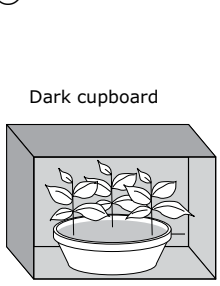


Which ONE of the following should she use for the second pot of plants?

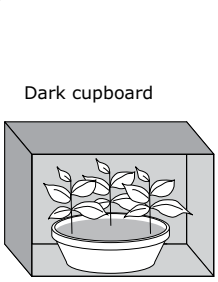
A



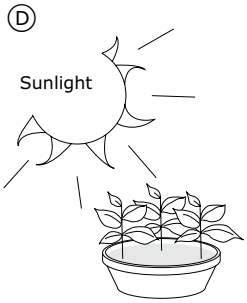
B



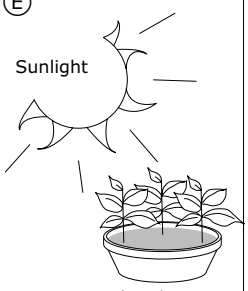
C



D



E



Item Number: S022235

The fossils that are found in the oldest layers of sedimentary rock were formed from which types of organisms?

Ⓐ only organisms that lived in the sea

Ⓑ only organisms that lived on land

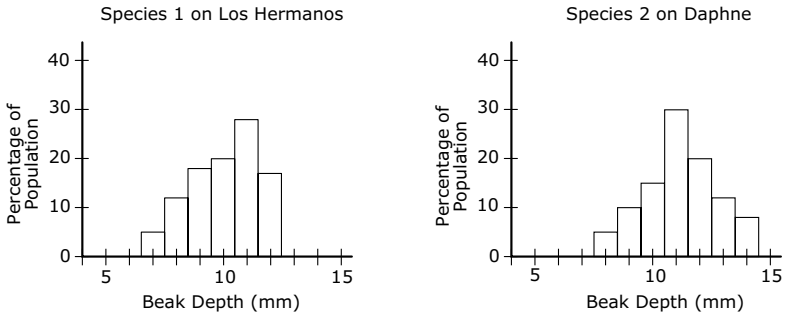
Ⓒ only organisms that lived in the air

Ⓓ organisms that lived on the land, in the sea and in the air

Item Number: S032083

The Galapagos Islands contain a number of different species of finches (birds) that are thought to have developed from one species. Some species of finches eat certain types of seeds depending on their beak depth. The diagram below shows the head of one species of finch and its beak depth.

Some of the islands have only one species living on them, while other islands have more than one species. Species 1 lives on Los Hermanos Island. Species 2 lives on Daphne Island. The two graphs below show the percentage of the population with different beak depths for each of the two species.



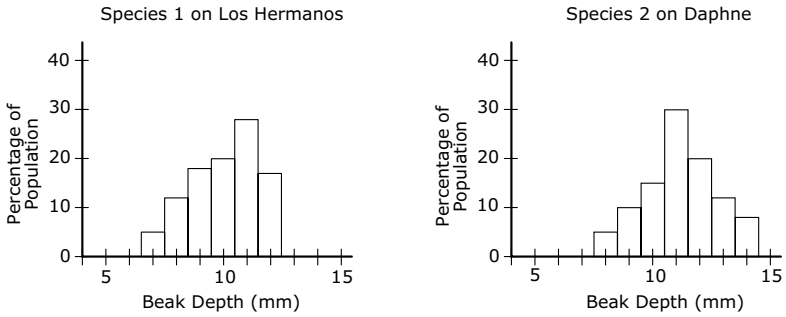
A. How do the beak depths of Species 1 and Species 2 compare?

B. A wide variety of seeds exist on the islands, and both Species 1 and Species 2 eat seeds. Based on the beak depths of the two finch species, what would you conclude about the size of seeds that each species eats?

Item Number: S032706A

The Galapagos Islands contain a number of different species of finches (birds) that are thought to have developed from one species. Some species of finches eat certain types of seeds depending on their beak depth. The diagram below shows the head of one species of finch and its beak depth.

Some of the islands have only one species living on them, while other islands have more than one species. Species 1 lives on Los Hermanos Island. Species 2 lives on Daphne Island. The two graphs below show the percentage of the population with different beak depths for each of the two species.



A. How do the beak depths of Species 1 and Species 2 compare?

B. A wide variety of seeds exist on the islands, and both Species 1 and Species 2 eat seeds. Based on the beak depths of the two finch species, what would you conclude about the size of seeds that each species eats?

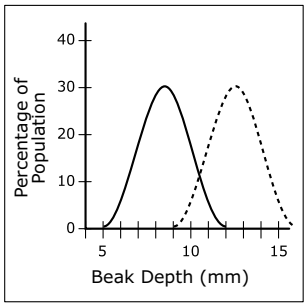
Item Number: S032706B

Two other species (Species 3 and Species 4) live on Santa Maria Island, which also has a range of seed types.

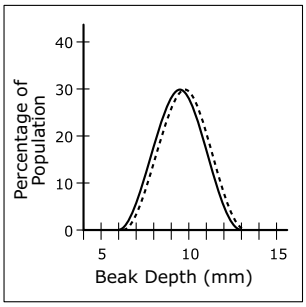
Which of the following graphs shows a range of beak depths for Species 3 and Species 4 that would best insure the survival of both species on Santa Maria Island?

(Circle the letter by the correct graph.)

A



B



Explain why this range of beak depths would be best.

Item Number: S032707

Which organisms that live on land most likely inhabited the Galapagos Islands first?

(Check one box.)

☐ Land plants

☐ Land animals

Explain your answer.

Item Number: S032704

When settlers came to live on the Galapagos Islands, they brought with them a number of new animals such as cats and goats. Write down one effect the introduction of cats and goats could have on the animals and plants already living on the islands.

A. One effect of **cats**:

B. One effect of **goats**:

Item Number: S032705A

When settlers came to live on the Galapagos Islands, they brought with them a number of new animals such as cats and goats. Write down one effect the introduction of cats and goats could have on the animals and plants already living on the islands.

A. One effect of **cats**:

B. One effect of **goats**:

Item Number: S032705B

Animals and plants are made up of a number of different chemical elements. What happens to all of these elements when animals and plants die?

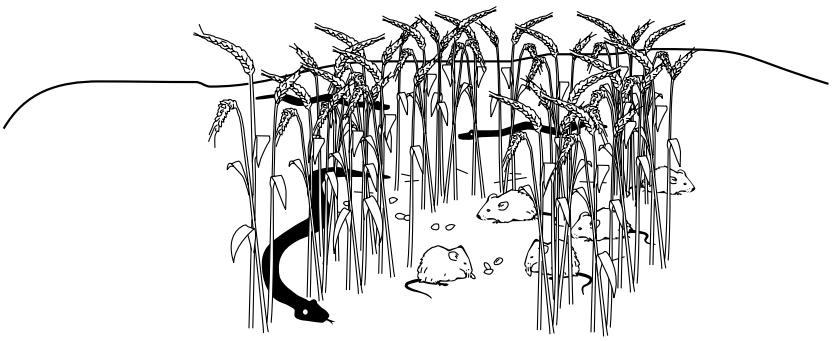
Ⓐ They die with the animal or plant.

Ⓑ They evaporate into the atmosphere.

Ⓒ They are recycled back into the environment.

Ⓓ They change into different elements.

Item Number: S032682



The diagram above shows a community consisting of mice, snakes and wheat plants.

What would happen to this community if people killed the snakes?

Item Number: S032202

Eating leafy vegetables is important for human health. This is because leafy vegetables are a good source of which of the following?

Ⓐ protein

Ⓑ carbohydrates

Ⓒ minerals

Ⓓ fat

Item Number: S032637

Scott went to school with a cold. Several days later, half of his classmates also had colds. What is one likely reason some classmates had colds but others did not?

Item Number: S022154

A son can inherit traits

Ⓐ only from his father

Ⓑ only from his mother

Ⓒ from both his father and his mother

Ⓓ from either his father or his mother, but not from both

Item Number: S012026

Traits are transferred from generation to generation through the

Ⓐ sperm only

Ⓑ egg only

Ⓒ sperm and the egg

Ⓓ testes

Item Number: S012039

Why would male insects be treated to prevent sperm production?

Ⓐ To increase the number of female insects

Ⓑ To reduce the total population of insects

Ⓒ To produce new species of insects

Ⓓ To prevent insects from mating

Item Number: S022117

Which of the following takes place during fertilization in animals?

Ⓐ production of sperm and egg

Ⓑ joining of sperm and egg

Ⓒ division of egg

Ⓓ development of embryo

Item Number: S032008

What processes take place in the human body that prevent it from overheating during exercise?

Item Number: S022152

What is the advantage of having two ears to hear with rather than one ear?

Item Number: S022160

Which of the following organs is NOT situated in the abdomen?

Ⓐ liver
Ⓑ kidney
Ⓒ stomach
Ⓓ bladder
Ⓔ heart

Item Number: S012001

When a person sees something, what carries the message from the eyes to the brain?

Ⓐ arteries

Ⓑ glands

Ⓒ muscles

Ⓓ nerves

Ⓔ veins

Item Number: S012014

In humans, where does the absorption of food into the blood stream mainly take place?

Ⓐ stomach

Ⓑ mouth

Ⓒ large intestines

Ⓓ small intestines

Item Number: S032386

Which of the following organs in fish has the same function as the human lung?

Ⓐ kidney

Ⓑ heart

Ⓒ gill

Ⓓ skin

Item Number: S032607

Briefly explain how eyeglasses and contact lenses help some people to see more clearly.

Item Number: S022161

A person sorted some animals into the two groups listed on the table.
Which characteristic of animals was used for the sorting?

Ⓐ Legs
Ⓑ Eyes
Ⓒ Nervous system
Ⓓ Skin

Group 1	Group 2
Humans	Snakes
Dogs	Worms
Flies	Fish

Item Number: S012028

Cats are most closely related to which of the following animals?

Ⓐ crocodiles

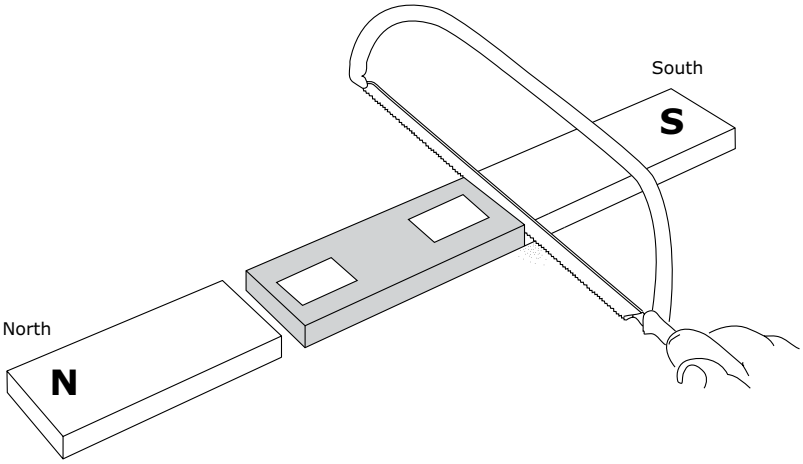
Ⓑ whales

Ⓒ frogs

Ⓓ penguins

Item Number: S032595

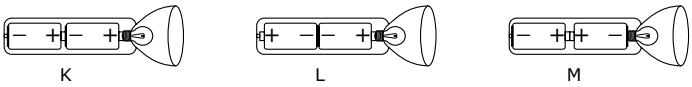
The diagram shows a bar magnet which is cut into three pieces with a hacksaw.



Write an "N" or an "S" in each box on the diagram to show the polarity of each end of the center piece.

Item Number: S022035

The diagrams show a flashlight and three ways to put batteries in it.



In order to make the flashlight work, which way must the batteries be placed?

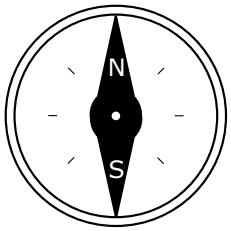
Ⓐ Only as in K

Ⓑ Only as in L

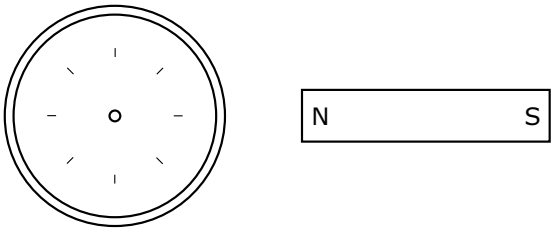
Ⓒ Only as in M

Ⓓ None of these ways would work.

Item Number: S012037



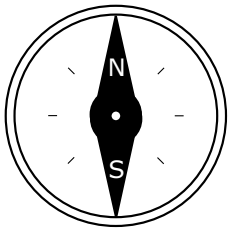
The diagram above shows a compass needle with its North and South poles labeled (N and S). It is placed next to a strong magnet as shown in the diagram below.



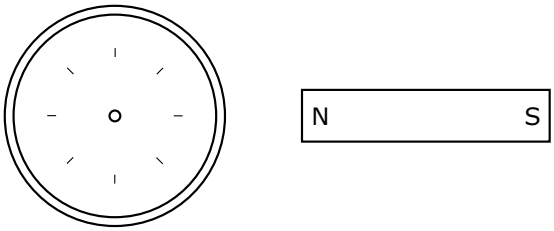
A. Draw the compass needle in the circle on the diagram above. Label the North (N) and South (S) poles of the needle.

B. Explain your answer using your knowledge of magnets.

Item Number: S032625A



The diagram above shows a compass needle with its North and South poles labeled (N and S). It is placed next to a strong magnet as shown in the diagram below.

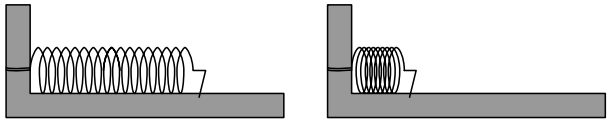


A. Draw the compass needle in the circle on the diagram above. Label the North (N) and South (S) poles of the needle.

B. Explain your answer using your knowledge of magnets.

Item Number: S032625B

Spring 1 and Spring 2 were the same. Then, Spring 1 was pushed together a little and clamped in place. Spring 2 was pushed together a lot and clamped.



1 2

Which spring has more stored energy?

Ⓐ Spring 1

Ⓑ Spring 2

Ⓒ Both springs have the same energy.

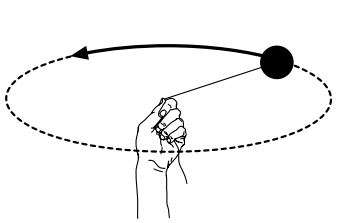
Ⓓ You cannot tell unless you know what the springs are made of.

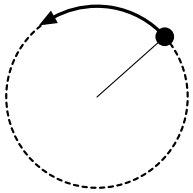
Item Number: S012002

When a nail is pulled out of a wooden board, the nail becomes warm.
Explain why.

Item Number: S032131

The diagram on the left shows a ball on the end of a string being whirled in a circle. The diagram on the right shows the whirling ball as viewed from above.

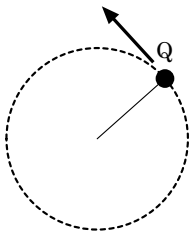




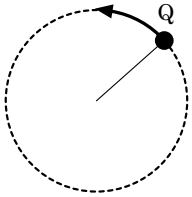
(View from above)

After several whirls, the string is released when the ball is at Q. Which of these diagrams shows the direction in which the ball will fly the instant the string is released?

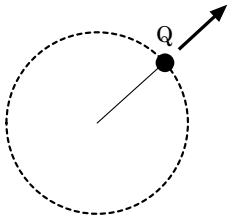
Ⓐ



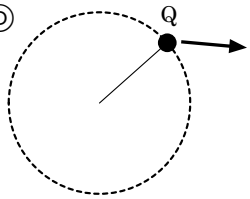
Ⓑ



Ⓒ



Ⓓ



Item Number: S022040

A balloon filled with helium gas is set free and starts to move upward.
Which of the following best explains why the helium balloon moves upward?

Ⓐ The density of helium is less than the density of air.

Ⓑ The air resistance lifts the balloon up.

Ⓒ There is no gravity acting on helium balloons.

Ⓓ The wind blows the balloon upward.

Item Number: S032281

The scientists measured the volume of the crown five times. They computed the density for each volume measurement. Their results are shown in the table below.

Trial	Volume of Crown (cm^3)	Density of Crown (g/cm^3)
1	202	11.88
2	200	12.00
3	201	11.94
4	198	12.12
5	199	12.06

A. Why did the scientists measure the volume five times?

B. The scientists reported to the king that the density of the crown was 12.0 g/cm^3. Show how the scientists used their results to obtain this value for the density.

Item Number: S032712A

The scientists measured the volume of the crown five times. They computed the density for each volume measurement. Their results are shown in the table below.

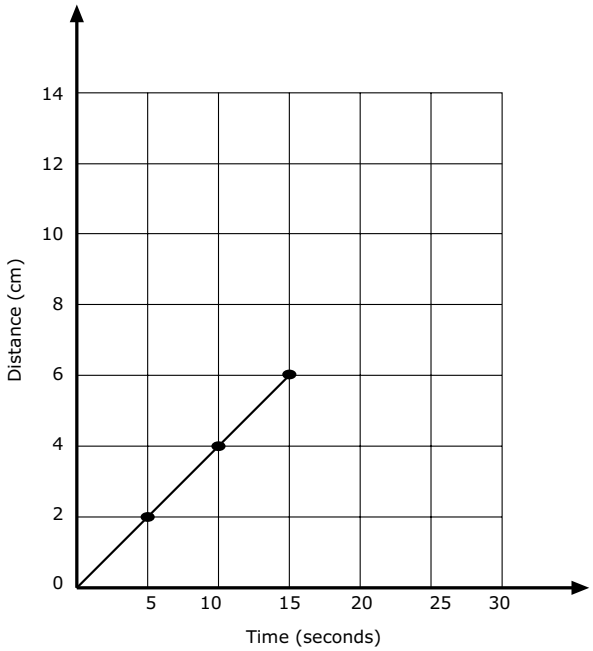
Trial	Volume of Crown (cm^3)	Density of Crown (g/cm^3)
1	202	11.88
2	200	12.00
3	201	11.94
4	198	12.12
5	199	12.06

A. Why did the scientists measure the volume five times?

B. The scientists reported to the king that the density of the crown was 12.0 g/cm^3. Show how the scientists used their results to obtain this value for the density.

Item Number: S032712B

The graph shows the progress made by a beetle moving along a straight line.



If the beetle keeps moving at the same speed, how long will it take to travel 10 cm?

Ⓐ 4 seconds

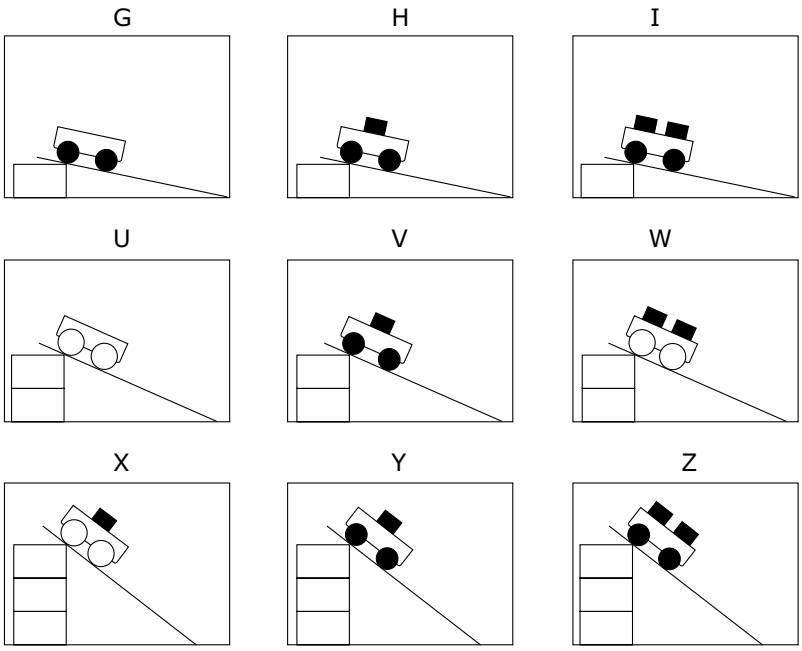
Ⓑ 6 seconds

Ⓒ 20 seconds

Ⓓ 25 seconds

Item Number: S022041

The diagrams show nine different trials Michael carried out using carts with wheels of two different sizes and different numbers of blocks of equal mass. He used the same ramp for all trials, starting the carts from different heights.



He wants to test this idea: The higher the ramp is placed, the faster the cart will travel at the bottom of the ramp. Which three trials should he compare?

Ⓐ G, H and I

Ⓑ I, W and Z

Ⓒ I, V and X

Ⓓ U, W and X

Ⓔ H, V and Y

Item Number: S022222

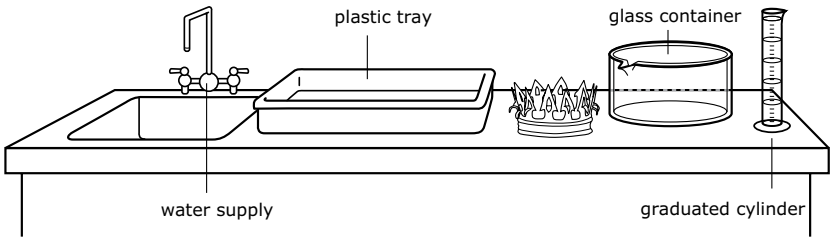
The table below shows the results of an experiment to investigate how the length of a spring changes as different masses are hung from it.

Mass (grams)	Length of Spring (cm)
0	5
10	7
20	9
30	11
40	12
50	13
60	13

Describe how the length of the spring changed as different masses were hung from it.

Item Number: S022286

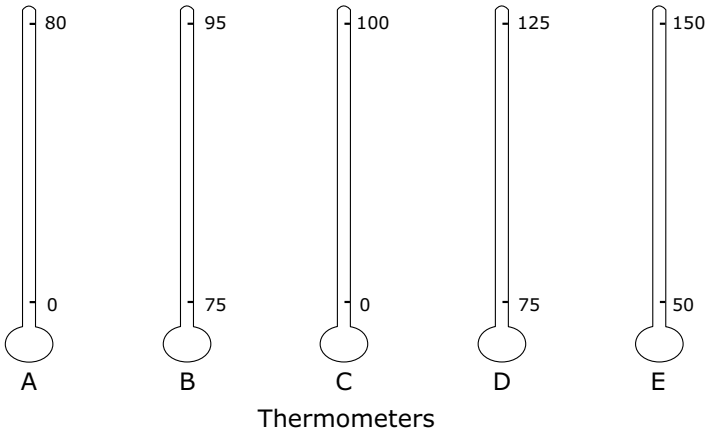
The scientists then needed to find the volume of the crown in order to determine its density. The following equipment and materials were available for them to use.



Describe a procedure that the scientists could use to find the volume of the crown using some or all of the equipment and materials shown above. You may use diagrams to help explain your procedure.

Item Number: S032711

At different altitudes, the boiling point of water ranges from about 80° C to 100° C. Which of the Celsius thermometers shown below would give the most accurate measurement of the boiling point of water at different altitudes?



Ⓐ Thermometer A

Ⓑ Thermometer B

Ⓒ Thermometer C

Ⓓ Thermometer D

Ⓔ Thermometer E

Item Number: S022225

A person in a dark room looking through a window can clearly see a person outside in the daylight. But a person outside cannot see the person inside. Why does this happen?

Ⓐ There is not enough light being reflected off the person in the room.

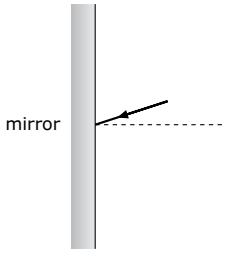
Ⓑ Light rays cannot pass through a window twice.

Ⓒ Outside light does not pass through windows.

Ⓓ Sunlight is not as intense as other sources of light.

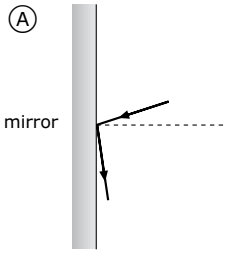
Item Number: S012004

A ray of light strikes a mirror as shown.

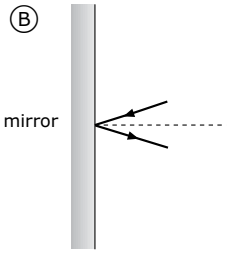


Which picture best shows the direction of the reflected light?

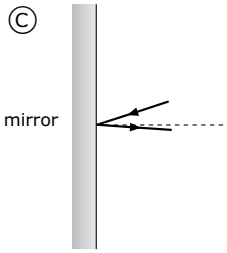
Ⓐ



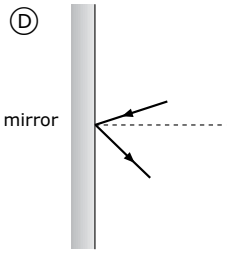
Ⓑ



Ⓒ

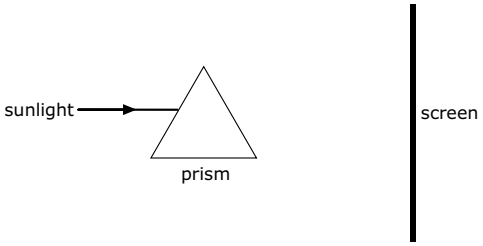


Ⓓ



Item Number: S022058

The diagram shows a ray of sunlight entering a glass prism.



Describe what will be seen on the screen.
(You may draw on the diagram to help explain your answer.)

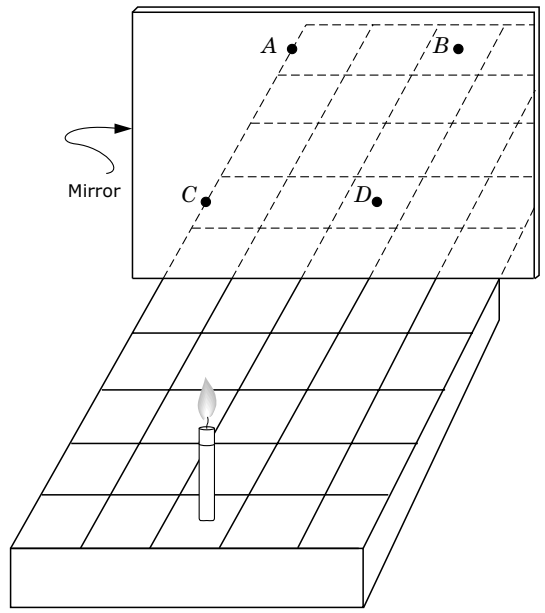
Item Number: S032375

Mary was looking out her window on a stormy night. She saw lightning and then heard thunder a few seconds later.

Explain why she saw lightning before she heard thunder.

Item Number: S032626

A candle is placed on a ruled grid in front of a mirror, as shown. At what point will the reflection of the candle appear to be?



Ⓐ Point A

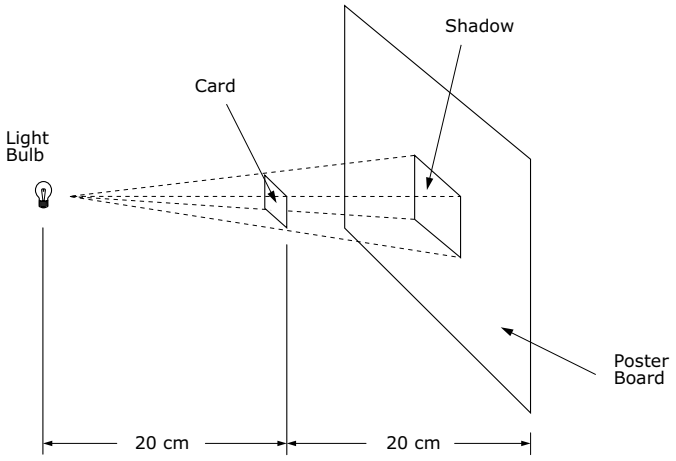
Ⓑ Point B

Ⓒ Point C

Ⓓ Point D

Item Number: S012015

A tiny light bulb is held 20 centimeters to the left of a square card, which is in turn held 20 centimeters to the left of a poster board, as shown. The shadow of the card on the poster board has a side of 10 centimeters.



If the poster board is moved 40 cm further to the right so that it is 80 cm from the light, what will be the new side of the card's shadow on the poster board?

Ⓐ 5 cm

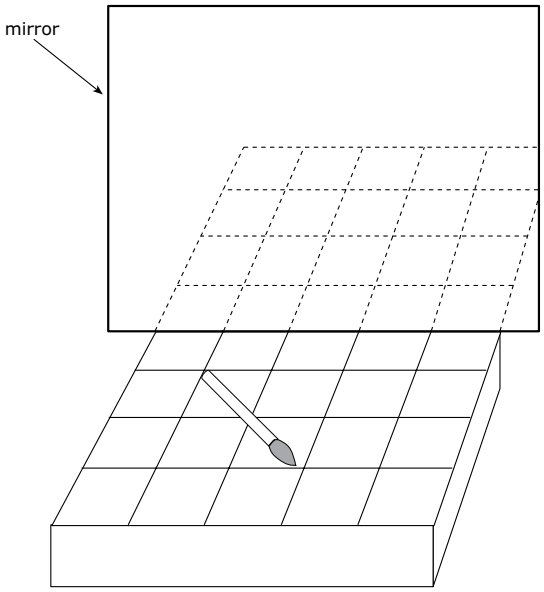
Ⓑ 10 cm

Ⓒ 15 cm

Ⓓ 20 cm

Item Number: S012029

The picture shows a paint brush that is lying on a shelf in front of a mirror. Draw a picture of the paint brush as you would see it in the mirror. Use the patterns of lines on the shelf to help you.



Item Number: S022279

A wet towel will dry when it is left in the Sun. Which process occurs to make this happen?

Ⓐ melting

Ⓑ boiling

Ⓒ condensation

Ⓓ evaporation

Item Number: S032055

Item Index 1999

Item Index 2003

Item Index 2003