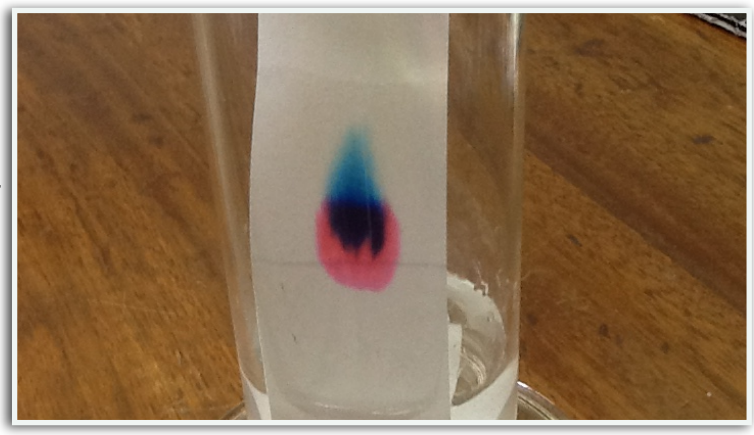


Science

First Year Science End of Year Revision.

Question1

The cartoon represents global warming.
How can human activity give rise to global warming?

How ? _____

_____

Give one effect of global warming.

Give _____

What is contraception?

What? _____

_____

Name one form of contraception.

Name _____

Question 2

(e) Human characteristics can be **inheritable** or **non-inheritable**.

Choose a word or words from the table to complete the following statements.

Inheritable characteristics are controlled by

_____.

An example of an **inheritable** characteristic

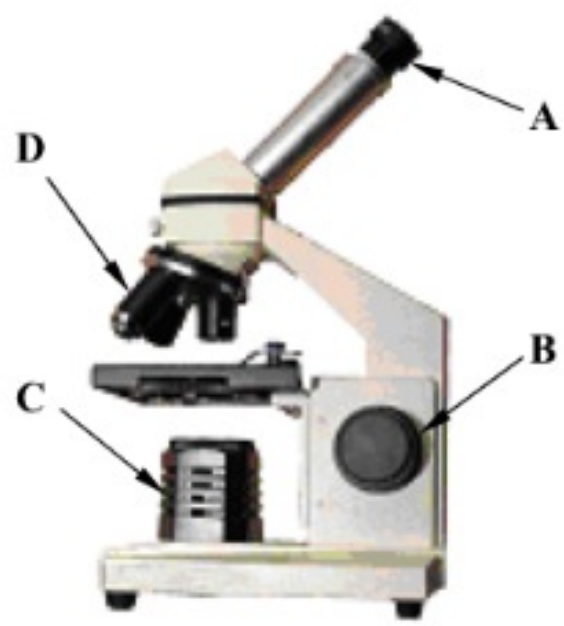
is _____.

Hormones
Genes
Eye colour
Ability to drive

Question 3

(*a*) The diagram shows a microscope. Examine the diagram and answer the questions below.

	Lamp
	Arm
	Eyepiece
	Focus wheel
	Base
	To magnify
	To focus
	To hold sample



(*i*) In the table:

Write the letter **A** beside the **name** of the part labelled **A**.

Write the letter **B** beside the **name** of the part labelled **B**.

Write the letter **C** beside the **name** of the part labelled **C**.

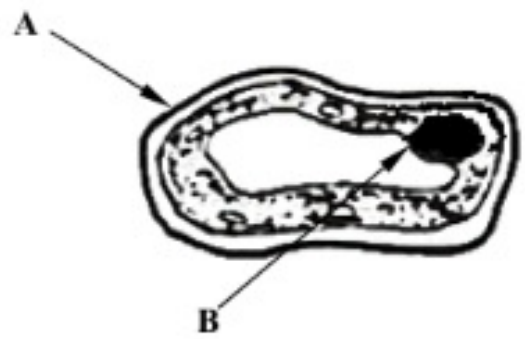
Write the letter **F** beside the **function** of the part labelled **D**.

(*ii*) **Name** the part of the microscope that you would place the slide on for viewing.

Name _____

Question 4

(*b*) The diagram shows a plant cell. (15



(*i*) Name the part of the cell labelled **A** in the diagram.

Name _____

(*ii*) Name the part of the cell labelled **B** in the diagram.

Name _____

(*iii*) Name **one** part found in a plant cell which you would not expect to see in an animal cell.

Name _____

4

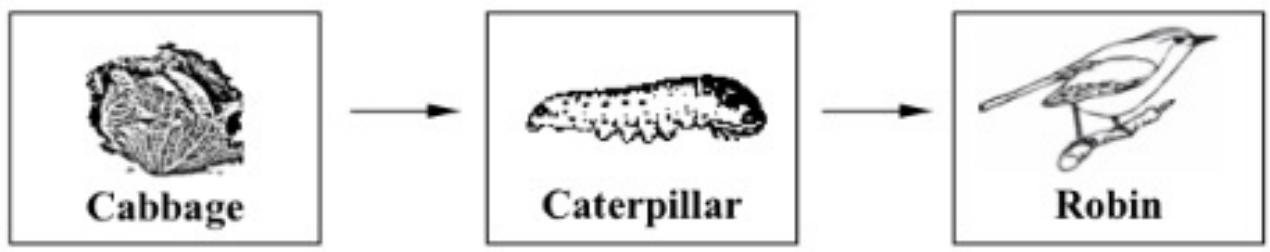
(*iv*) Iodine stain is sometimes added to a piece of onion skin when preparing a slide of plant cells.

Why is the iodine used?

_____

_____

(*c*)



Name the **producer** in the food chain shown above. _____ (3

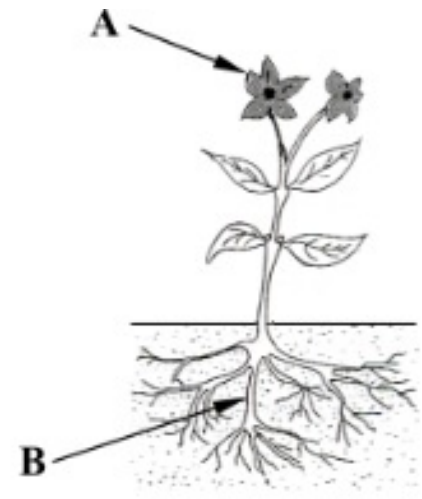
Give **one** example of competition between animals in the habitat that you have studied. (3

Example _____

_____

Question 5

(*a*) The diagram shows a flowering plant.
Name the parts of the plant labelled **A** and **B**.



Name **A** _____

Name **B** _____

(*b*) Animals can be classified as **vertebrates** or **invertebrates**.

Vertebrates are animals with a

_____.

In the table write the letter **V** below the example of a **vertebrate**.

 snail	 mouse

(*c*) All living organisms have common **characteristics** e.g. respiration.

Give two **other characteristics** of living organisms.

1 _____ **2** _____

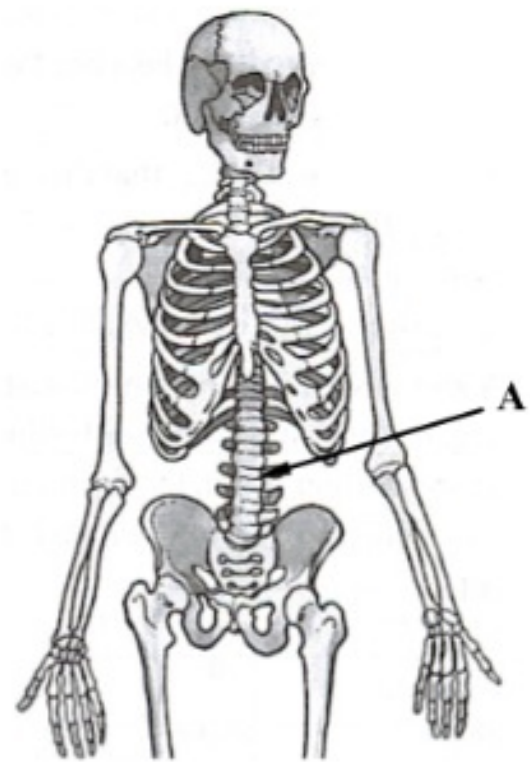
(*d*) The diagram shows part of the human skeleton.

Name the bones labelled **A** in the diagram.

_____

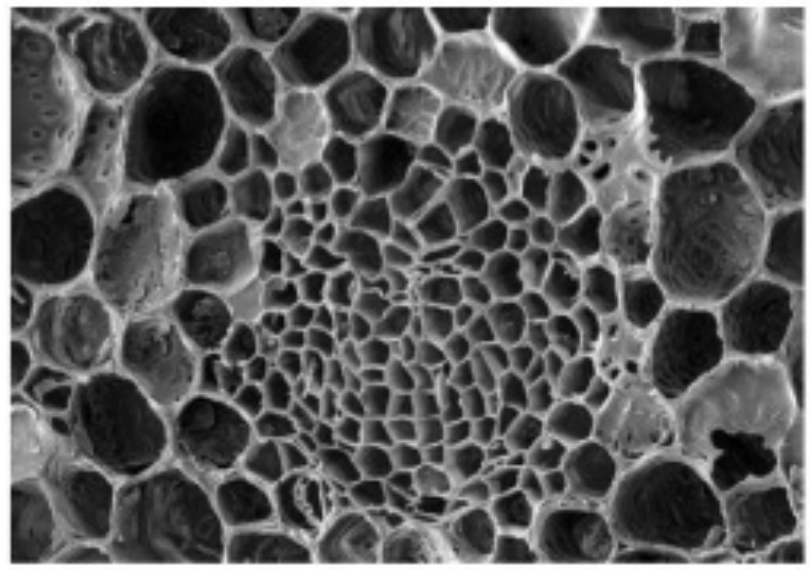
Give one **function** of the skeleton in the human body.

_____



Question 6

The photograph, made by a scanning electron microscope, shows two types of plant vascular tissue, **xylem** and **phloem**.
Give the function of each tissue.



Xylem _____

_____

Phloem _____

Name the two substances that chromosomes are made of.

Substance one _____

Substance two _____

Asexual and sexual reproduction occur in plants. State how a named plant can reproduce asexually.

Name _____

How? _____

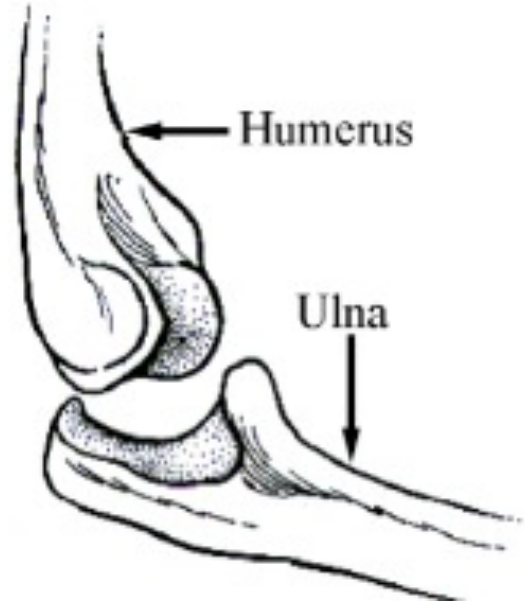
Name the **type** of joint shown in the diagram.

Name _____

Describe the movements that this type of joint can make.

Describe _____

_____



Question 7

An insect feeds on a flower and picks up pollen. When the insect visits another flower of the same species it leaves some of the original pollen behind.

(*i*) Give a second way in which transfer of pollen between plants occurs. (3)

Give _____

(*ii*) Draw a labelled diagram of a suitable flower showing the stigma, style, ovary, anther and filament in the box provided. (15)

7

(*iii*) Name the part of the flower that produces the male gamete. (3)

Name _____

(*iv*) Name the part of the flower that produces the female gamete. (3)

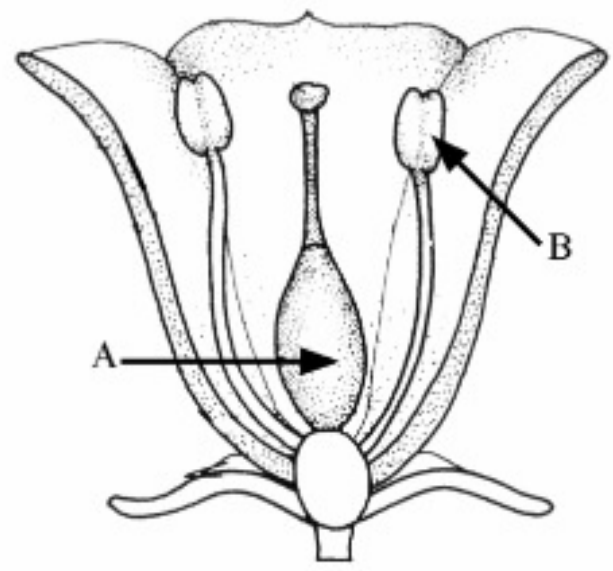
Name _____

(*v*) What follows fertilisation in flowering plants? (3)

What? _____

Question 8

(*b*) The female part of the flower is called the carpel and the male part is called the stamen. The diagram is a cross section through a flower.



(*i*) Name ***part*** A of the carpel and give its ***role*** in the sexual reproduction of plants. (6)

Name _____

Role _____

_____

(*ii*) Name ***part*** B of the stamen and give its ***role*** in the sexual reproduction of plants. (6)

Name _____

Role _____

_____

(*iii*) Give a ***way*** in which the pollen from the flower of one plant can be transferred to the flower of another plant. (3)

Give _____

(*iv*) Name the ***cell*** that is formed when a male gamete (sperm) and a female gamete (egg) combine. (3)

Name _____

(*v*) What does the ***cell*** formed by the fusion of the male and female gametes of a flowering plant ***grow and develop*** into? (3)

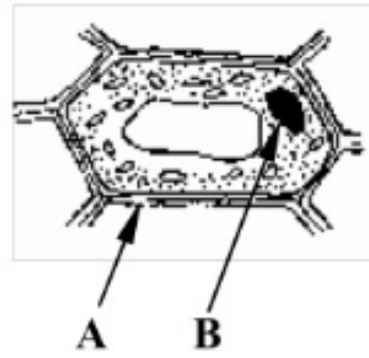
What? _____

Question 9

Question 1 (52)

(*a*) The diagram shows an onion cell.

Name the parts of the cell labelled **A** and **B**.



Name **A** _____

Name **B** _____

(*b*) New plants are produced by **seed germination**.

Complete the following statement using the correct words from the list on the right.

Carbon dioxide
Water
Oxygen

Seeds need warmth, _____

and _____ to germinate.

(*c*) A white flower was placed in coloured water for a few days as shown in the diagram.

What effect would you expect this to have on the flower?

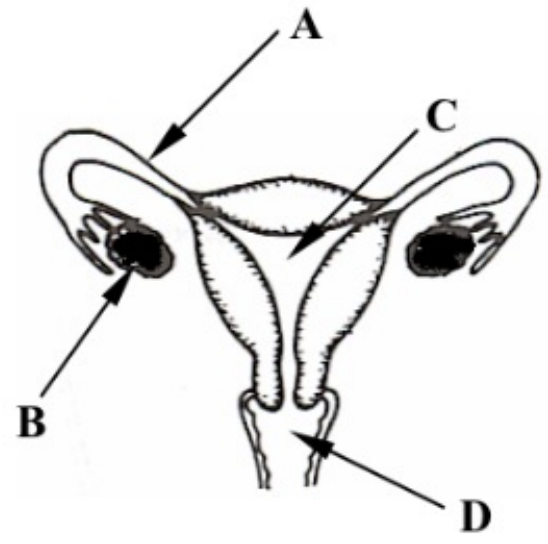
_____

What conclusion can be drawn about the movement of water in plants?

_____

Question 10

(*h*) The diagram shows part of the female reproductive system.



Study the diagram and answer the questions below.

An egg (female gamete) is released from the part labelled _____.

The **fusion** (joining) of the egg with the sperm usually takes place in the part labelled _____.

During **pregnancy** the baby develops in the part labelled _____.

10

Question 11

(*e*) The child in the photograph is helping a dandelion to disperse its seeds.

(*i*) Why is ***seed dispersion*** important for plants?

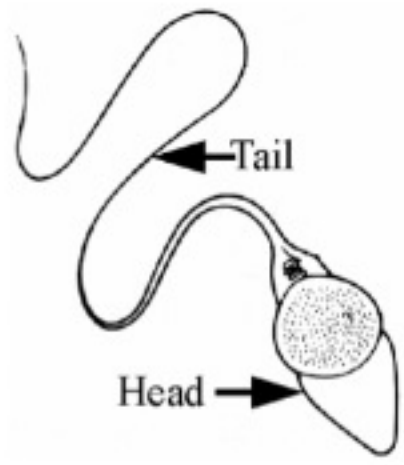
Why? _____

_____

(*ii*) Give a ***second way***, excluding wind, by which ***plants disperse seeds***.

Give _____

(*f*) The diagram shows a sperm. The tail enables the sperm to swim.



(*i*) Why does the sperm need to be able to swim?

Why? _____

(*ii*) Where does fertilisation occur?

Where? _____

(*g*) (*i*) Name a ***plant*** that can reproduce ***asexually***.

Name _____

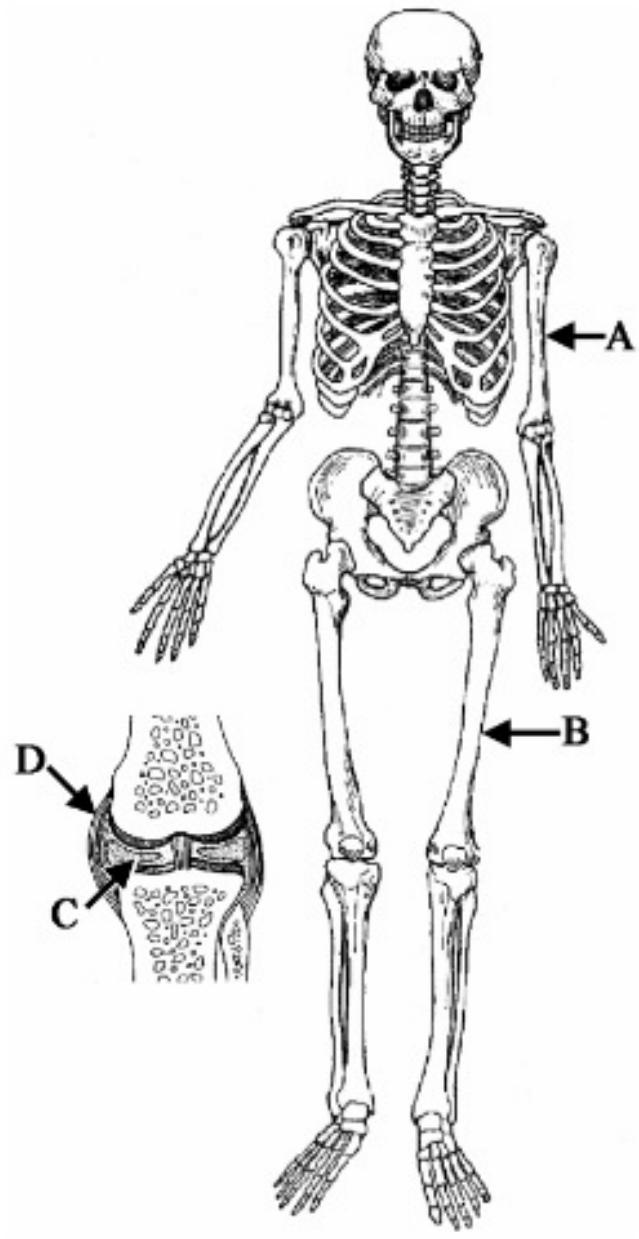
(*ii*) Describe ***the way the plant*** that you have named ***reproduces asexually***.

Describe _____

Question 12

Question 2 (39)

(*a*) The diagram shows a human skeleton with a detailed drawing of the structure of the knee joint. The kneecap is not shown.



(*i*) Name the ***bones*** labelled **A** and **B**. (6)

Bone **A** _____

Bone **B** _____

(*ii*) What ***type of joint*** is the knee? (3)

Type _____

C is synovial fluid. **D** is a ligament.

(*iii*) Give the ***functions*** of the parts labelled **C** and **D** in the knee. (6)

C _____

_____

D _____

(*iv*) Explain the ***action of antagonistic pairs of muscles*** in causing the ***movement*** of limbs. You may use a labelled diagram in your answer if you wish. (6)

_____

_____

_____

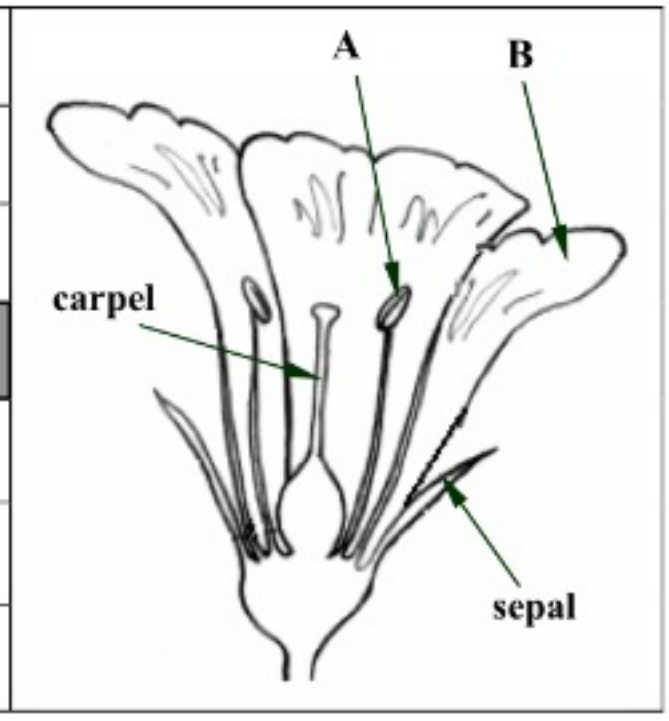
_____

_____

Question 13

(*a*) The diagram shows a flower. Examine the diagram and answer the questions that follow. (9)

	Petal
	Stigma
	Stamen
	Attract insects
	Pollination
	Seed dispersal



(*i*) In the table write the letter **A** beside the name of the part labelled **A**.

(*ii*) In the table write the letter **B** beside the name of the part labelled **B**.

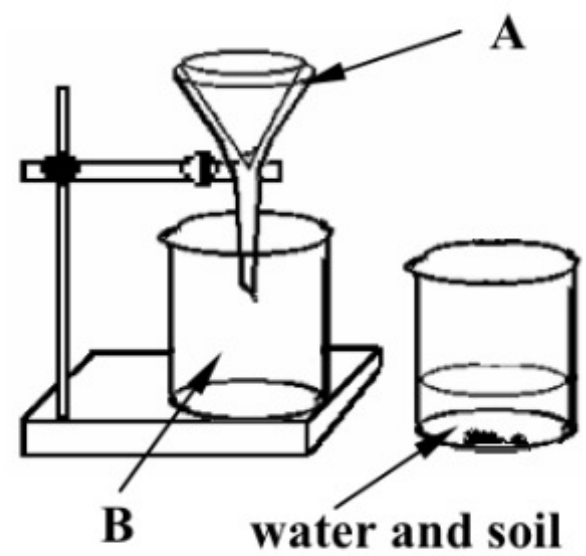
(*iii*) Write the letter **F** beside the function of the part labelled **B**.

Chemistry

Question 1

Question 4

(*a*) The apparatus used to separate soil and water is drawn on the right.



Name the piece of equipment labelled **A**.

Name of A _____

Would you expect to find the soil in **A** or **B** at the end of the experiment? _____

Question 2

(*c*) Water exists in the three states of **solid**, **liquid** and **gas**.

In the table write **S** opposite the solid.

	Steam
	Water
	Ice

What word describes the change of state from a solid to a liquid?

_____

(*d*) Choose an example of a **household acid** and a **household base** from the list on the right.

Water
Vinegar
Baking Soda

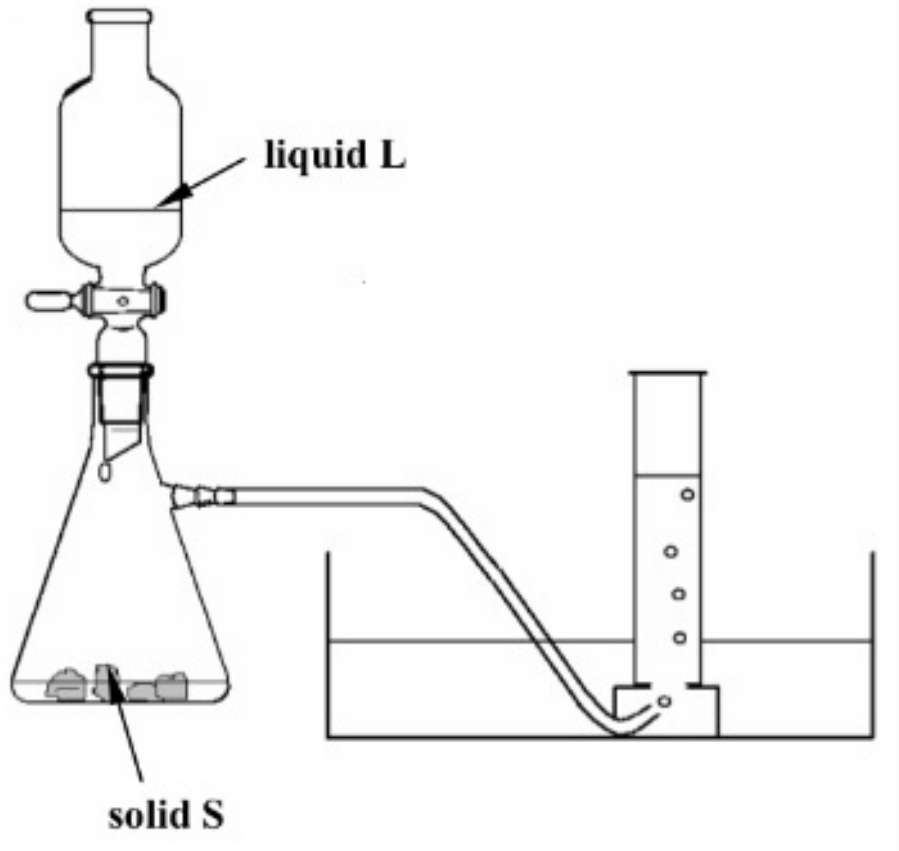
Acid _____

Base _____

Question 3

(*b*) The diagram shows the preparation of oxygen gas. Examine the diagram and answer the questions that follow. (18)

	Manganese dioxide
	Hydrochloric acid
	Hydrogen peroxide
	Fire extinguisher
	Respiration
	Combustion



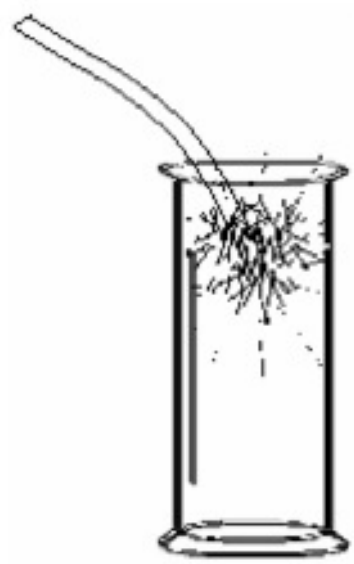
(*i*) In the table write the letter **S** opposite the name of the **solid** used in the preparation of oxygen.

Write the letter **L** opposite the name of the **liquid** used in preparation of oxygen.

Write the letter **U** beside **two uses** for oxygen gas.

(*ii*) The diagram shows magnesium being burned in oxygen to form magnesium oxide (MgO).

What effect does this substance have on moist litmus paper?

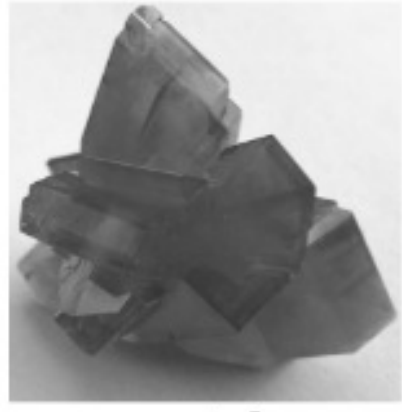


_____

_____

Question 4

(c) The growth of crystals can be investigated using either alum or copper sulfate.
The experimental procedure is similar in each case.



crystals

When you carried out this investigation the first thing you had to do was to make up a hot saturated solution of either alum or copper sulfate.

Name the solvent in which the alum or copper sulfate was dissolved. (3)

Solvent _____

How was the solvent heated? (3)

_____

What needed to be done to the hot saturated solution so that crystals formed? (3)

_____

_____

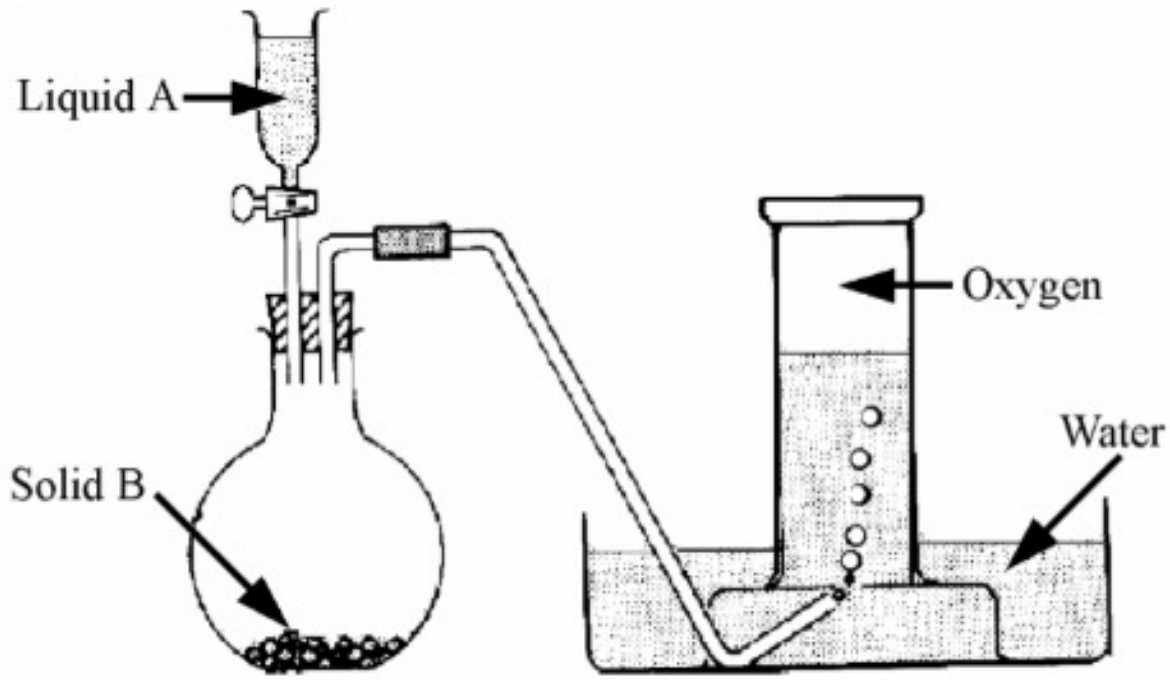
Other than the piece of equipment used to heat the solvent name one other piece of equipment used in this experiment. (3)

Name _____

Question 5

Question 5 (39)

(*a*) Oxygen can be prepared by decomposing liquid **A** using solid **B** as a catalyst. This preparation is shown in the diagram.



(*i*) Name ***liquid* A**. (3)

Name _____

(*ii*) Name ***solid* B**. (3)

Name _____

(*iii*) What is a ***catalyst***? (3)

What? _____

Carbon was burned in oxygen and the products tested with pieces of moist red and blue litmus paper.

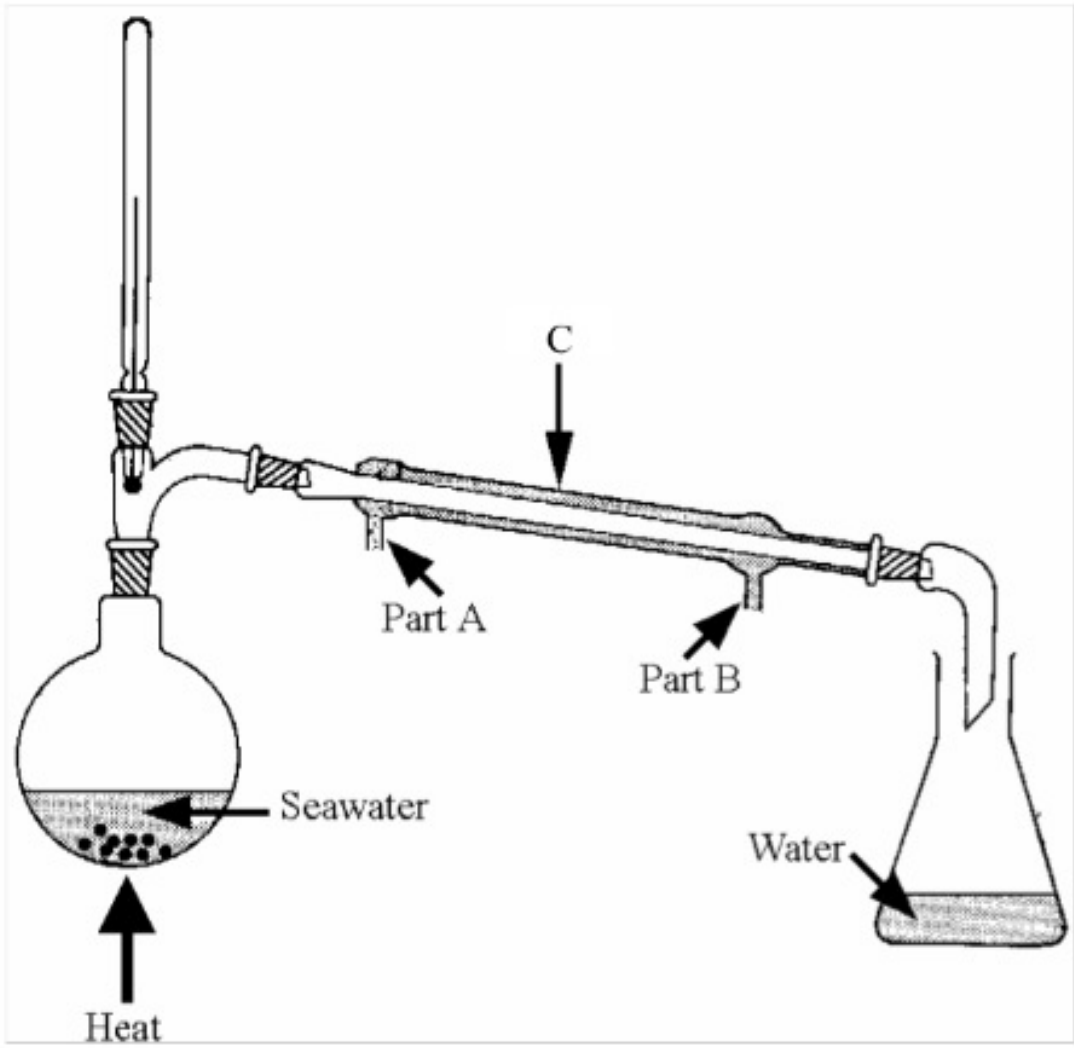
(*iv*) Give the ***result of the litmus test*** described above and make a ***conclusion*** based on this result. (6)

Result and conclusion _____

_____

Question 6

(c)



(*i*) Name the ***separation process*** shown in the diagram. (3)

Name _____

(*ii*) Name the ***item labelled*** **C** in the diagram. (3)

Name _____

(*iii*) Identify the ***part*** **A** ***or*** **B** ***of item*** **C** which is connected to the cold tap. (3)

Identify _____

(*iv*) How could you show that the water collected contains no salt? (3)

How? _____

Question 7

20

(*a*) Give **two *different properties*** of the element magnesium compared to the compound magnesium oxide.

One _____

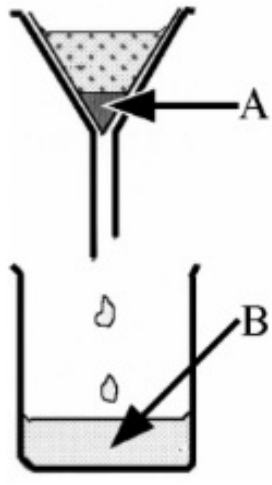
Two _____

(*b*) What ***effect*** has acid rain on limestone? Explain this ***effect***.

What? _____

Explain _____

(*c*) A mixture of sand and salt was stirred up with water and then filtered as shown in the diagram.



(*i*) Substance **A** was retained by the filter paper. Name **A**.

A _____

(*ii*) Substance **B** was passed through the filter paper. Name **one *constituent*** of **B**.

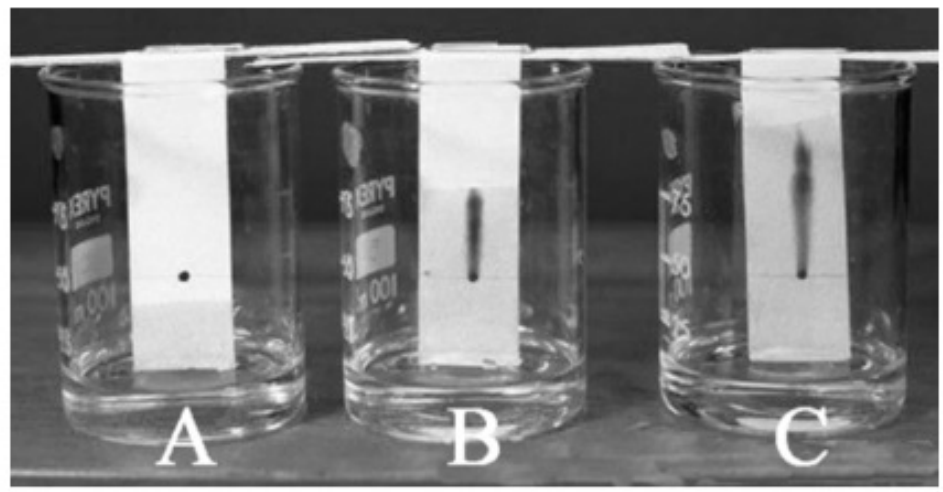
B _____

Question 8

(*g*) Name two non-metallic elements.

1 _____ 2 _____

(*h*) Paper chromatography was used to find the composition of brown ink in a pen. The same liquid, paper and pen were used in each of the three experiments shown. They were started at different times, **C** first then **B** and finally **A.**



(*i*) Why is the ink dot above the level of the liquid in each beaker?

Why? _____

(*ii*) What caused the dots of ink on the papers **B** and **C** to spread upwards?

What? _____

(*iii*) Why were colours, other than brown, seen in **B** and **C** as the ink moved up the paper?

Why? _____

Question 9

(*d*) Give a test to show that the droplets formed on the outside of a glass containing a cold drink are water. (6)

_____

_____

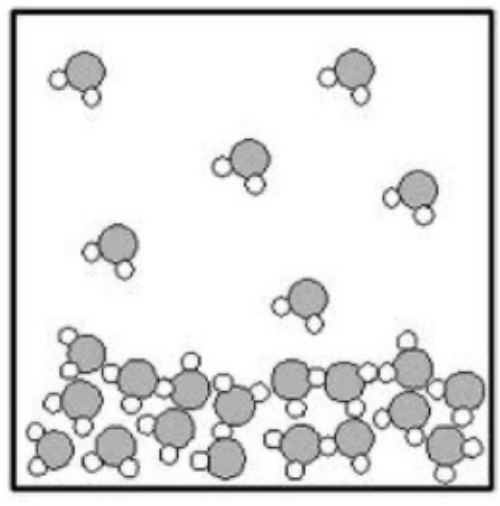
_____

_____

_____

Question 10

(*a*) The diagram shows the evaporation of water.
What is evaporation?



What? _____

_____

What do water molecules have to gain in order to evaporate from liquid water?

What? _____

Question 11

(*a*) Some elements are **non-metals**.

In the table write the letter **N**
beside the names of **two non-metals**.

	Copper
	Nitrogen
	Sulfur
	Magnesium

(*b*) **Water** is a compound composed of **two elements**.

Name these two elements.

1 _____ **2** _____

(*c*) Choose an **element** from the list on the right whose compounds dissolve in water to cause hardness in water.

Sodium

Calcium

Potassium

Element _____

Question 12

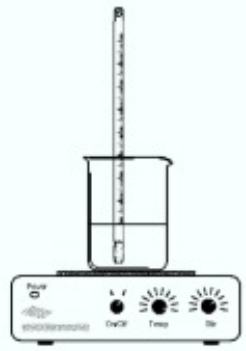
(*e*) A student recorded that **30 g of a salt dissolved in 100 cm^3 of water at 40 °C**.

Complete the following statement about solubility using a word from the list on the right.

At **80 °C** the solubility of the salt would

_____.

Increase
Decrease



(*f*) Air is a mixture of gases.

In the table write the letter **G** beside the names of **two gases** which are present in **unpolluted air**.

	Oxygen
	Carbon monoxide
	Carbon dioxide
	Sulfur dioxide

Question 13

(*a*) Substances can be classified as **elements**, **compounds** and **mixtures**. (9)

In the table write the letter **C** beside the name of a **compound**.

Write the letter **M** beside the name of a **mixture**.

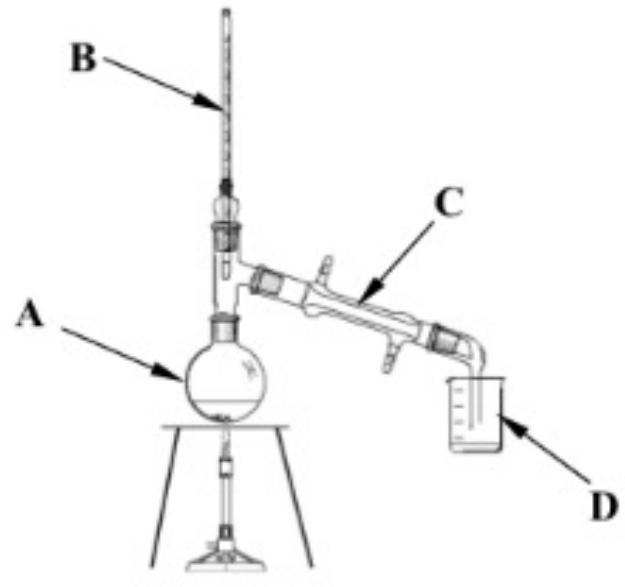
Write the letter **E** beside the name of an **element**.

	Ink
	Carbon dioxide
	Iron

(*b*) The diagram shows a separation technique used in the laboratory to separate a mixture of **water and a dissolved dye**.

Examine the diagram. Complete the table correctly **matching** the labels **A – D** in the diagram with the words in the table. (18)

	Thermometer
	Round bottomed flask
	Tripod
	Bunsen
	Condenser
	Beaker



Name the separation technique shown in the diagram.

Name _____

In which labelled part would you expect to find **most of the dye** at the end of the experiment?

Question 14

(*b*) The photograph is of Maire Curie (1867-1934). She showed the existence of the element radium and she produced 0.1 g of the compound radium chloride in 1902 by processing tons of pitchblende ore obtained from mines in Bohemia.

Explain the underlined terms. (12)

Element _____

_____

_____

_____

Compound _____

_____

_____

_____

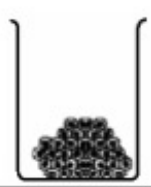
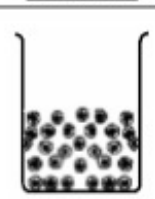
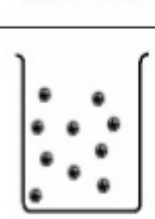
Question 15

(*c*) The three states of matter are **solid**, **liquid** and **gas**.

The diagram shows the arrangement of particles in the three states of matter.

In the table write the letter **L** beside the arrangement of particles in a **liquid**.

Write the letter **G** beside the arrangement of particles in a **gas**.

(*d*) In each case write the **symbol** of the metallic element beside its name in the table on the right.

	Aluminium
	Copper

Question 16

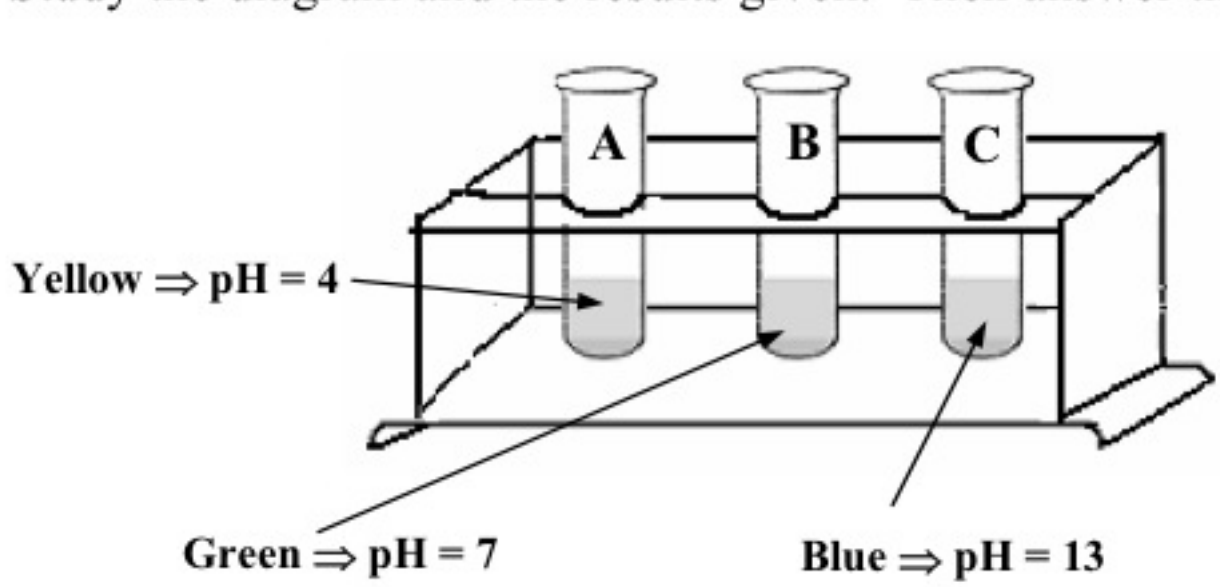
(*g*) Complete the following sentence using the words from the list on the right.

Water is an example of a _____ and

hydrogen is an _____ found in water.

Element
Compound

(*h*) The diagram shows the apparatus set up by a student to investigate **the pH of three different liquids A, B** and **C**.
A few drops of **universal indicator** were added to each liquid in a test tube.
Study the diagram and the results given. Then answer the questions below.



(*i*) Which test tube, **A**, **B** or **C**, contained **distilled water**? _____

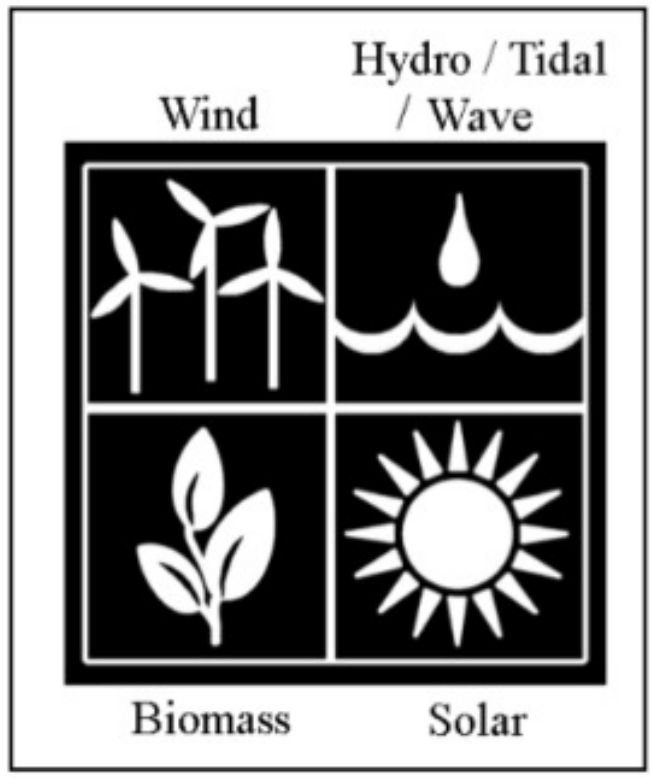
(*ii*) Which test tube, **A**, **B** or **C**, contained an **acid**? _____

Give a **reason** for your answer.

_____

Physics - Question 1

Renewable energies are shown in the picture.



Pick any two of the energies shown in the picture and name your selection.

Energy one _____

Energy two _____

(*i*) Give one advantage associated with each energy you've selected.
Two **different** reasons must be given.

Energy one _____

Energy two _____

(*ii*) Give one disadvantage associated with each energy you've selected.
Two **different** reasons must be given.

Energy one _____

Energy two _____

Question 2

(*c*) What causes the appearance of a 'second' drinking straw in the drink in the glass shown in the photograph?

What? _____

_____

_____

(*d*) The conversions of chemical energy to kinetic energy to potential energy occurs when you walk up a stairs. Give two more everyday examples of energy conversions and the contexts in which they occur.

1 _____

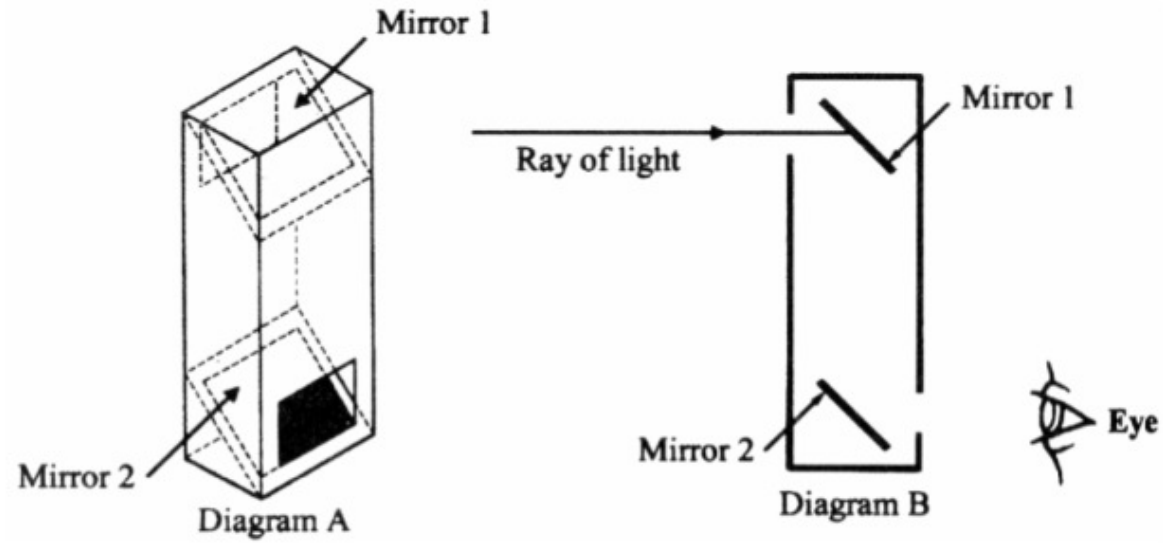
_____

2 _____

_____

Question 3

(*b*) (*i*) Diagram A is of a simple periscope. Complete diagram B ***showing the reflections of the ray of light at both mirrors***. (6)



Question 4

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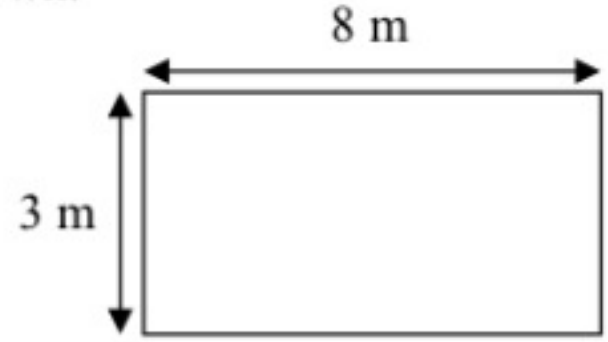
When a firework is set off at a distance,
which is detected **first**,
the **sound** of the explosion **or**
the burst of coloured **light** from the fireworks?

Which? _____

Give a **reason** for your answer.

_____

(*c*) Find the **area** of the rectangular shape shown.



Area _____

Give the **unit** that is used to measure the area.

Unit _____

(*d*) Sources of energy are either **renewable** or **non-renewable**.

What is meant by **renewable** energy?

_____

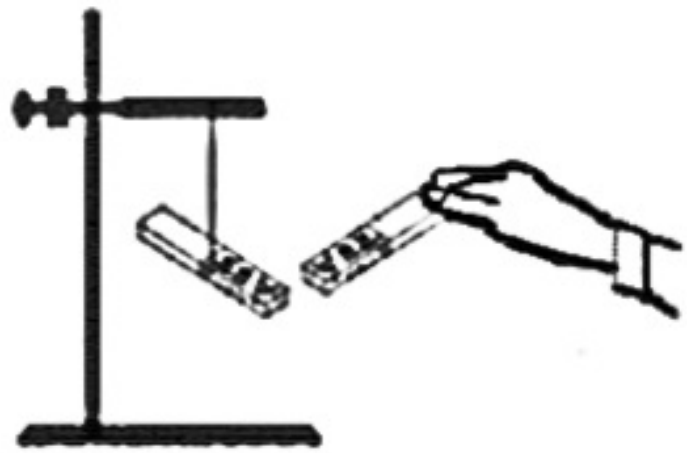
_____

In the table write the letter **R** below the example of a **renewable** energy source.

Question 5

(*e*) A student brings the **South Pole** of a magnet close to the **South Pole** of a freely suspended magnet.



What happens to the freely suspended magnet?

_____

Name a metal which is attracted by a magnet.

Name _____

(*f*) The diagram shows a battery-powered torch.

Complete the two main energy conversions which take place when the torch is in use.

1 _____ energy **to** electrical energy.

2 Electrical energy **to** _____ energy.

(*g*) The picture shows a piece of equipment used in the laboratory for measurement.

Name the piece of equipment shown.

Name _____

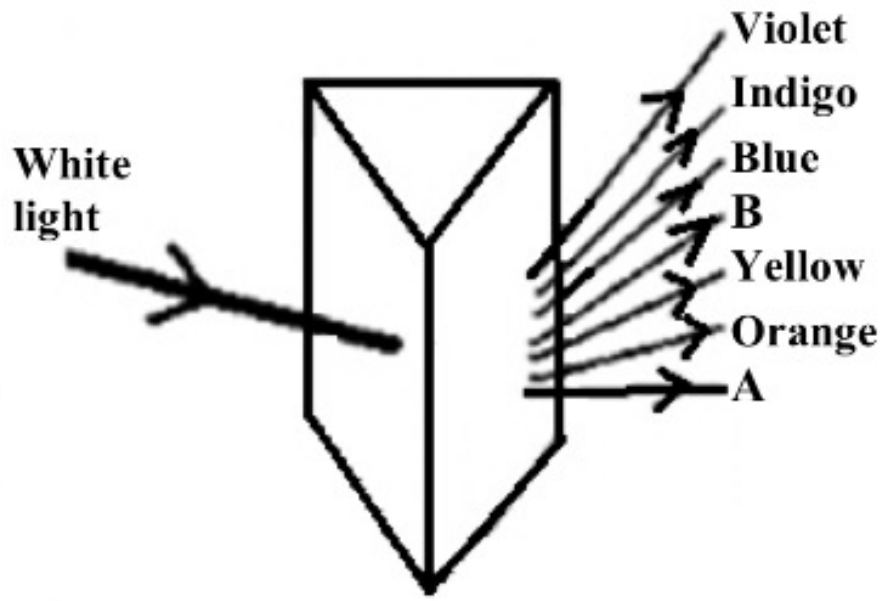
What is it used to **measure**?

_____

Question 6

(*a*) A student carried out an investigation to show that white light is composed of different colours. A beam of white light was passed through a prism as shown below. (6)

Name the colours labelled **A** and **B** in the band of colours formed.

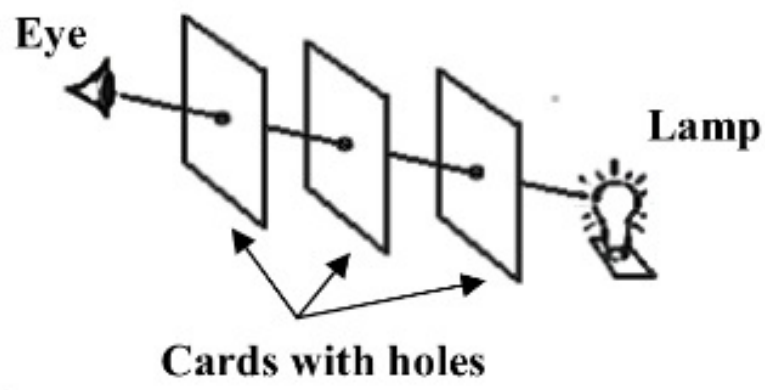


Colour A _____

Colour B _____

(*b*) A student then carried out another experiment on light as shown in the diagram.

Answer the questions that follow. (6)



What would the student see if the card in the middle is moved sideways?

_____

What does this experiment tell us about light?

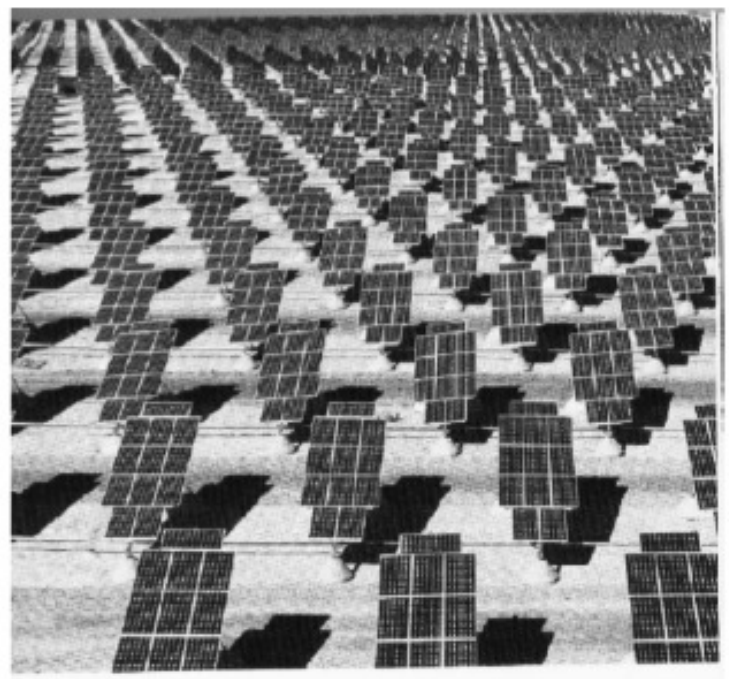
_____

Question 7

(*a*) The photograph shows part of a very large array of photovoltaic cells that convert light, from the sun, directly into electrical energy.

Light, from the sun is a renewable source of energy.

Ireland only uses about 2% renewable sources to meet current energy needs.



(*i*) Name **two *renewable energy sources***, excluding sunlight, that are available in Ireland. (6)

Source one _____

Source two _____

(*ii*) Give **two *benefits*** that Ireland would get from increasing the use of renewable energy sources to meet our energy requirements. (6)

Benefit one _____

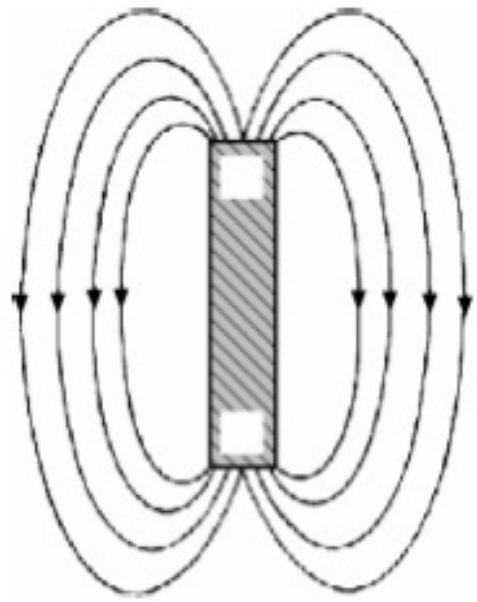
Benefit two _____

Question 8

(*ii*) Give **one *use*** for a periscope. (3)

Give _____

(*c*) The diagram shows a bar magnet with magnetic field lines on both sides.



(*i*) Label the ***north pole*** (N) ***or*** the ***south pole*** (S) of the magnet in the diagram. (3)

(*ii*) What information is given by the arrows on the magnetic field lines? (3)

What? _____

_____

(*iii*) Describe, using a labelled diagram in the box provided, a simple experiment to show that ***like magnetic poles repel each other***. (6)

_____

_____

_____

_____

_____

_____

(*iv*) Name a ***material*** that is attracted by magnets. (3)

Name _____

(*v*) How would you ***show*** that the Earth exerts ***magnetic forces***? (3)

How? _____

Question 9

(*e*) Complete the statements below using words from the list on the right.

Sound is a form of _____ caused by vibrations.

A reflected sound is called an _____.

Energy
Electricity
Noise
Echo

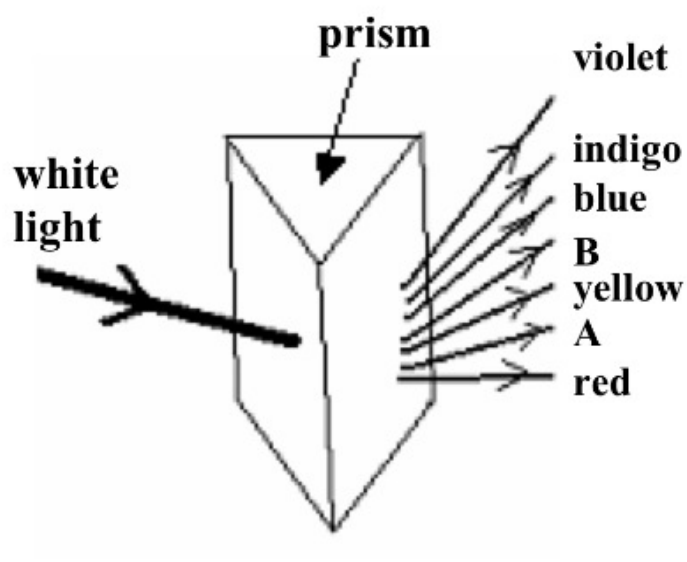
Question 10

(*d*) The diagram shows a ray of white light entering through a triangular glass prism. The light passes through the prism to form a band of colours.

Name the missing colours **A** and **B**.

A _____

B _____



Question 11

(*a*) When each of the appliances below is used energy conversions take place.

Electric kettle

Bunsen burner

Battery powered radio

Correctly match an appliance with an energy conversion that takes place when it is used. [Note: An appliance may be used more than once.] (12)

Electrical to heat	
Electrical to sound	
Chemical to electrical	
Chemical to heat	

Question 12

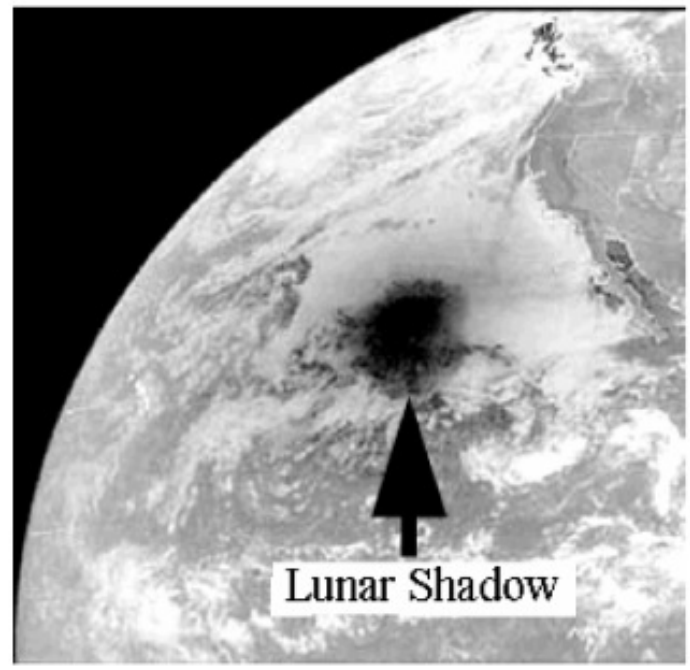
(*a*) Give ***two <u>useful</u> energy conversions*** that occur when the drill shown in the diagram is being used.

(*i*) _____

(*ii*) _____

Question 13

(*e*) The photograph, taken from a satellite above the earth, shows the shadow of the moon on the earths surface.



(*i*) Where does the ***light*** falling on the earths surface come from?

Where? _____

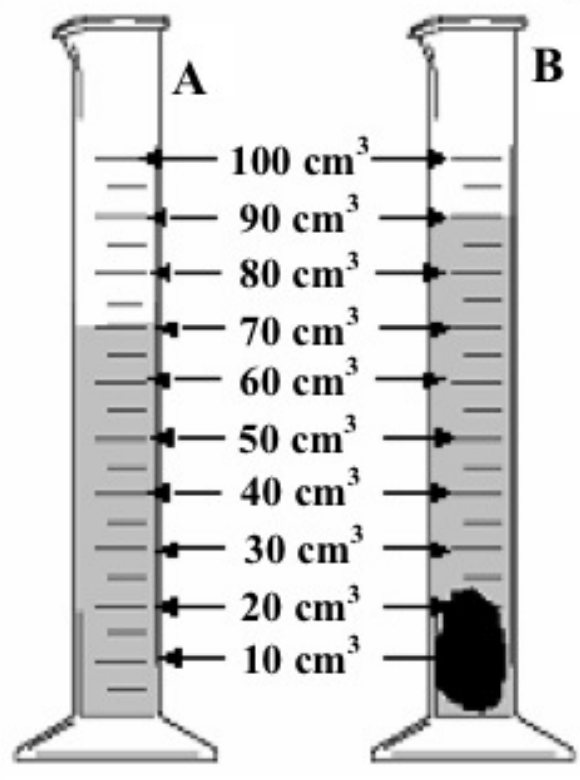
(*ii*) What ***property of light*** enables the formation of shadows?

What? _____

Question 14

(*a*) A student set up the equipment shown to **measure the volume of an irregular shaped object** e.g. a stone.

Answer the questions below about this experiment. (9)



Name the piece of glassware **A** drawn in the diagram.

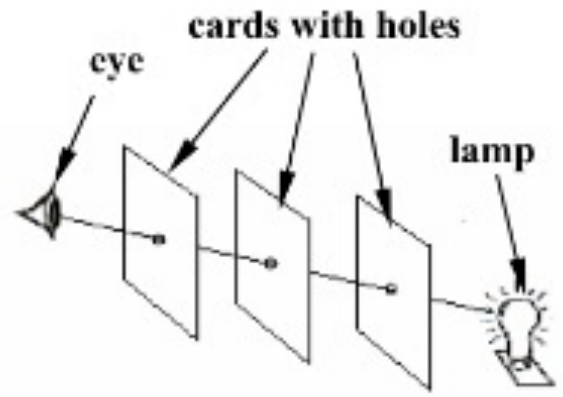
_____

Study the diagram. When the stone was carefully dropped into **A** arrangement **B** resulted.
Calculate the volume of the stone from the information shown.

Volume of stone _____ cm^3

Question 15

(c) An experiment on light was set up as shown.
Answer the questions that follow. (9)



(i) What would a person see if the three cards were set up as shown?

_____

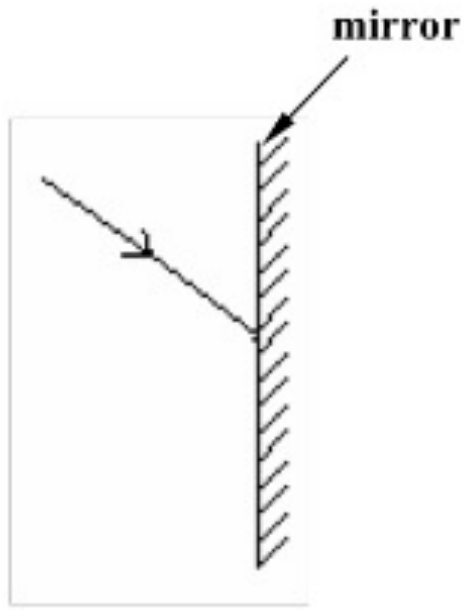
(ii) What would a person see if the middle card was moved sideways?

_____

(iii) What does this experiment tell us about light?

_____

(d) The diagram shows a ray of light striking a plane mirror. (6)



Complete the path taken by the reflected ray of light in the diagram.

Name an **instrument** that is based on the use of reflection of light from mirrors. _____