



Cambridge International Examinations
Cambridge Primary Checkpoint

CANDIDATE
NAME

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CENTRE
NUMBER

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NUMBER

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SCIENCE

0846/02

Paper 2

October 2016

45 minutes

Candidates answer on the Question Paper.

Additional Materials:

Pen
Pencil
Ruler

Calculator

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name in the spaces at the top of this page.
Write in dark blue or black pen.

DO **NOT** WRITE IN ANY BARCODES.

Answer **all** questions.

The number of marks is given in brackets [] at the end of each question or part question.
You should show all your working in the booklet.
The total number of marks for this paper is 50.

This document consists of **21** printed pages and **3** blank pages.

1 This question is about forces.

Which of the following are examples of forces?

Tick (✓) the **three** correct boxes.

a beam of light from a torch

a girl unscrewing a jar

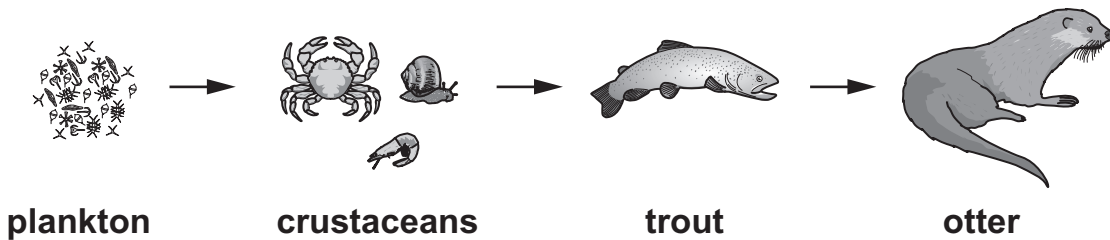
a horse pulling a cart

a man pushing a trolley

the sound of a drum

[2]

2 Here is a food chain.



Complete the sentences.

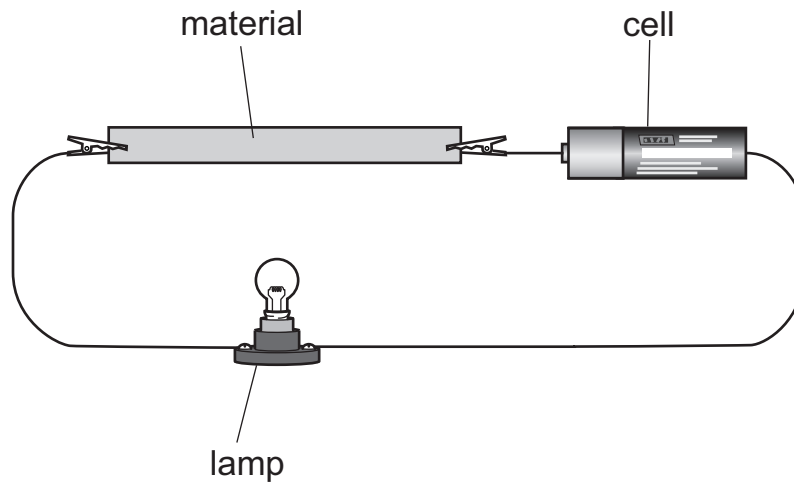
All food chains begin with a

In this food chain this is the

This living organism gets its energy from the [3]

3 Priya investigates electrical conductors.

She uses different materials in an electrical circuit.



(a) Explain how she can tell if a material is an electrical conductor.

..... [1]

(b) Which material is a good conductor of electricity?

Circle the correct answer.

copper

glass

plastic

wood

[1]

(c) Which material is **not** a good conductor of electricity?

Circle the correct answer.

brass

gold

rubber

silver

[1]

4 Insects pollinate flowers.



(a) Circle **one** statement that is **true** about the flowers pollinated by insects.

flowers can be bright colours

flowers close at night

leaves are large

petals are always small

stems bend easily

[1]

(b) Why do many flowers pollinated by insects produce **sweet nectar**?

..... [1]

5 This question is about sound.

(a) Decide if these sentences are true or false.

Tick (✓) the correct box next to each sentence.

When a string of a guitar vibrates a sound is produced.

true	false
<input type="checkbox"/>	<input type="checkbox"/>

A unit of loudness of sound is the decibel.

<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------

[1]

(b) Decide if these sentences are true or false.

Tick (✓) the correct box next to each sentence.

Sound travels at the same speed in all solid materials.

true	false
<input type="checkbox"/>	<input type="checkbox"/>

The speed of sound in space is the same as the speed of sound in air.

<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------

[1]

6 Mixtures can often be separated.

This is a list of ways of separating mixtures.

filtration

evaporation

magnetic attraction

sieving

(a) Use the words from this list to complete the table.

mixture	method of separation
salt and water	
steel powder and lumps of steel	
sand and water	
steel powder and copper powder	

[3]

(b) Angelique wants to separate a mixture of sand, iron powder and salt.

She knows she must use the following steps.

add water and stir

evaporate

filter

~~use a magnet~~

Put these steps in the correct order. The first one has been done for you.

first *use a magnet*

.....

.....

last

[1]

(c) Angelique wants to separate a mixture of dried peas and sand.

She uses a sieve rather than filter paper.

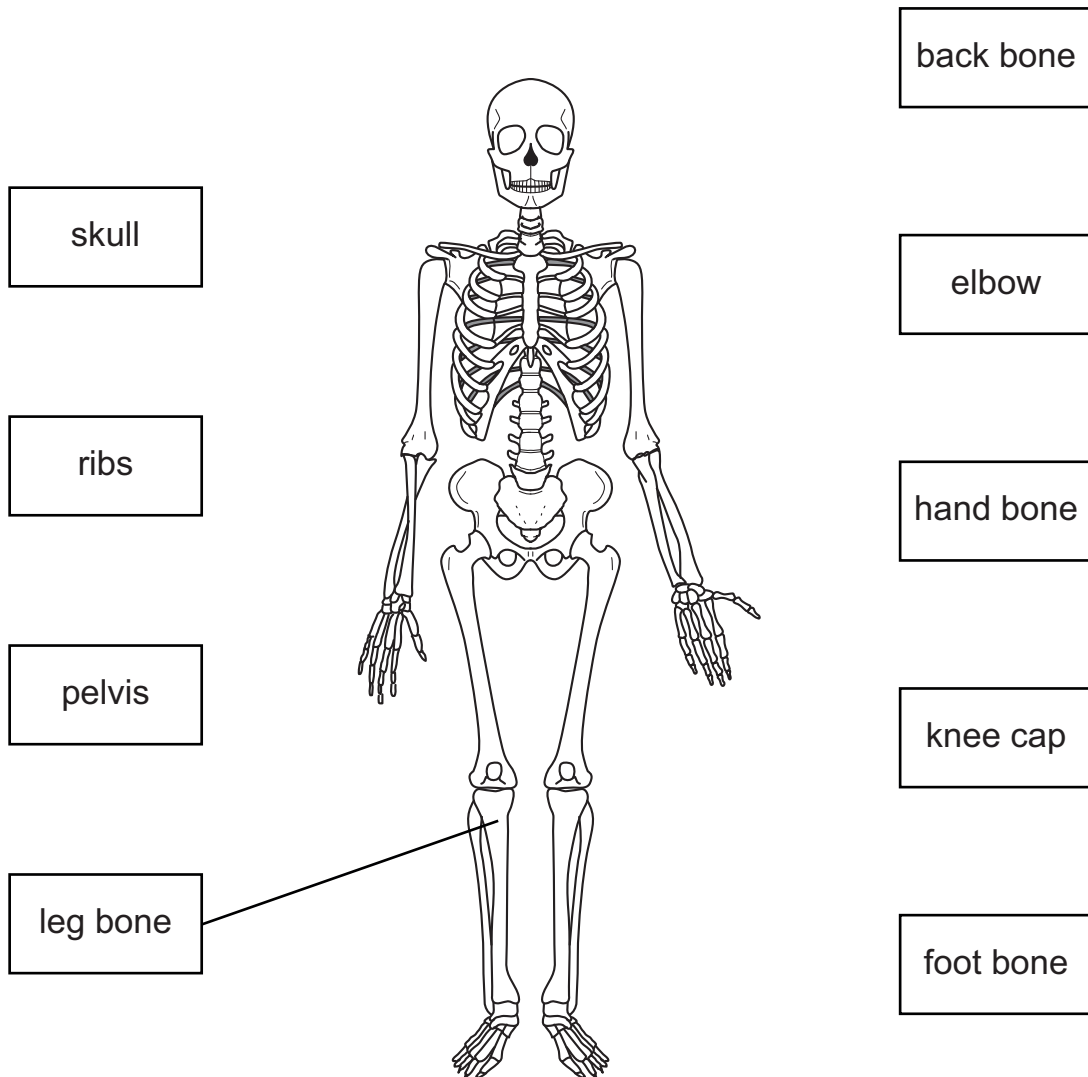
Explain why she uses a sieve.

.....
 [1]

7 Humans have bony skeletons inside their bodies.

Draw a line from each label to the correct part of the body.

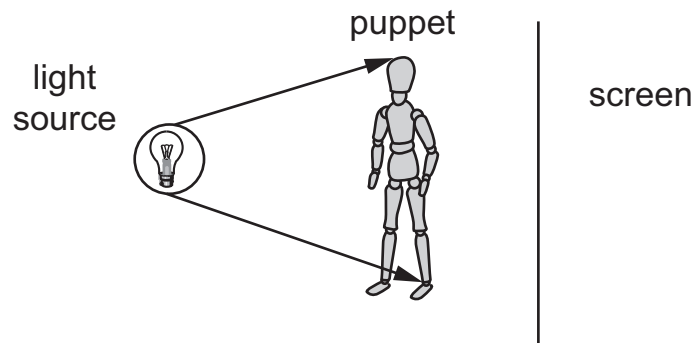
One has been done for you.



[3]

8 Mike is in a dark room.

He puts a puppet between a light source and a screen.



(a) Light travels from the light source.

Light is blocked by the puppet.

A dark area appears on the screen.

What is the name of this dark area?

..... [1]

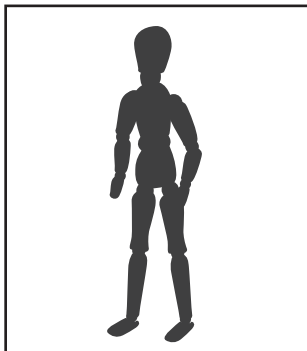
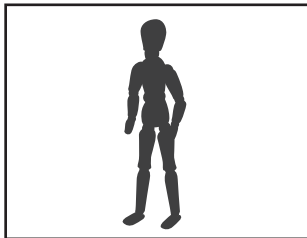
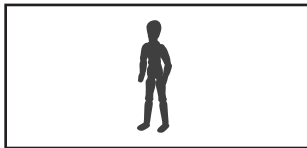
(b) Mike moves the puppet.

He does **not** move the light source.

He does **not** move the screen.

Draw lines from the **size of image** to the correct **distance of puppet from screen**.

size of image



distance of puppet from screen

at the mid-point

furthest from
the screen

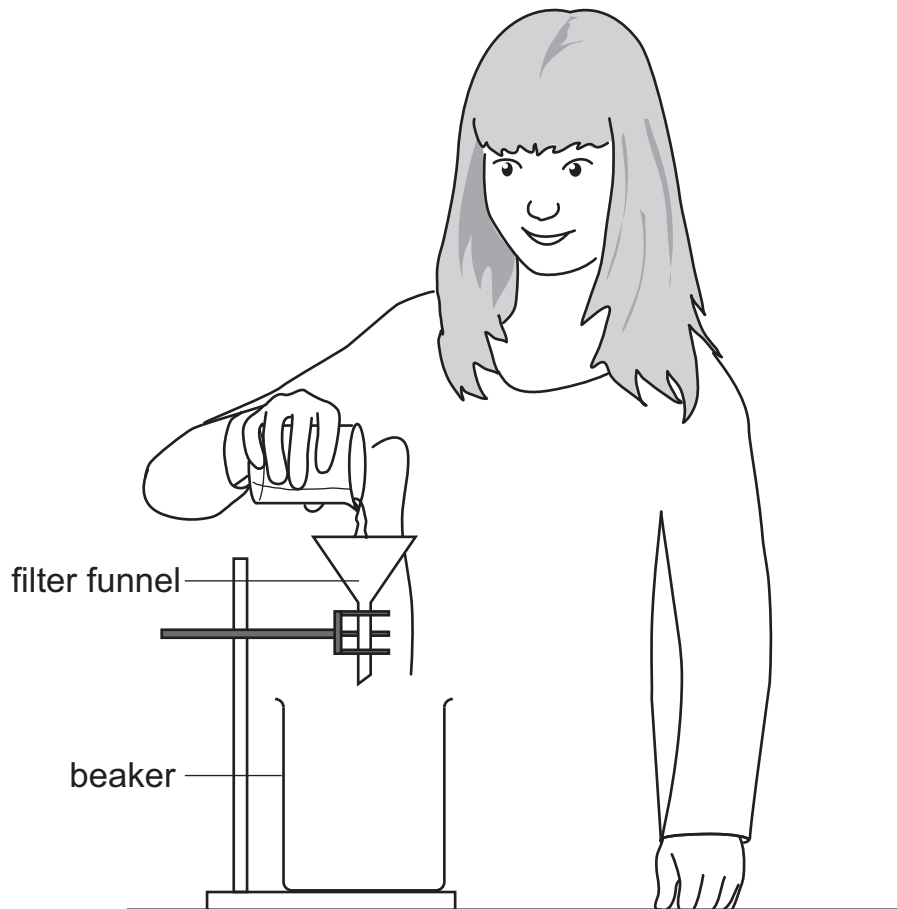
closest to
the screen

[2]

9 Gabriela investigates how a water clock works.

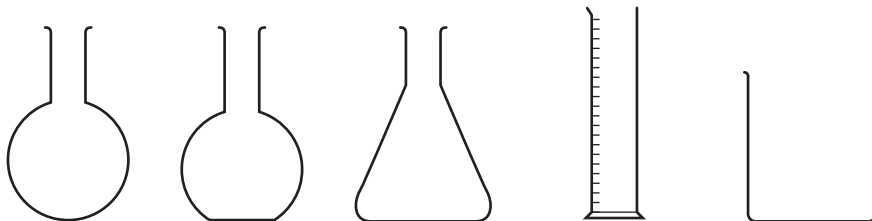
- She **accurately** measures a volume of water.
- She pours the water into a filter funnel.
- She times how long it takes for the water to pass through.

She repeats this with different volumes of water.



(a) Which apparatus does she use to measure **accurately** the volume of water?

Circle the correct apparatus.



[1]

(b) Here are her results.

volume = 15
time = 30

 volume = 10
time = 20

 volume = 25
time = 40

volume = 5
time = 10

 volume = 20
time = 35

Put her results in the table in the correct order.

volume of water	time taken

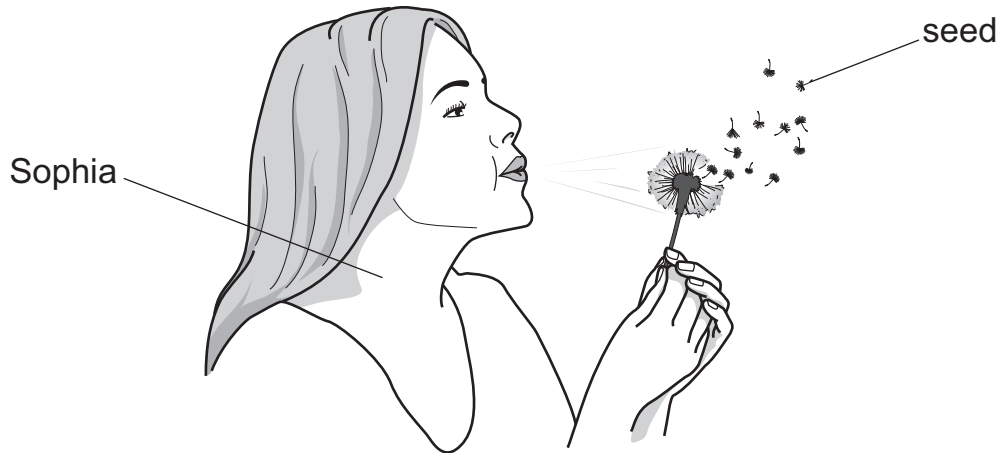
[2]

(c) What did she forget to add to the headings in the table?

..... [1]

10 Seeds are dispersed.

(a) Sophia disperses seeds.



What kind of seed dispersal is Sophia using?

Circle the correct answer.

animal dispersal

insect dispersal

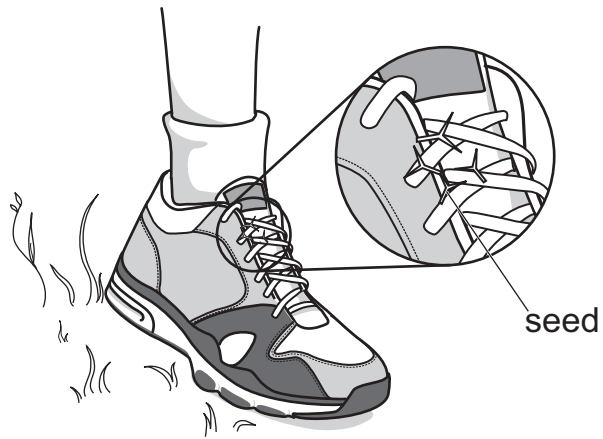
self-dispersal

water dispersal

wind dispersal

[1]

(b) Chen disperses seeds.



What kind of seed dispersal is Chen using?

Circle the correct answer.

animal dispersal

insect dispersal

self-dispersal

water dispersal

wind dispersal

[1]

11 When a substance is mixed with water it may dissolve.

Complete the sentences about adding substances to water.

Choose from the words.

insoluble

residue

soluble

solute

solution

solvent

(a) A liquid that dissolves a solid is called a [1]

(b) A substance that does **not** dissolve in water is [1]

(c) A substance that **dissolves** in water is [1]

(d) A substance **is dissolved** in water.

This substance is called the [1]

(e) The mixture of a substance dissolved in water is called a

..... [1]

12 Ahmed and Rajiv use the internet to find information about planets.

planet	years to orbit around the Sun	Earth days to orbit around the Sun
Earth	1 Earth year	365.2
Jupiter	1 Jupiter year	4332.0
Mars	1 Mars year	687.0
Mercury	1 Mercury year	88.0
Venus	1 Venus year	224.7

(a) Which planet takes the longest time to orbit the Sun?

Circle the correct answer.

Earth Jupiter Mars Mercury Venus

[1]

(b) Which planet has the shortest year?

Circle the correct answer.

Earth Jupiter Mars Mercury Venus

[1]

(c) The larger the orbit around the Sun the more days it takes to move around the Sun.

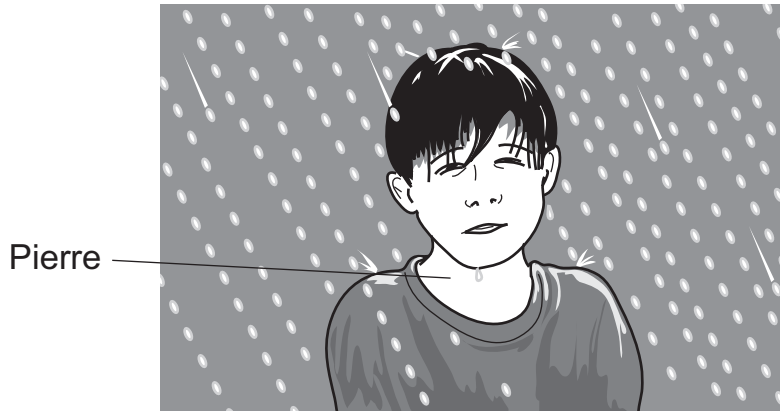
Which **two** planets have a smaller orbit than the Earth?

Circle the correct answers.

Earth Jupiter Mars Mercury Venus

[1]

13 It is raining.



(a) Pierre knows it is raining.

He uses his ears to hear the rain.

Explain how Pierre uses **two** other senses to know it is raining.

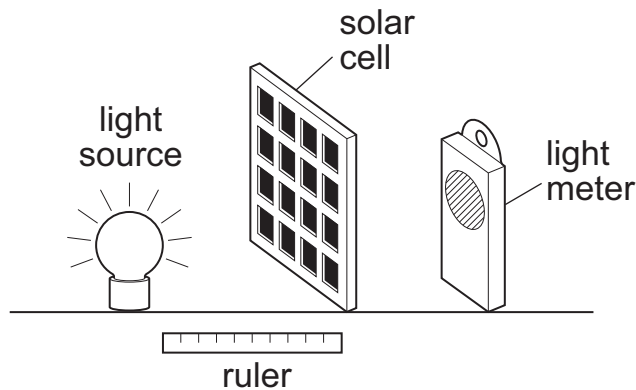
.....
.....
..... [2]

(b) Why is it important for Pierre to sense rain?

.....
..... [1]

14 Carlos investigates light.

Look at his apparatus.



Here are some statements made by Carlos.

What is each type of statement?

Draw a line from the **statement** to the correct **activity**.

statement

activity

“I think the reading on the light meter will be higher when the light source is closer.”

collecting results

“The reading for 50 cm is 25 units.”

increasing reliability

“I should repeat each measurement three times.”

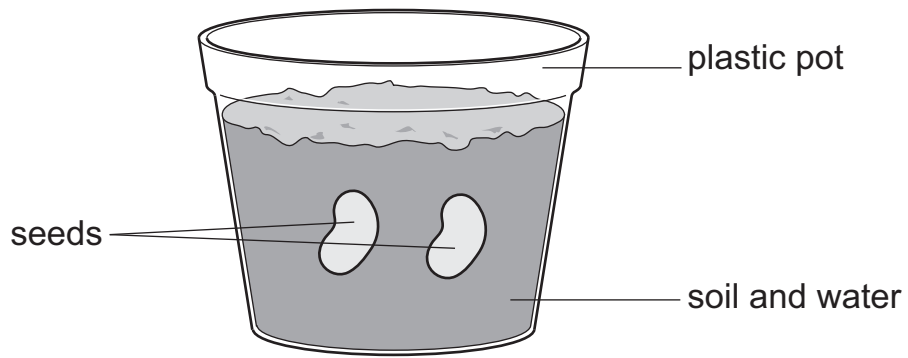
making a prediction

“I should use the same light source each time.”

fair testing

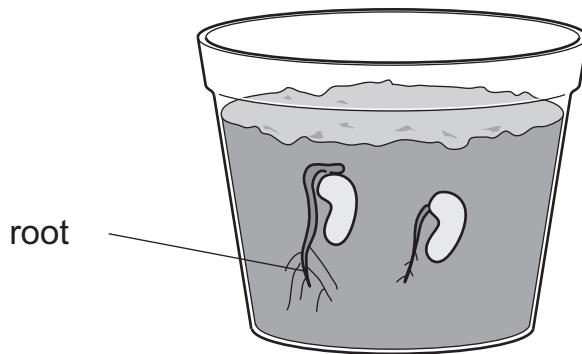
[2]

15 Youssef and Hassan are investigating how seeds grow.

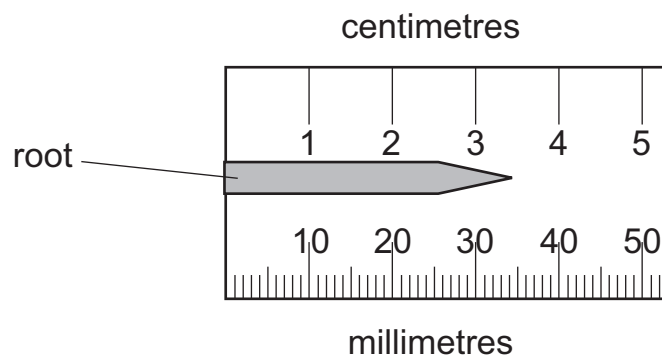


- Youssef puts seeds in a plastic pot.
- Hassan adds soil and water.

Look at their results after 3 days.



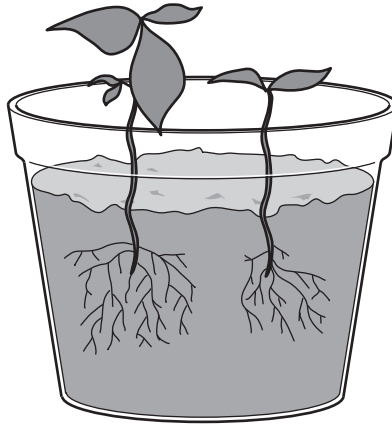
(a) Hassan measures the length of one of the roots.



What is the length of the root in millimetres?

..... mm [1]

(b) Look at their results after 6 days.



Describe **two** changes in the results compared to day 3.

first change

.....

second change

..... [2]

16 Solid, liquid and gas are the three states of matter.

The table shows the melting points and boiling points of eight substances.

substance	melting point in °C	boiling point in °C
A	0	500
B	65	230
C	0	100
D	-90	10
E	-32	100
F	-5	80
G	45	256
H	-100	5

(a) Substance **B** is stored at 0 °C.

The substance is heated until it reaches 200 °C.

Describe the **change of state** of substance **B** while it is heated.

..... [1]

(b) Substance **F** is stored at 0 °C.

The substance is heated until it reaches 200 °C.

Describe the **change of state** of substance **F** while it is heated.

..... [1]

(c) The table shows the state of the substances at room temperature 25°C.

Complete the table. Put the letters **A C F G** and **H** into the correct columns.

solid at room temperature	liquid at room temperature	gas at room temperature
B	E	D

[3]

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