Cambridge Assessment International Education

Cambridge Primary Checkpoint

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER			

2685235450

SCIENCE **0097/02**

Paper 2 **October 2024**

35 minutes

You must answer on the question paper.

No additional materials are needed.

INSTRUCTIONS

- Answer **all** questions.
- Use a black or dark blue pen. You may use an HB pencil for any diagrams or graphs.
- Write your name, centre number and candidate number in the boxes at the top of the page.
- Write your answer to each question in the space provided.
- Do **not** use an erasable pen or correction fluid.
- Do **not** write on any bar codes.
- You should show all your working in the booklet.
- You may use a calculator.

INFORMATION

- The total mark for this paper is 40.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **20** pages. Any blank pages are indicated.

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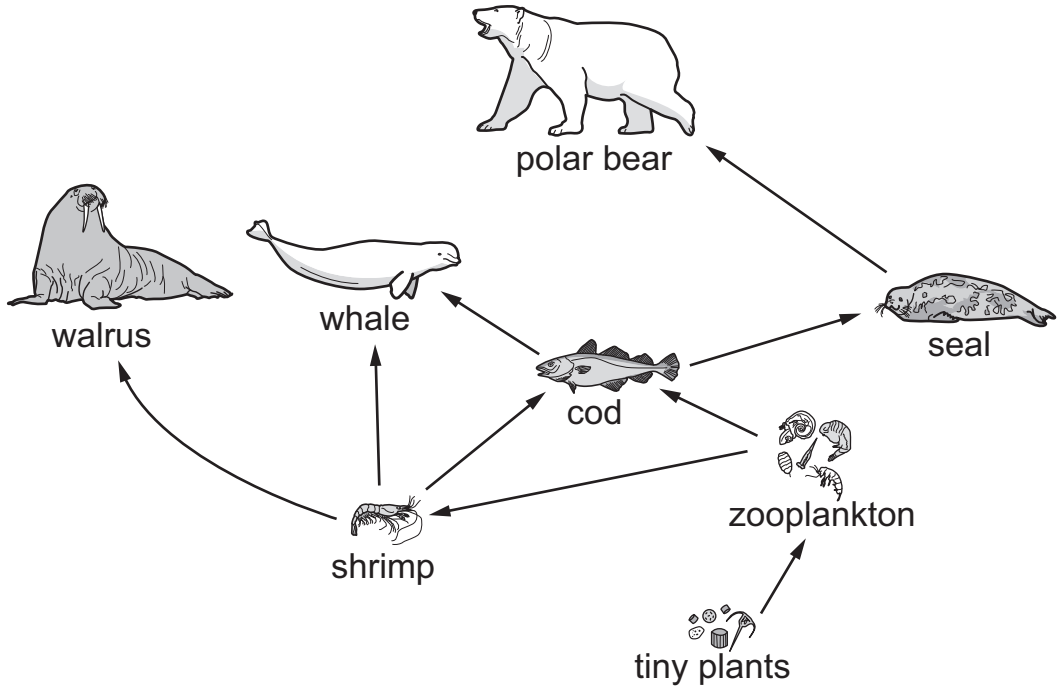
1 The diagram shows part of a food web.



Not drawn to scale

This food web contains food chains.

(a) How many **consumers** are in this food web?

..... [1]

(b) Write down the name of an animal that is both a predator **and** a prey.

..... [1]

(c) Complete the food chain that includes **four** living things.

..... → ..... → ..... → walrus

[1]

2 **(a)** Melting point is the temperature when a solid changes into a liquid.

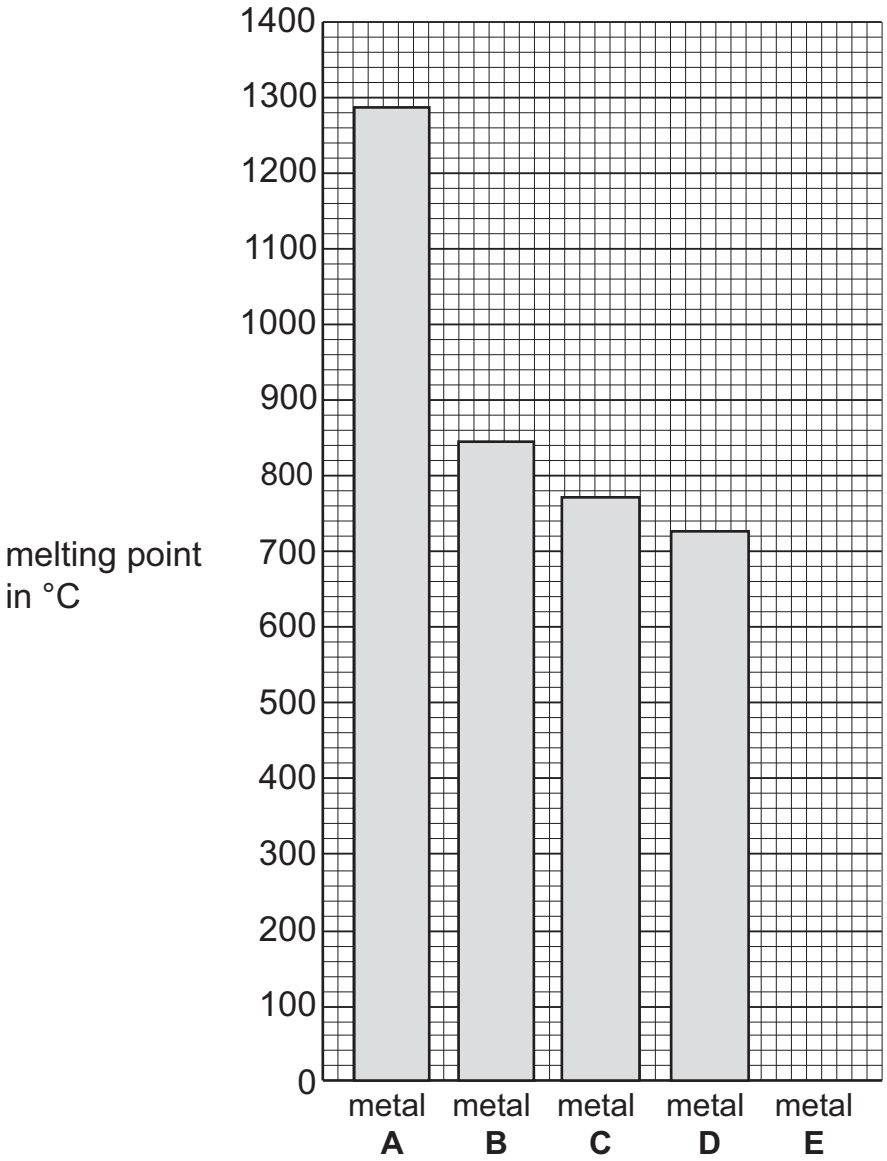
Circle the correct word that describes the melting point of a solid.

mass **particle** **property** **reaction**

[1]

(b) Rajiv investigates the melting points of different metals.

Look at the bar chart of his results.



How many metals in this bar chart have a melting point **greater than** 700 °C?

Circle the correct answer.

1 **2** **3** **4**

[1]

(c) Rajiv finds the melting point of metal **E** on the internet.

metal	melting point in °C
E	650

Draw the bar for the melting point of metal **E** on the bar chart.

[1]

(d) Rajiv writes a conclusion using only information from his investigation.

Tick (✓) which conclusion is correct for his investigation.

Metal **C** has a higher melting point than metal **B**. ☐

The five metals all have a melting point higher than 650 °C. ☐

Metal **D** has the lowest melting point of the **five** metals. ☐

Metal **A** has the highest melting point of the **five** metals. ☐

[1]

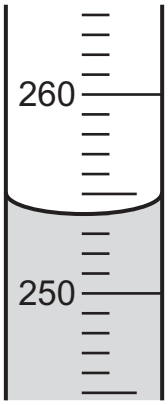
3 Gabriella investigates how eggs float in water and in different salt solutions.

She:

- puts an egg in water
- looks at the position of the egg in the water
- repeats the experiment using different masses of salt dissolved in the water.

(a) Gabriella measures the volume of water.

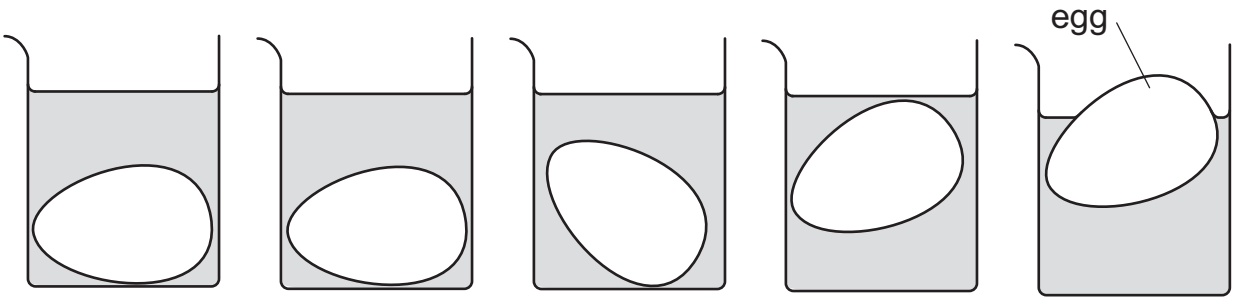
Look at the diagram of part of a measuring cylinder.



Write down the volume of water in the measuring cylinder.

..... cm^3 [1]

(b) Look at her results.



Complete the table to record the observations.

beaker	mass of salt in g	observation
A	0	.....
B	10	.....
C	20	.....
D	30	egg floats under the water
E	40	.....

[1]

(c) Gabriella does a second investigation.

She investigates how different types of eggs float in water.

Write down **two** things about the **eggs** that make them float or sink.

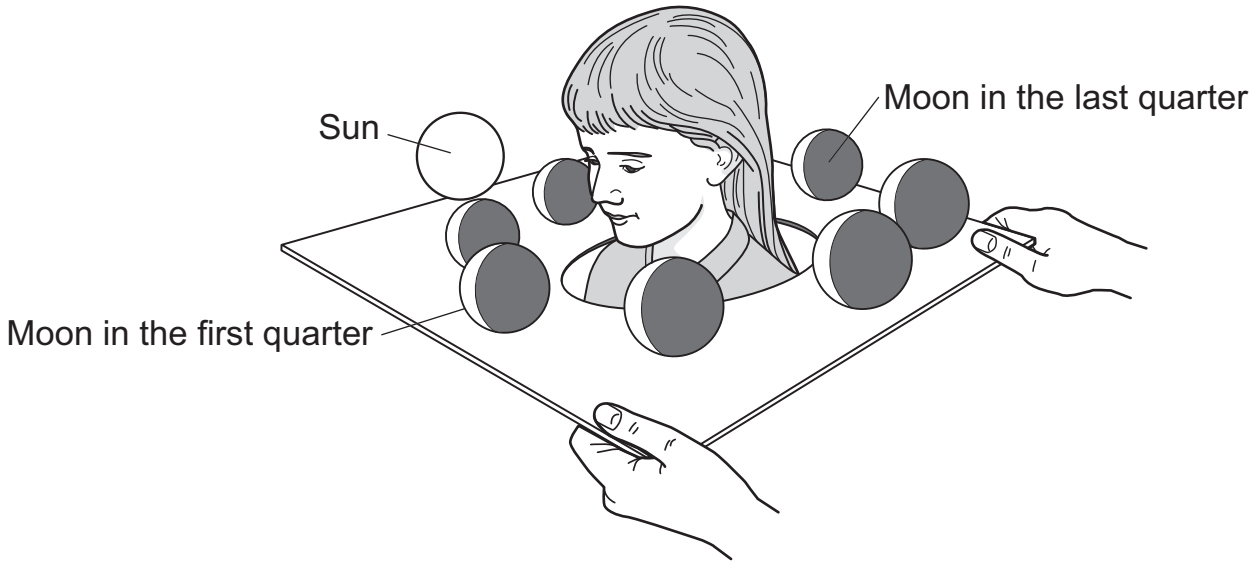
1 .....

2 .....

[2]

4 Class 6 make a model to show the phases of the Moon.

The teacher holds the model and Angelique puts her head inside the model.



Angelique looks at the Moon in the first quarter.

(a) Which part of the Solar System is Angelique in this model?

.....

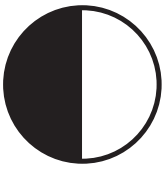
[1]

(b) What does Angelique do to see the other Moons in this model?

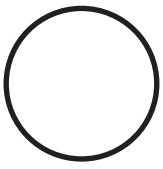
.....

[1]

(c) Angelique sees the Moon in the first quarter.



Complete the diagram to show how Angelique sees the Moon in the last quarter.

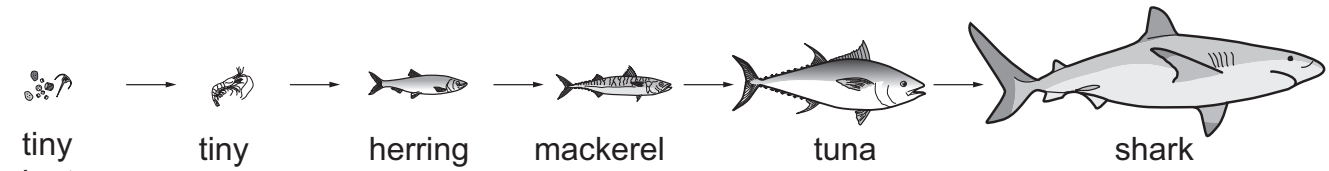


[1]

5 Humans pollute the ocean with toxic substances.

Tiny plants absorb the toxic substances.

Look at this food chain.



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(a) Explain why the shark has toxic substances in its body.

.....

..... [1]

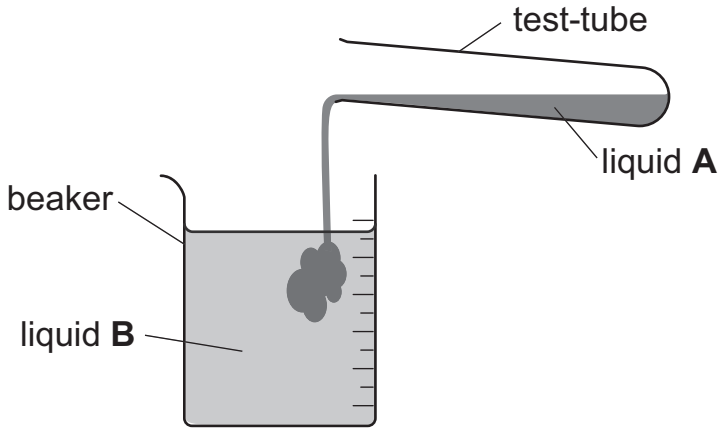
(b) Suggest **one** way humans reduce pollution in the ocean.

.....

..... [1]

6 Lily investigates chemical reactions.

Look at the diagram of her equipment.



Lily adds liquid **A** from the test-tube into liquid **B** in the beaker.

A chemical reaction happens.

(a) Complete the sentences about the chemical reaction using words from the list.

Each word can be used once, more than once or not at all.

product **reactant** **solid** **temperature**

Liquid **A** is a .....

Liquid **B** is a .....

A new liquid substance forms when liquid **A** and liquid **B** are added together.

The new substance is a .....

[2]

(b) Lily knows there is a chemical reaction because she observes bubbles.

Write down what is produced to make bubbles.

..... [1]

(c) Write down **two other** observations that show a chemical reaction happens.

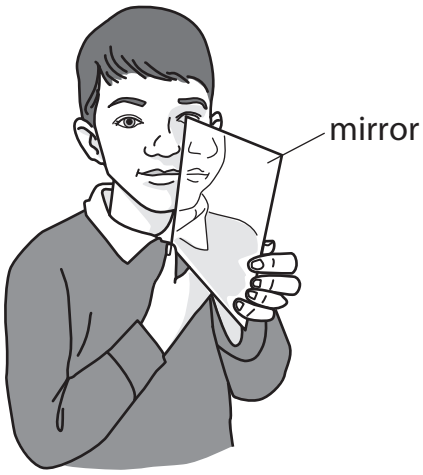
1 .....

2 .....

[2]

7 Mike holds a mirror against his face.

Look at the picture.



(a) Complete the sentence.

There is a face in the mirror because the ..... in the room is

..... from the mirror.

[2]

(b) Mike only sees a small part of his face in the mirror.

Describe what Mike does to see exactly half of his face in the mirror.

.....

..... [1]

(c) Describe how Mike makes his face appear clearer in the mirror.

Circle **two** correct answers.

use a darker mirror

use a duller mirror

use a cleaner mirror

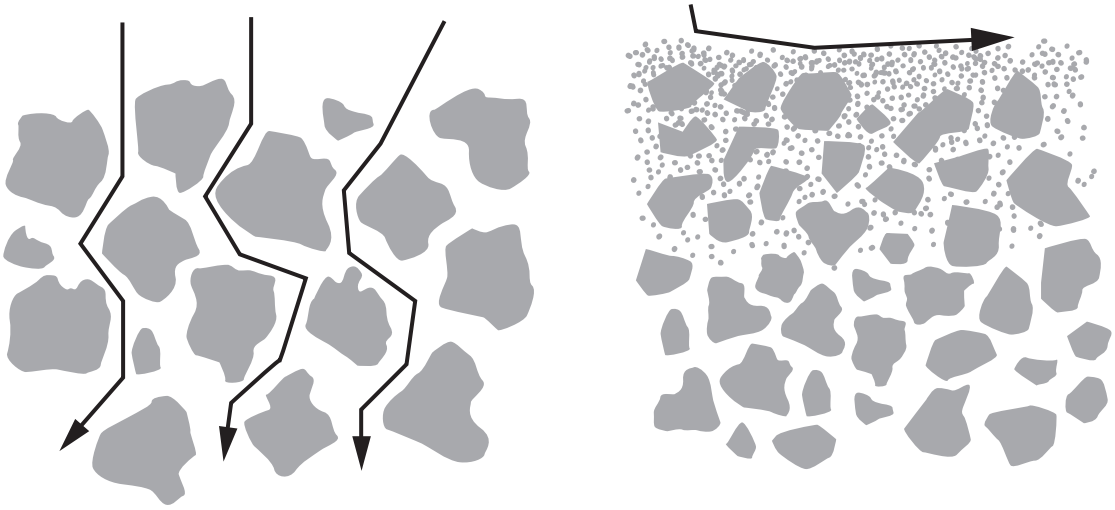
use a bigger mirror

use a smoother mirror

[1]

8 Yuri draws a diagram of two different types of soil.

The arrows (⟶) show the direction of water movement.



soil **A** soil **B**

(a) Describe how water moves in soil **A and** in soil **B**.

soil **A** .....

soil **B** .....

[1]

(b) Suggest why plants grow better in soil **A**.

.....

..... [1]

(c) Soil contains water.

Write down **two other** things found in soil.

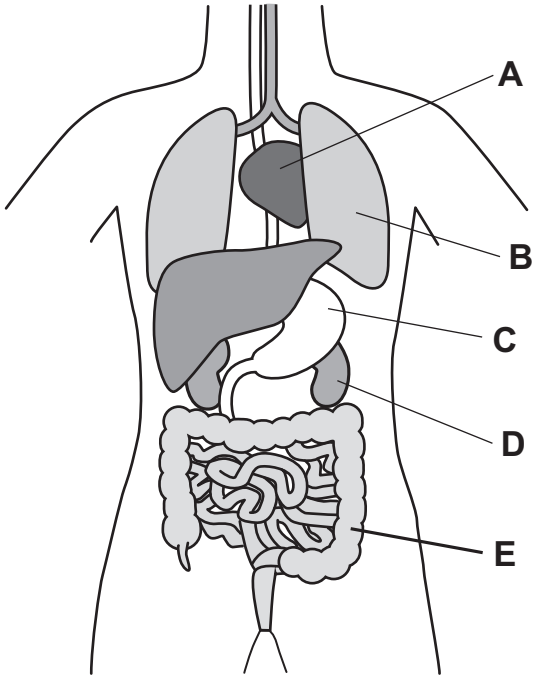
1 .....

2 .....

[1]

9 The heart is an organ.

(a) Look at the diagram of the human body.



Which letter on the diagram of the human body shows the heart?

Circle the correct answer.

A **B** **C** **D** **E**

[1]

(b) The heart pumps blood around the body.

Name **two** substances the blood transports.

1 .....

2 .....

[2]

10 Look at the table of data about electrical conductivity of a metal at different temperatures.

temperature in °C	electrical conductivity in units
22	56
40	128
50	208
60	219

(a) Complete the sentence.

When the temperature of the metal increases, the electrical conductivity

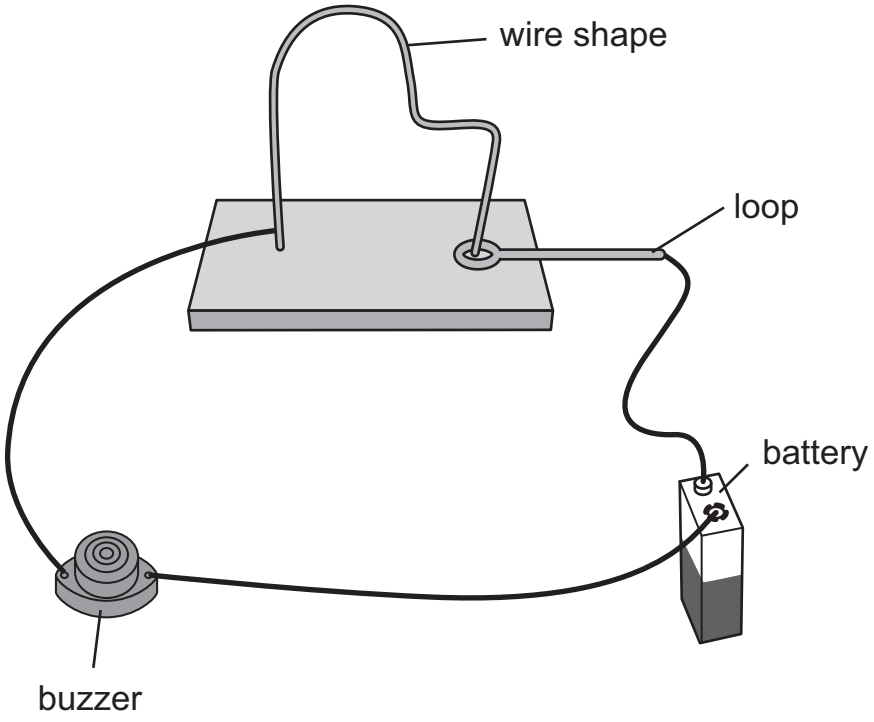
...... [1]

(b) Plastic is an insulator.

Predict a value for the electrical conductivity of plastic at 22 °C.

..... units [1]

11 Blessy makes an electrical buzzer game.



(a) The buzzer does **not** make a sound at the start of the game.

Blessy moves the loop around the wire shape.

The buzzer makes a sound.

Explain why the buzzer makes a sound.

.....

..... [1]

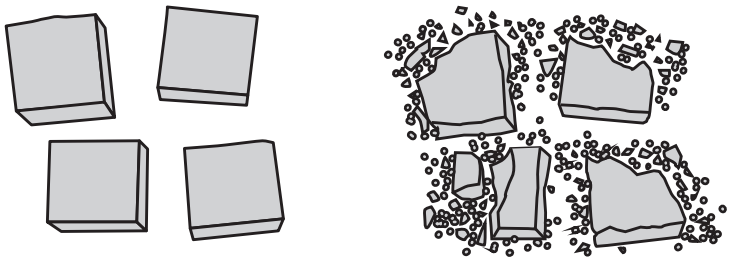
(b) Draw the electrical symbol for a buzzer.

[1]

12 Priya investigates the rock cycle.

(a) She uses four sugar cubes to show how sediment forms from rocks.

Look at the diagrams.



before after

What does Priya do to the sugar cubes to show how sediment forms?

.....

..... [1]

(b) Priya wants to show how water causes erosion of rocks.

She pours water on the sugar cubes.

Describe what happens.

..... [1]

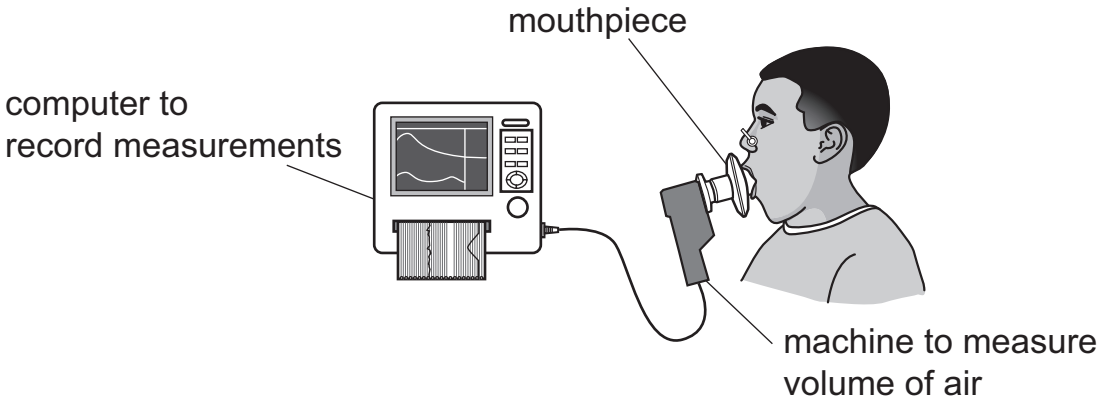
(c) A teacher heats another four sugar cubes and then lets them cool.

Which type of rock is formed when molten rock cools?

..... [1]

13 The diagram shows a machine.

The machine measures the volume of air that moves into the lungs.



Chen:

- puts a clip on his nose so that he only breathes through his mouth
- puts a clean mouthpiece into his mouth
- breathes in through the mouthpiece
- records the volume of air that moves into his lungs.

Chen investigates what happens to the volume of air that moves into his lungs when he does different exercises.

He jumps, walks and runs.

(a) What is the **dependent** variable in this investigation?

Tick (✓) the correct answer.

the length of time Chen exercises	☐
the different exercises Chen does	☐
the height and mass of Chen	☐
the volume of air that moves into his lungs	☐

[1]

(b) Chen makes the investigation safe by using a clean mouthpiece.

Write down **one other** way Chen makes the investigation safe.

.....

..... [1]

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