Cambridge Assessment International Education

Cambridge Lower Secondary Checkpoint

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER			

7722726315

SCIENCE **1113/01**

Paper 1 **April 2022**

45 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.

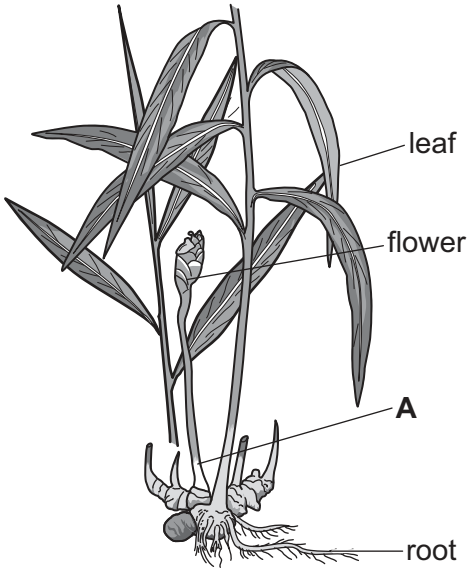
INFORMATION

- The total mark for this paper is 50.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **16** pages.

IB22 05_1113_01/8RP

1 The diagram shows a ginger plant.



(a) One of the organs of the ginger plant is labelled with the letter **A**.

Write down the name of this organ. ..... [1]

(b) Part **A** transports water and food such as sugar.

Which part of the ginger plant produces food?

..... [1]

(c) Describe **one** function of a root.

..... [1]

(d) State **one** reason why flowers are important in the life cycle of a plant.

..... [1]

2 Look at the diagram.

It shows part of the Periodic Table.

1 H							2 He
3 Li	4 Be	5 B	6 C	7 N	8 O	9 F	10 Ne
11 Na	12 Mg	13 A*l*	14 Si	15 P	16 S	17 C*l*	18 Ar
19 K	20 Ca						

(a) Write down the chemical symbol for an element that has an electronic structure with a full outer orbit.

..... [1]

(b) Write down the chemical symbol for the **most reactive** Group 7 (or 17) element shown in the Periodic Table.

..... [1]

(c) Write down the chemical symbol for the element which is in **Group 2** and **Period 3**.

..... [1]

(d) Which scientist suggested the idea that atoms have a nucleus?

Circle the correct answer.

Dalton **Darwin** **Galileo** **Rutherford**

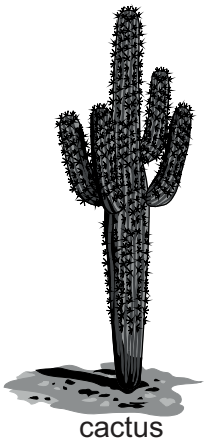
[1]

3 During the day a desert is hot and dry.

At night the desert becomes very cold.

The diagram shows two organisms that live in the desert.

fennec fox



cactus

(a) Fennec foxes live in burrows during the day and hunt at night.

Write down **three** ways the fennec fox is adapted to hunt at **night**.

Use the diagram to help you.

1 .....

.....

2 .....

.....

3 .....

.....

[3]

(b) Write down **two** ways the cactus plant is adapted to survive in dry conditions.

Use the diagram to help you.

1 .....

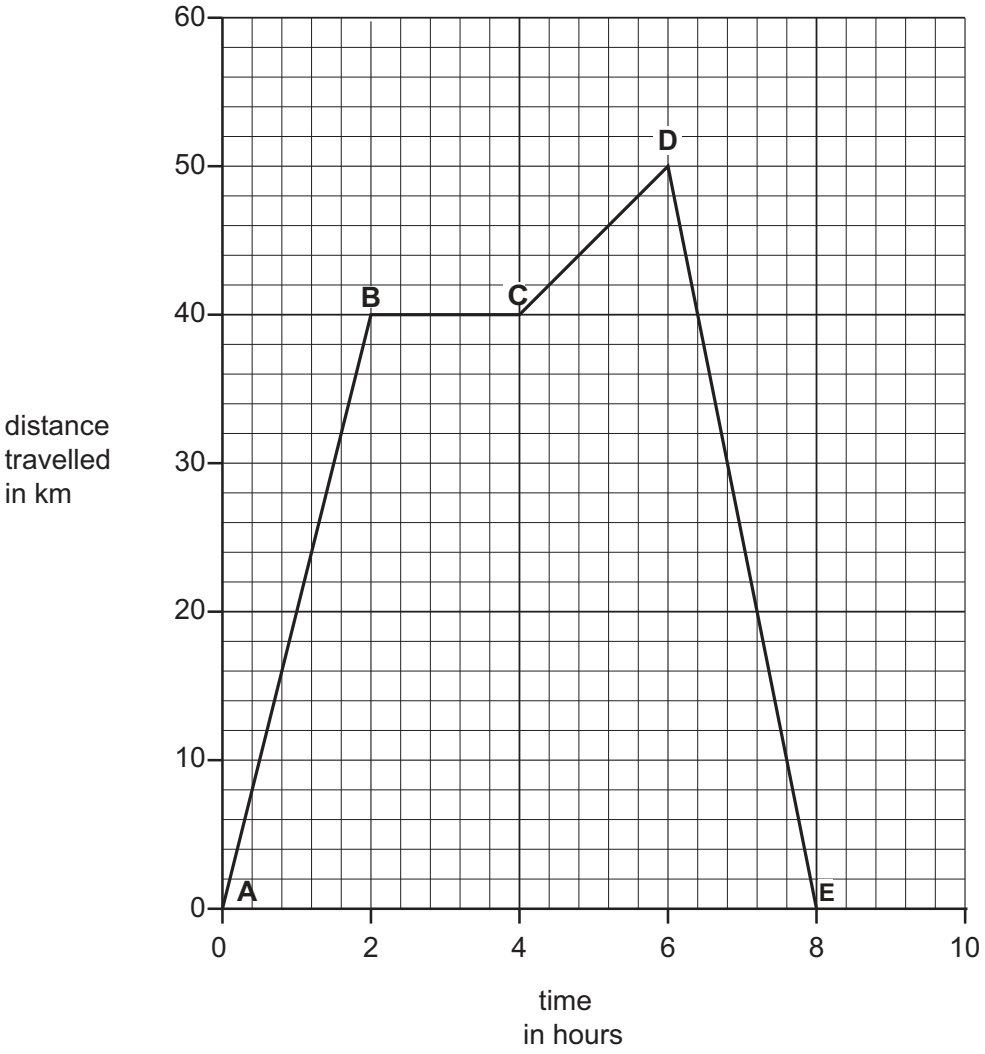
.....

2 .....

.....

[2]

4 Look at the distance / time graph for a car journey.



(a) Write down between which points on the graph the car is **not** moving.

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

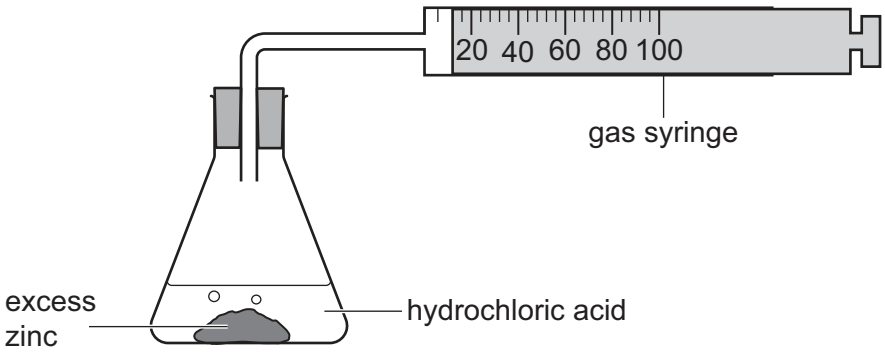
(b) Calculate the average speed of the car during the first **2 hours**.

Include the units in your answer.

average speed = ... units ..... [3]

5 Priya investigates the reaction between zinc and hydrochloric acid.

The diagram shows the equipment she uses.



Priya:

- puts 1 g of powdered zinc into the flask
- adds 25 cm^3 of hydrochloric acid
- collects the gas made in **two** minutes
- repeats the experiment two more times using pieces of zinc of different sizes.

Priya writes down her results.

powdered zinc = 80 cm^3 of gas
large pieces of zinc = 6 cm^3 of gas
small pieces of zinc = 36 cm^3 of gas

(a) Complete this table to present her results.

[3]

(b) Write down the variable Priya changes in her investigation.

.....

[1]

(c) Write a conclusion for her investigation.

Explain your answer.

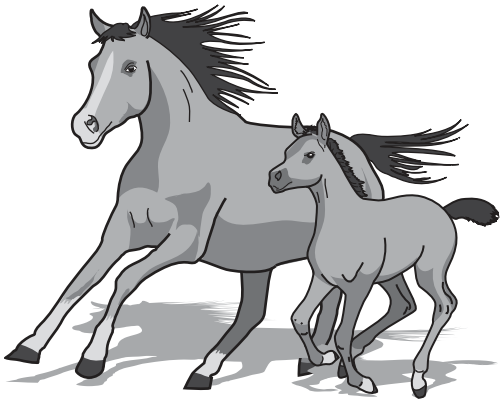
.....

.....

.....

[2]

6 The picture shows a racehorse with her foal.



(a) The foal is bred to be a fast runner.

The horse breeder chooses the foal's parents because they are both fast runners.

What word describes this type of breeding?

Circle the correct answer.

natural

random

relative

selective

[1]

(b) The foal inherits characteristics from his parents.

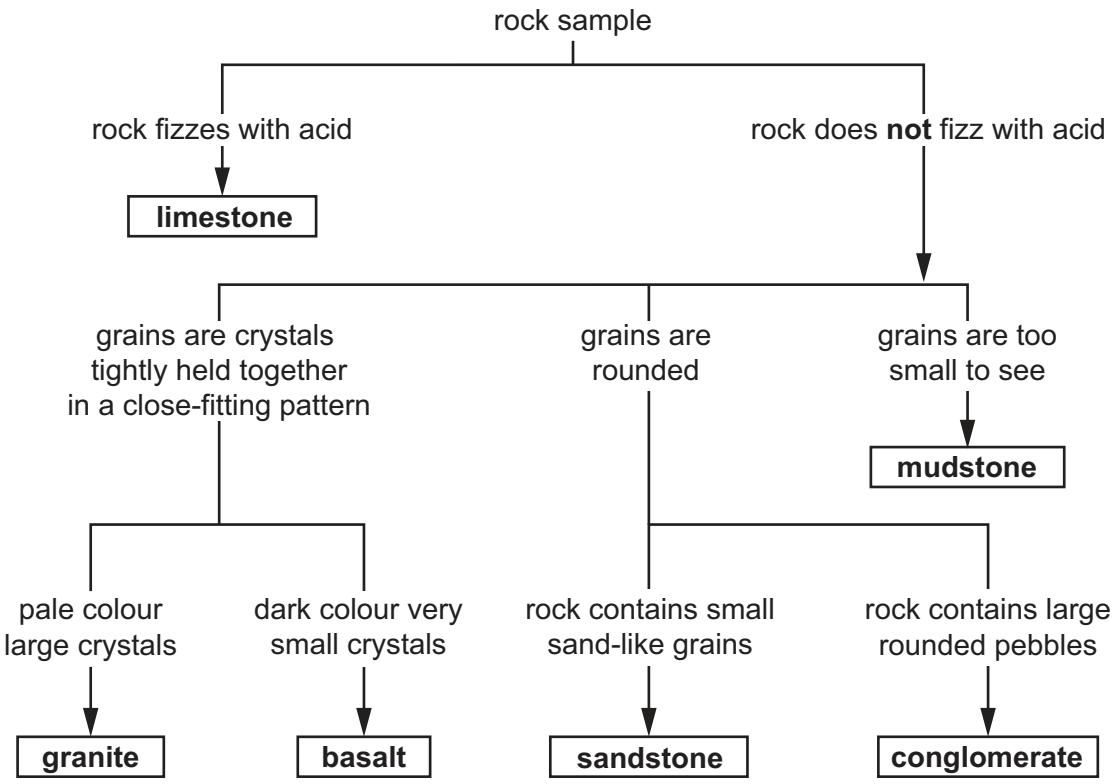
Complete these sentences.

The foal inherits characteristics from his parents through ..... material.

This material is found in the ..... of the cell.

[2]

7 The diagram shows an identification key for different rocks.



(a) Which **two** rocks in the key are igneous rocks?

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

(b) Write down **one** similarity and **one** difference between **sandstone** and **conglomerate**.

Use the identification key to help you.

similarity .....

.....

difference .....

.....

[2]

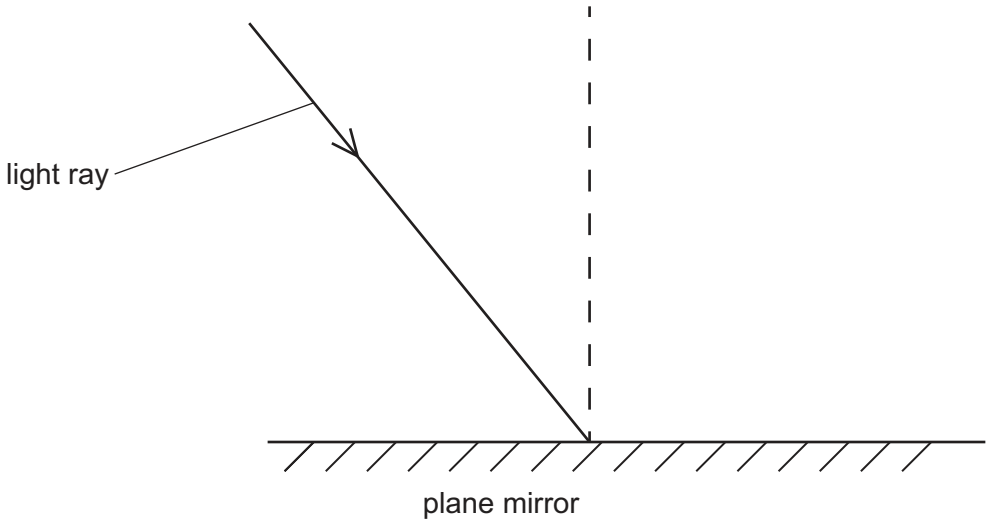
(c) Limestone can be changed into a metamorphic rock called marble.

Write down **one** condition that changes limestone into marble.

..... [1]

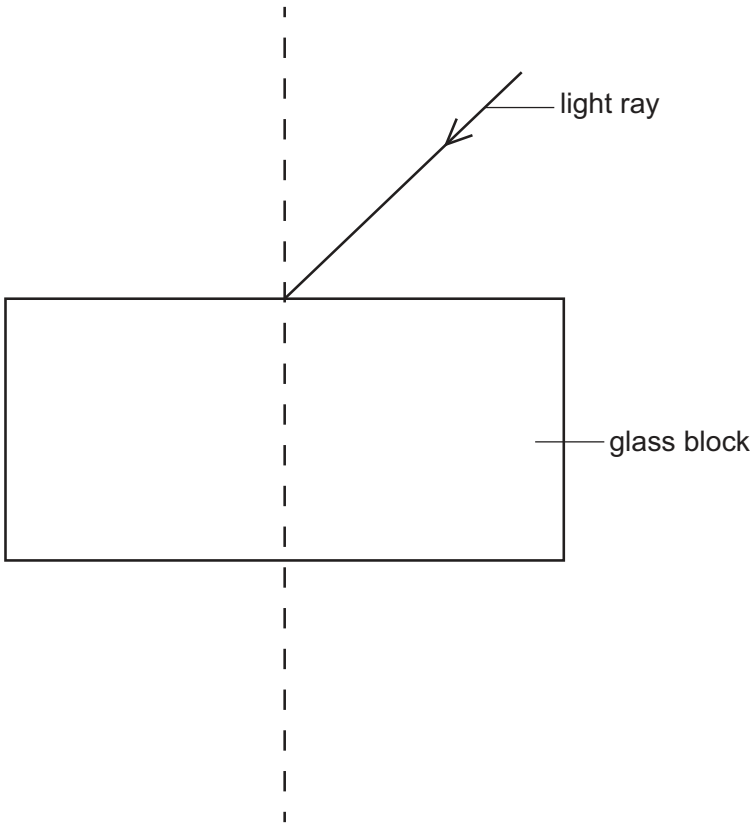
8 Oliver investigates light rays.

(a) (i) Complete the diagram to show what happens when a light ray hits a plane mirror.



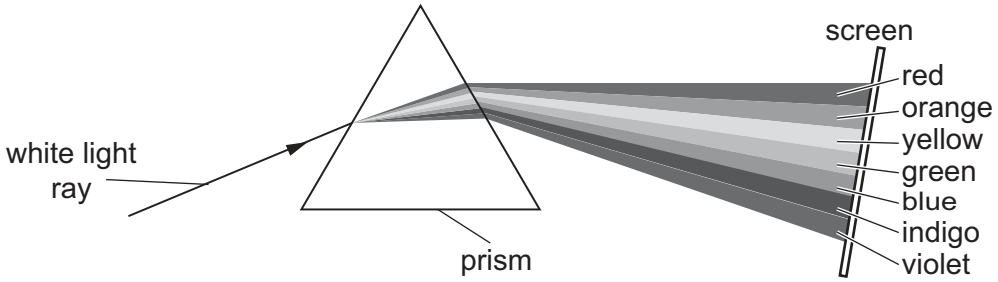
[1]

(ii) Complete the diagram to show what happens when a light ray passes through a glass block.



[2]

(b) When white light passes through a prism, it is split into the colours of the rainbow.



Write down the name of this process.

.....

[1]

9 Ahmed has 20 pepper plants.

He uses a liquid fertiliser to increase his crop of peppers.

This fertiliser is sprayed on the leaves or watered on the roots.

Ahmed sprays the leaves of 10 pepper plants with the liquid fertiliser.

He waters the roots of the other 10 pepper plants with the liquid fertiliser.

(a) Describe **two** pieces of evidence Ahmed collects to compare the growth of the pepper plants.

1 .....

2 .....

[2]

(b) Ahmed uses 20 pepper plants for his investigation.

Explain why using 20 pepper plants is better than using **only two** pepper plants.

.....

.....

[1]

(c) Suggest **two** variables Ahmed controls in his investigation.

1 .....

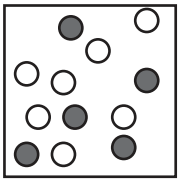
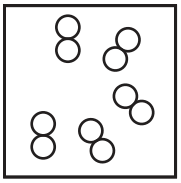
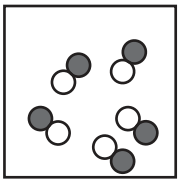
2 .....

[2]

10 The diagrams show the particles in different substances.

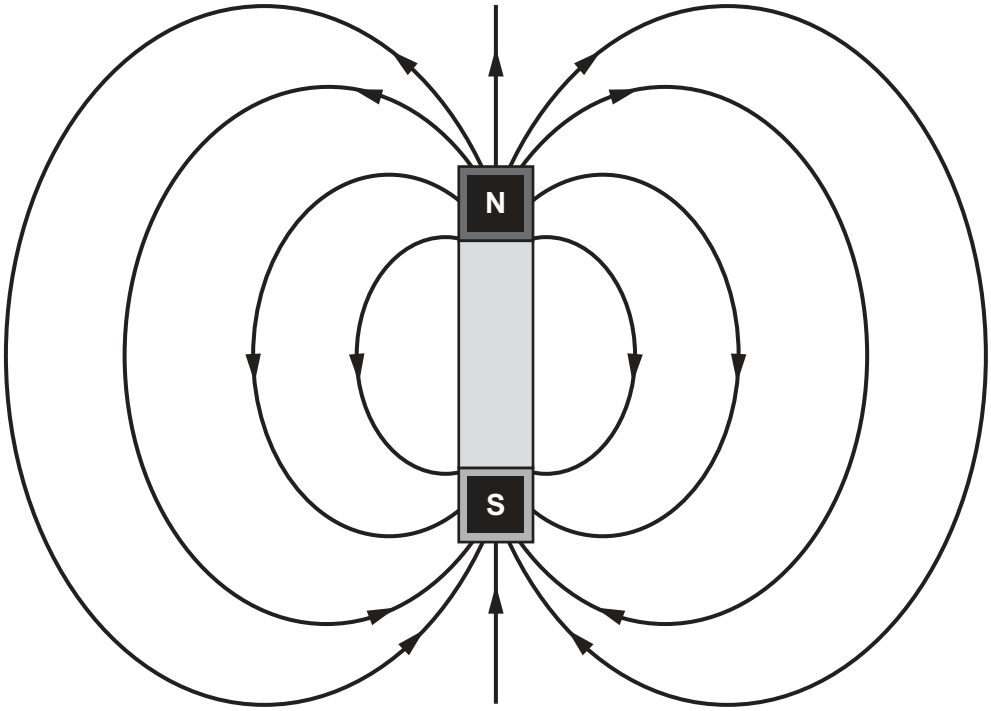
The different circles show different atoms.

Draw **one** line from each **diagram** to its correct **description**.

diagram	description
	mixture of compounds
	mixture of elements
	mixture of an element and a compound
	single compound
	single element

[3]

11 Rajiv draws the magnetic field pattern for a **weak** bar magnet.



(a) Write down the names of the parts labelled **N** and **S**.

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

(b) Which sentences about the magnetic field pattern for a **weak** bar magnet are correct?

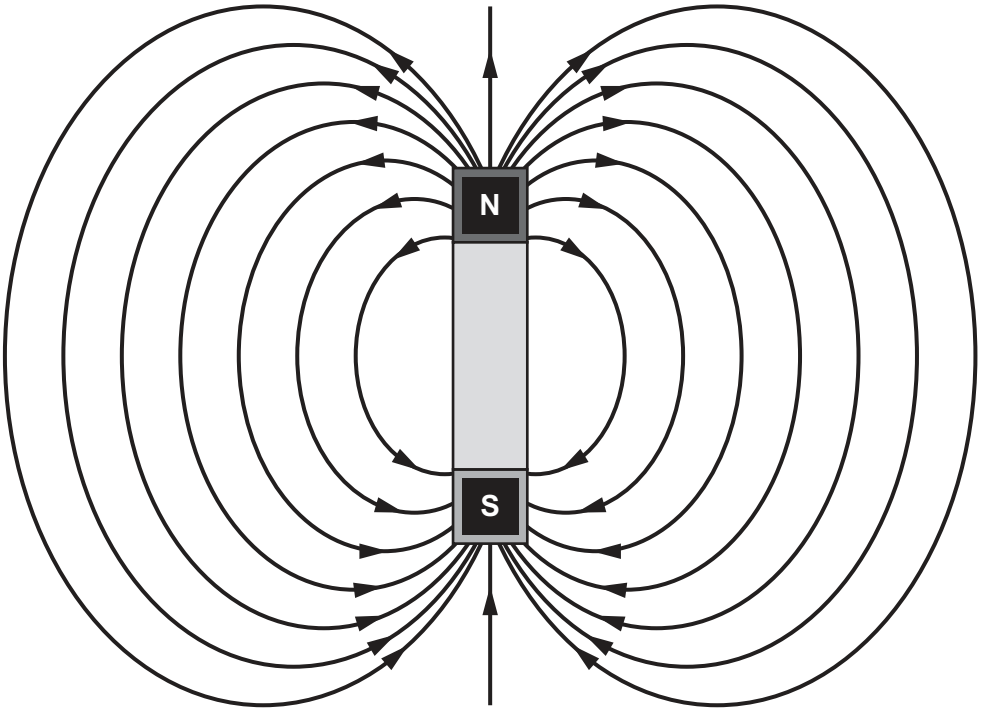
Tick (✓) the **three** correct sentences.

Each field line has at least one arrow.	☐
Each field line is continuous.	☐
The field lines are all the same length.	☐
The field lines come out of **N** and go into **S**.	☐
The field lines cross over each other.	☐

[2]

(c) Rajiv has a **strong** bar magnet.

Look at the magnetic field pattern for his strong bar magnet.

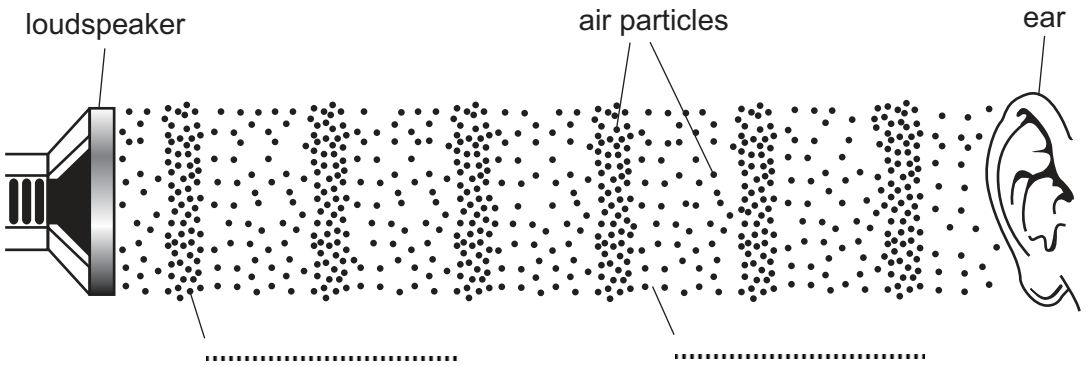


Describe **one** way the magnetic field pattern for the strong bar magnet is **different** from the pattern for the weak bar magnet.

.....

..... [1]

12 Mia hears the sound from a loudspeaker.



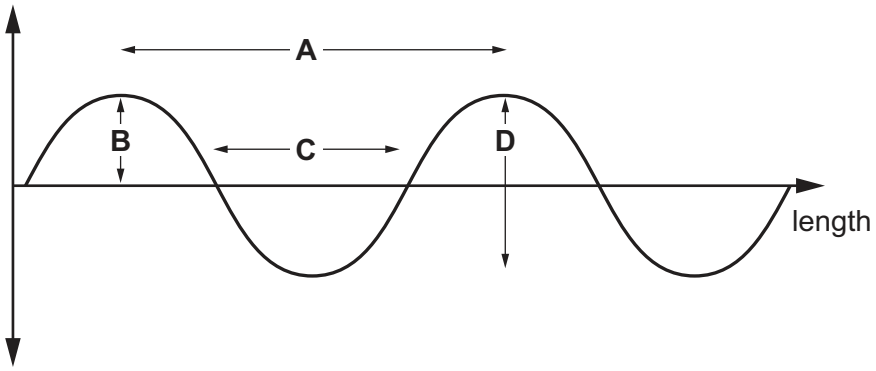
(a) Complete the **two** missing labels.

Choose words from the list.

compression **dispersion** **rarefaction** **reflection** **refraction**

[2]

(b) Mia uses an oscilloscope to look at a sound wave.



Which letter shows **one wavelength**? .....

Which letter shows the **amplitude** of the wave? .....

[2]