

NAME:	SCIENCE TEACHER:	<b>9A</b>
-------	------------------	-----------

# SCIENCE

## Year 9 Examination 2009

**9A – 40 marks**

**Make sure that you have answered all the questions in paper 9B before you start this paper**

***Time allowed for both examinations: 2 hours***

Answer all questions in the spaces provided on the paper.

You may use a calculator.

Show all your working in calculations; marks are awarded for it.

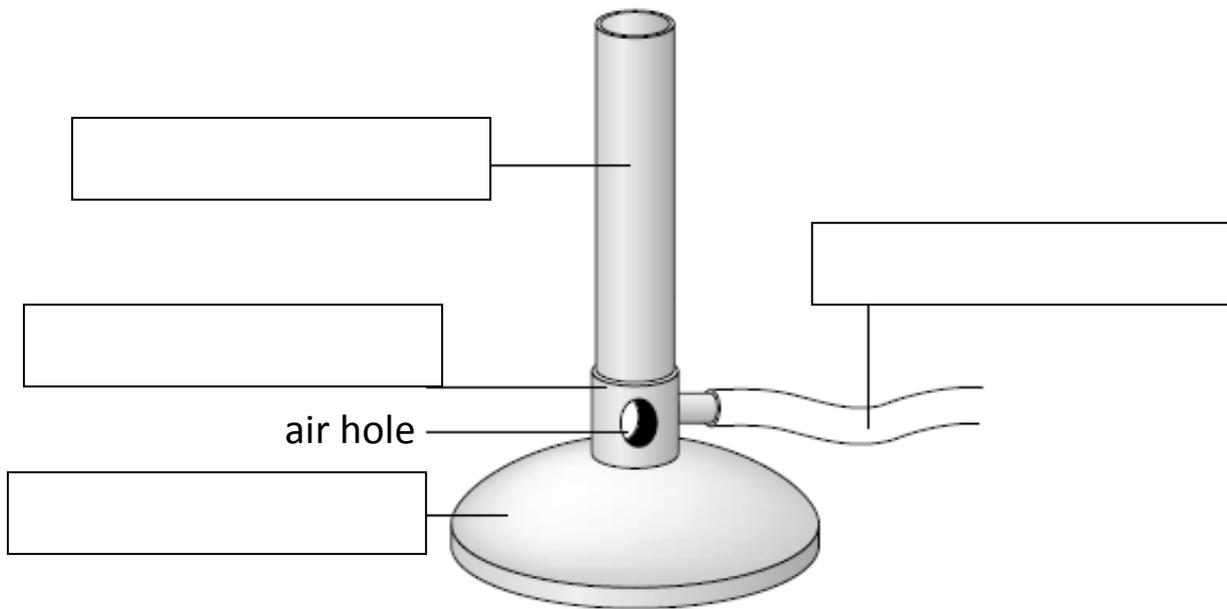
Give units for all answers (eg kg or m) unless they are already provided.

*For Teacher Use*

<i>Question</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	<i>Total</i>
<i>Marks gained</i>														
<i>Marks available</i>	4	2	1	4	4	4	3	2	5	3	3	2	3	40

**Question One** [4 marks]

(a) Label the Bunsen burner. The air hole has been done for you.



(b) Jack lights a Bunsen burner and the flame is yellow. Is the air hole open or closed?

---

(c) Marama turns the collar and the flame changes to blue. Has the flame become hotter or cooler?

---

(d) Jack followed all the safety rules as he lit the Bunsen. Then he wrote down the steps for Marama.

Work out the correct order for the steps.

- A Move the match away and blow it out.
- B Put the Bunsen on a heatproof mat and close the air hole.
- C Turn on the gas, then light the Bunsen with the match.
- D Light a match, holding it away from you.

The correct order is (write the letters) :

→  →  →

**Question Two** [2] marks

Label this diagram using these words provided.

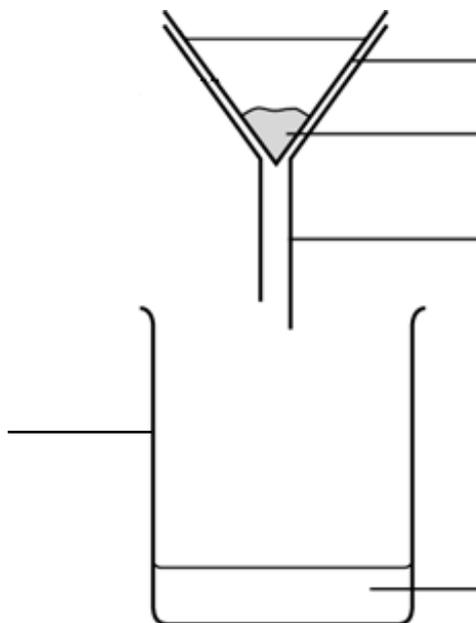
beaker

filter paper

filter funnel

filtrate

solid



**Question Three** [1] mark

Many things around a lab have special signs on them warning you of danger. Match each symbol with what it means. Join the dots with a ruler! **Two meanings won't be used.**

Symbols



•



•



•

• the equipment may give you a dangerous electric shock

• the chemical may harm your health

• the chemical will attack your skin

• the chemical is poisonous. Poisons can kill.

• the chemical will catch fire easily.

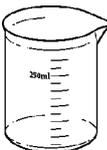
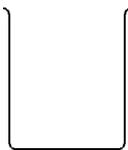
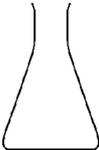
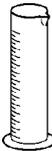
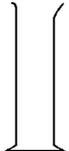
**Question Four** [4] marks

Usually in science we draw diagrams of apparatus rather than pictures.

Here are some diagrams of apparatus that you might use.

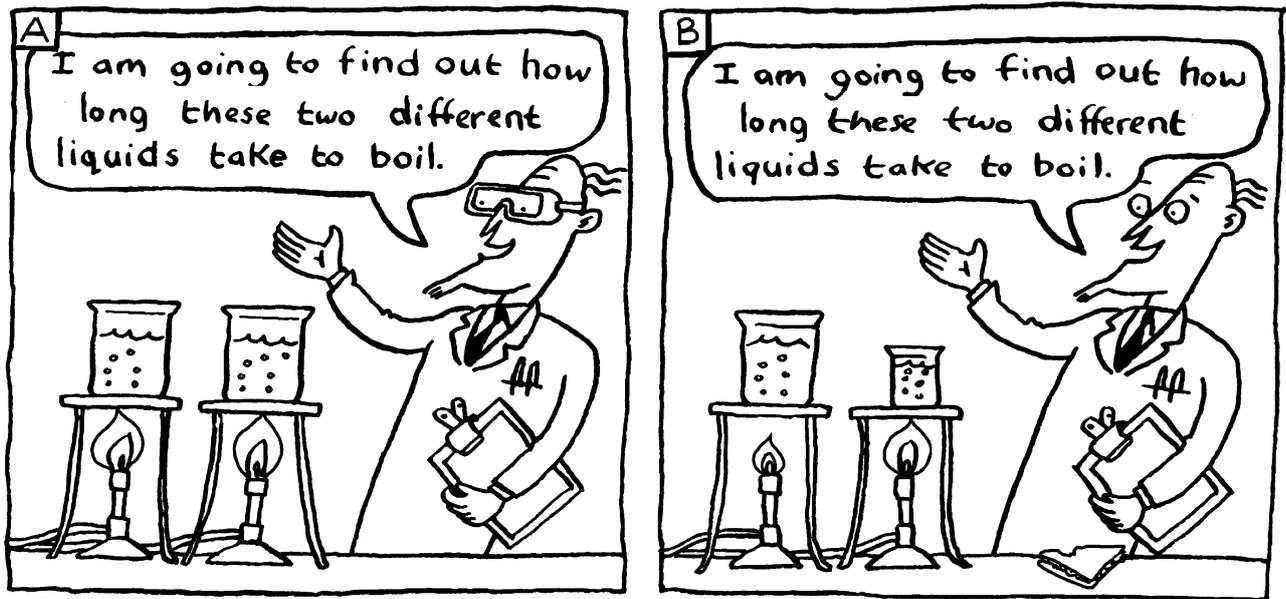
- a) Name the three pieces of apparatus.
- b) Write down what they are used for. Choose from the answers below.

<b>storing or mixing solids and liquids</b>	<b>holding and mixing liquids</b>
<b>measuring volumes of liquid</b>	
<b>cooling a vapour &amp; condensing it</b>	<b>heating liquids</b>

Picture of apparatus	Name	Diagram of apparatus	What it is used for
			
	Boiling tube		Heating solids and liquids
	Beaker		Holding liquids or solids
			
			

**Question Five** [4] marks

This scientist wants to do an experiment.



In **Picture B** the scientist is not being very careful.

There are four things that he is doing wrong.

Circle each one on Picture B and write a short explanation about each one on the lines below.

Mistake 1

---

---

Mistake 2

---

---

Mistake 3

---

---

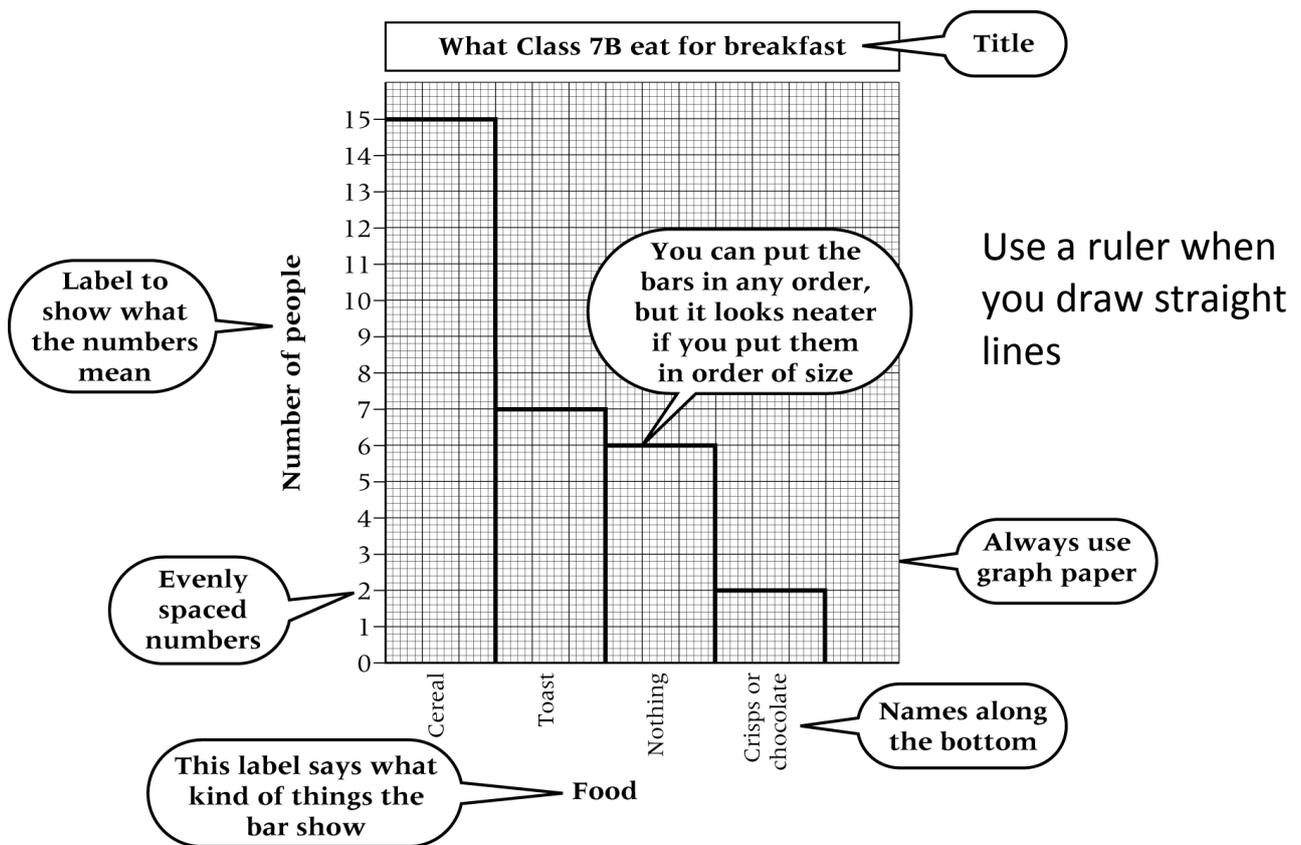
Mistake 4

---

---

**Question Six** [4] marks

Here are some instructions for drawing a really GREAT bar graph.



Draw a bar graph to show the results of this survey of the number of plants in a lawn. Use the graph paper on the page opposite.

Plant	Number
Daisy	10
Buttercup	7
Clover	20
Thistle	2

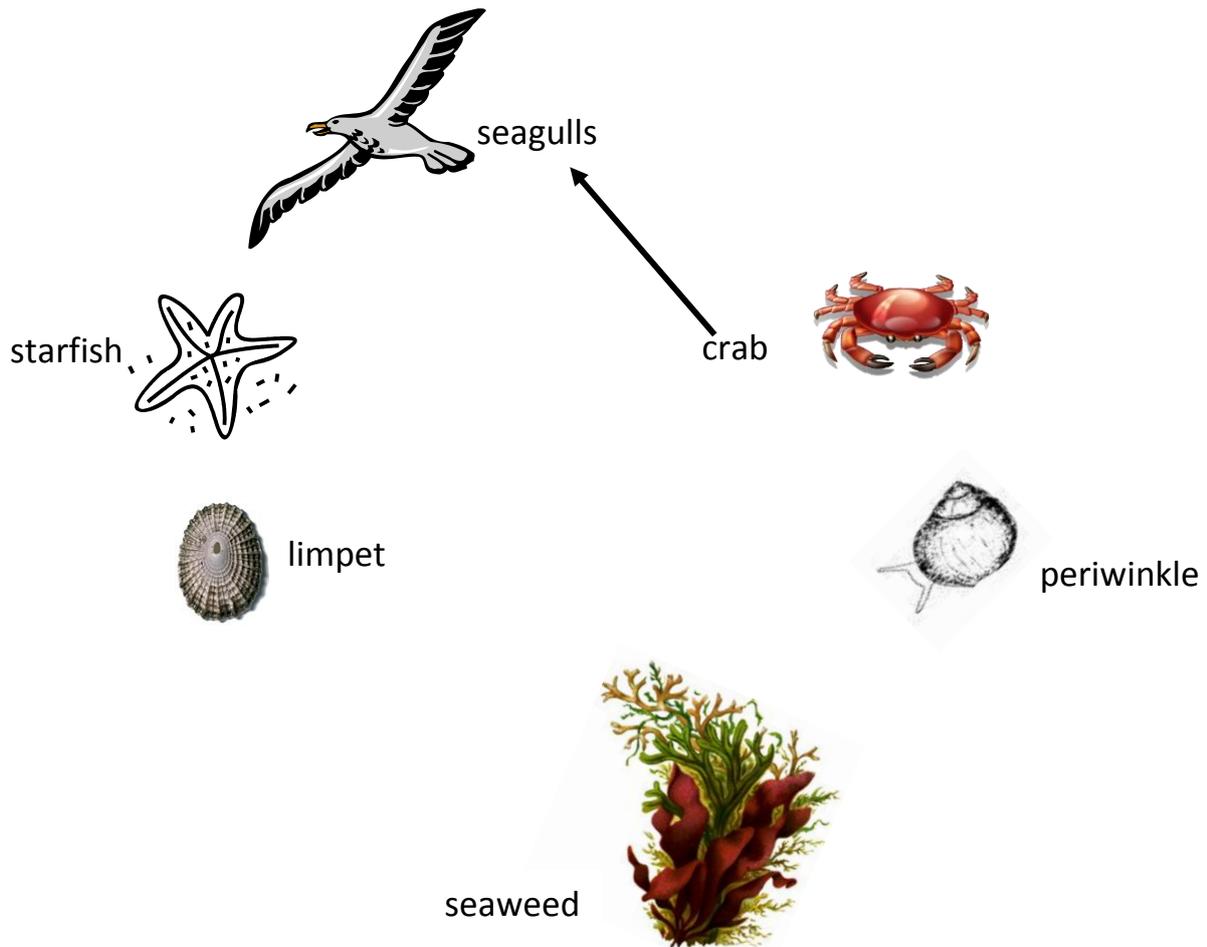


**Question Seven** [3] marks

Read these sentences.

- Along seashore, seagulls hunt for crabs and starfish to eat.
- Limpets and periwinkles feed on seaweed. When the tide goes out, the limpets and periwinkles are protected by shells.
- Limpets are eaten by starfish. Crabs eat periwinkles.

(a) Work out a food web from the sentences above. Draw your food web below **by adding arrows**. One has been done for you.

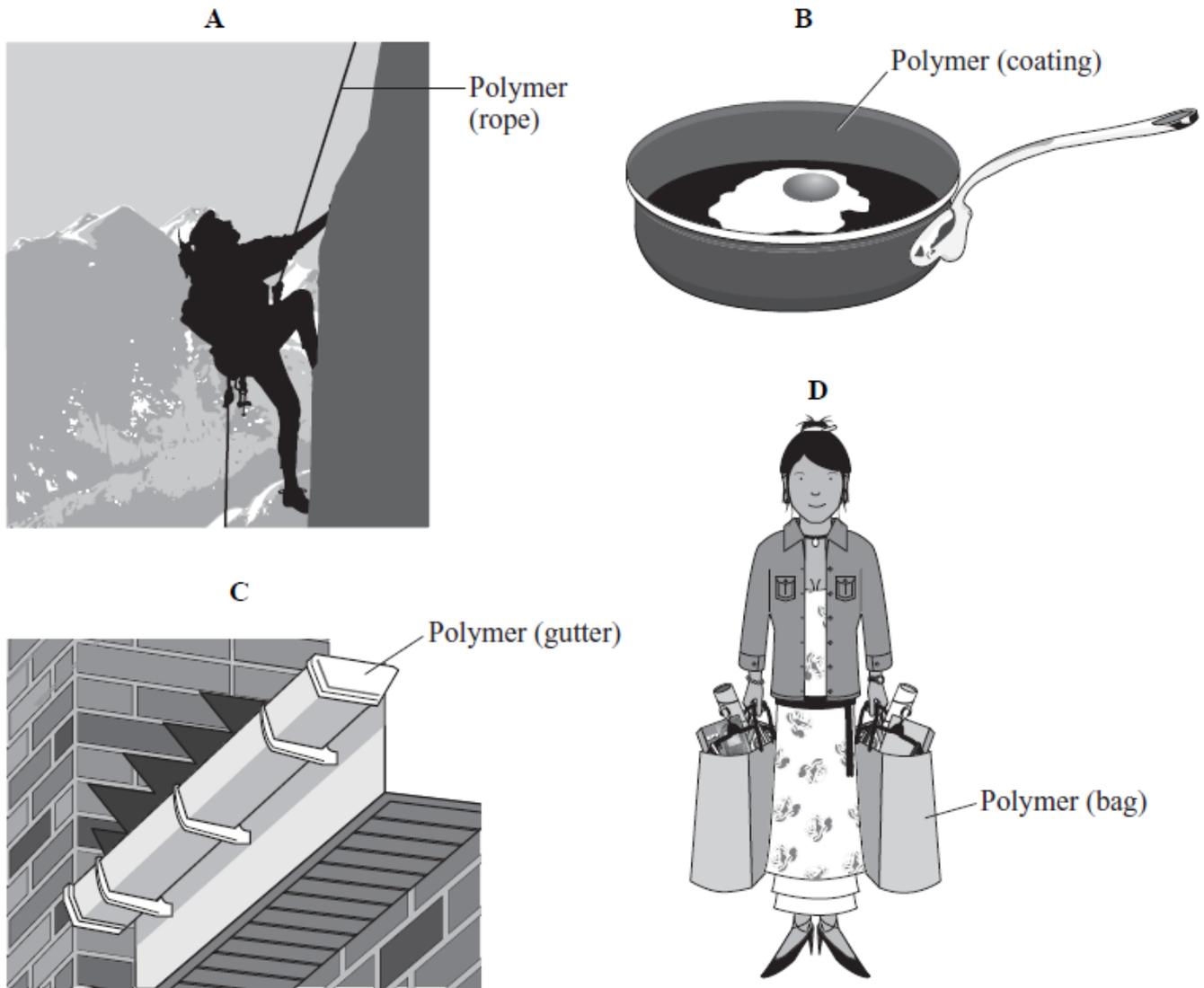


(b) Fill in this table using organisms from your food web.

Type of organism	Name of <b>one</b> organism like this
producer	
herbivore	
consumer	
predator	

**Question Eight** [2] marks

This question is about the properties of polymers (plastics) and their uses.



Match the pictures, **A**, **B**, **C** and **D**, with the properties **1–4** in the table.

Number	1	2	3	4
Properties	tough, slippery surface that can be heated	light and can be stretched into thin, tough sheet	can be moulded into hard shapes	strong, doesn't rot and can be pulled into fibres
Letter				

**Question Nine** [5] marks

(a) Which sentence about light is correct? Tick the right box.

Light cannot travel through air.

Light cannot travel through a vacuum.

Light cannot travel through stone.

Light cannot travel through water.

It is night time and the table lamp is lit. A woman sits at her desk.

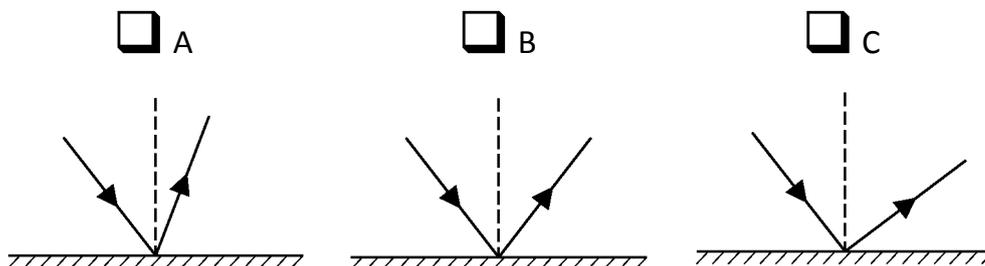


(b) Give **ONE** example of an opaque object.      A B C D E (circle your answer)

(c) Give **ONE** example of a transparent object.      A B C D E (circle your answer)

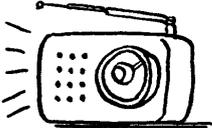
(d) Which object in the picture is a light source?      A B C D E (circle your answer)

(e) Each diagram shows a mirror with a ray of light hitting it. Put a tick in the box next to the diagram where the ray is reflected correctly.



**Question Ten** [3] marks

(a) Put the following sounds into the correct order starting with the quietest.

				
<i>Leaves rustling</i>	<i>Thunderclap</i>	<i>Motor cycle</i>	<i>Pop group</i>	<i>Radio at normal volume</i>

Quietest
Loudest

(b) Sally is playing her violin.



The window is shut.

(i) What part of the violin is vibrating to make the sound?

---

(ii) What could she do to the window to stop the sound from annoying her neighbours?

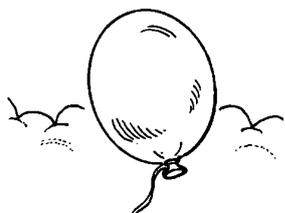
---

---

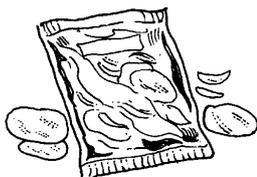
**Question Eleven** [3] marks

(a) Write the type of energy underneath each picture. The words you need are in the box.

<b>chemical</b>	<b>kinetic</b>	<b>light</b>	<b>potential (elastic)</b>
-----------------	----------------	--------------	----------------------------



*A blown up balloon.*



*A packet of chips.*



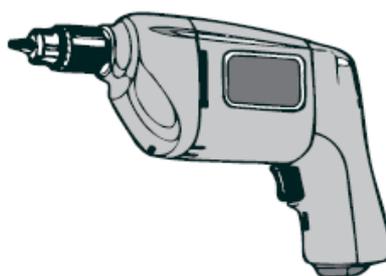
*A lit candle.*



*A moving car.*

--	--	--	--

(b) An electric drill uses electrical energy. Some energy is transferred as useful energy and the rest is wasted.



The useful energy produced by the drill is:

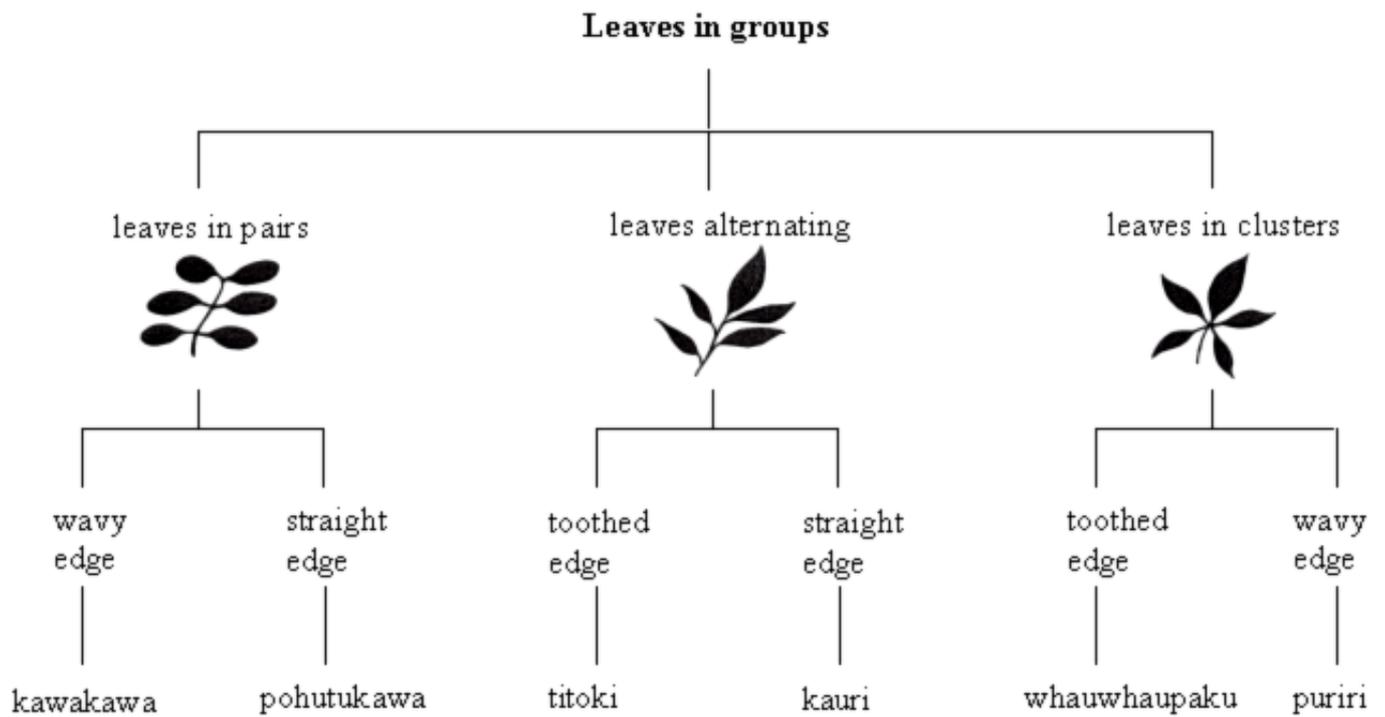
- A heat.
- B light.
- C movement.
- D sound.

The energy wasted by the drill is:

- A heat only.
- B heat and sound energy.
- C movement and light energy.
- D movement and sound energy.

**Question Twelve** [2] marks

This task is about using a key to identify plants.



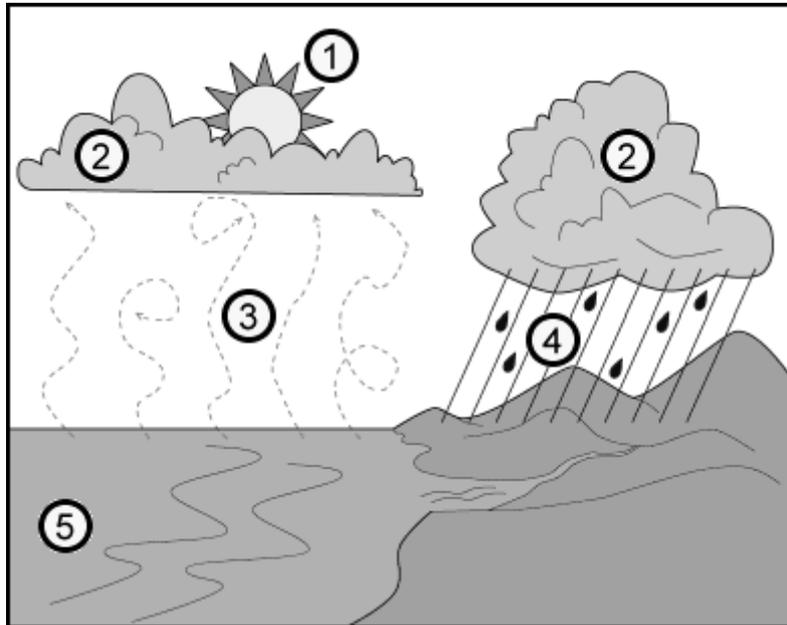
Use the key to name the following plants drawn below.

**Question Thirteen** [3] marks

(a) Use the diagram to identify the different parts of the water cycle:

	precipitation	evaporation	clouds	the Sun	the Ocean
Number					



(b) Choose the **best answer** from the brackets { } and circle it. The first one has been done as an example.

The { sun • water • clouds } evaporates { fish • rain • water } from lakes and oceans.

As the air rises, it cools.

The water vapour condenses into tiny droplets of { evaporation • water • sunshine }.

The droplets crowd together and form a { cloud • lake • storm }.

Wind blows the { rain • droplet • cloud } towards the land.

The tiny droplets join together and fall as precipitation to the { lake • ground • cloud }.

The water soaks into the ground.

It collects in { rivers & lakes • oceans & clouds • plants & animals }.

The { storm • cycle • river } that never ends has started again!