Key Stage 3 2006

SCIENCE

Modified Large Print

Tier 3-6 Paper 1
First Part

Please read this page and page 2. Do not look at the rest of the test paper until your teacher tells you to start.

Write your name and the name of your school in the spaces below.

First name _____

Last name _____

School _____

Total Marks ☐

Note to markers:
This paper should be marked using the MODIFIED LARGE PRINT mark scheme amendments – MLP.

302900-661

REMEMBER

The whole test is one hour long, plus your additional time allowance.

Your teacher will provide you with the extra equipment you need.

This test starts with easier questions.

Try to answer all of the questions.

If you are asked to plan an investigation, there will be space for you to write down your thoughts and ideas.

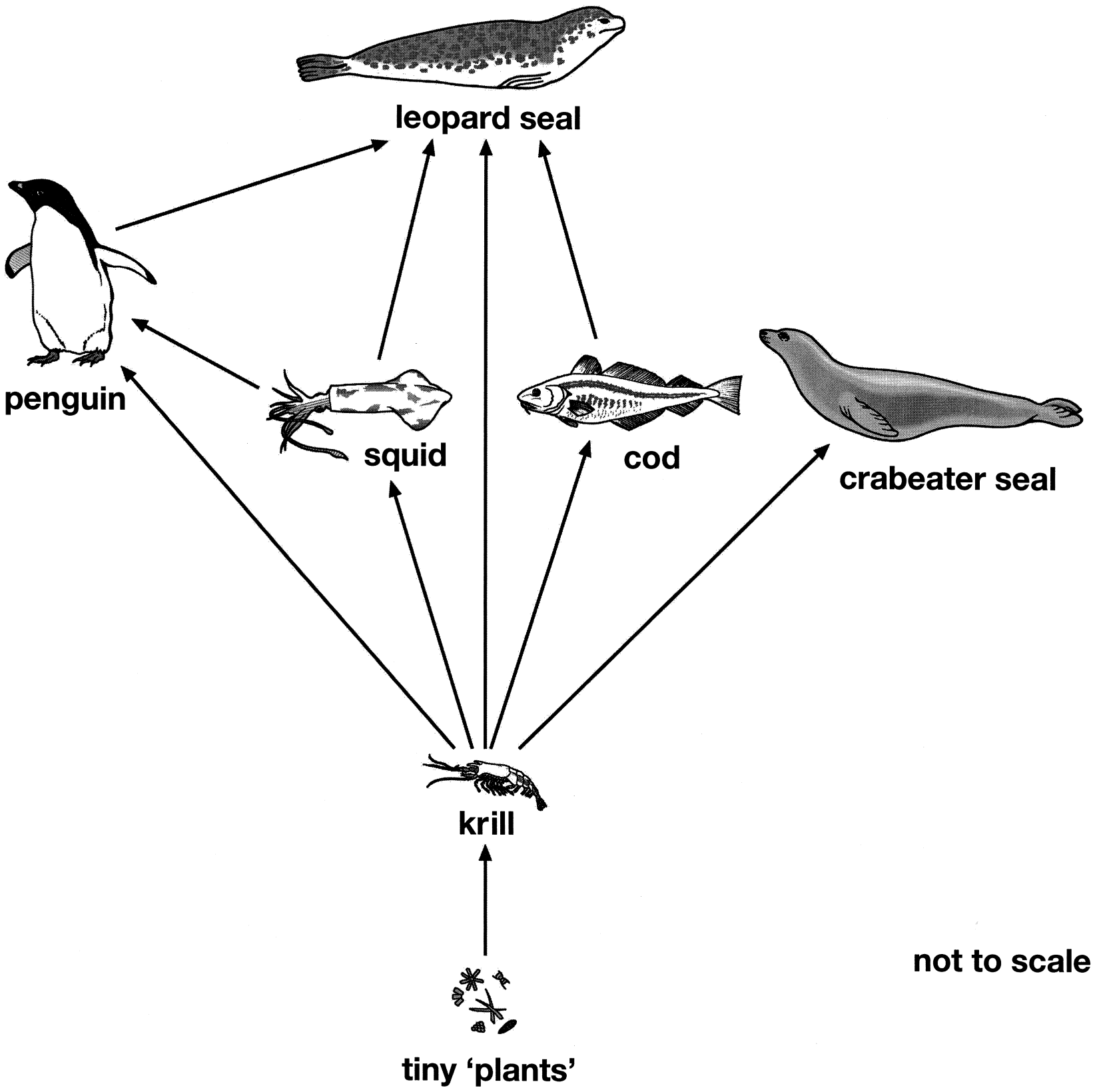
Do not use any rough paper.

Check your work carefully.

Ask your teacher if you are not sure what to do.

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1. **The drawing below shows part of a food web in the sea around Antarctica.**



not to scale

(a) **From the food web, give the names of two animals that only eat krill. [2 marks]**

1. _____

2. _____

(b) (i) **Which word describes the plants in a food web?**

Tick the correct box. [1 mark]

- **producers** ☐
- **predators** ☐
- **herbivores** ☐
- **carnivores** ☐

(ii) **Krill are small animals that eat tiny plants.**
Which word describes krill in the food web?

Tick the correct box. [1 mark]

- **producers** ☐
- **predators** ☐
- **herbivores** ☐
- **carnivores** ☐

(c) (i) **Crabeater seals eat krill.**
Fishermen catch large amounts of krill from the sea.

How would a decrease in the number of krill affect the number of crabeater seals? [1 mark]

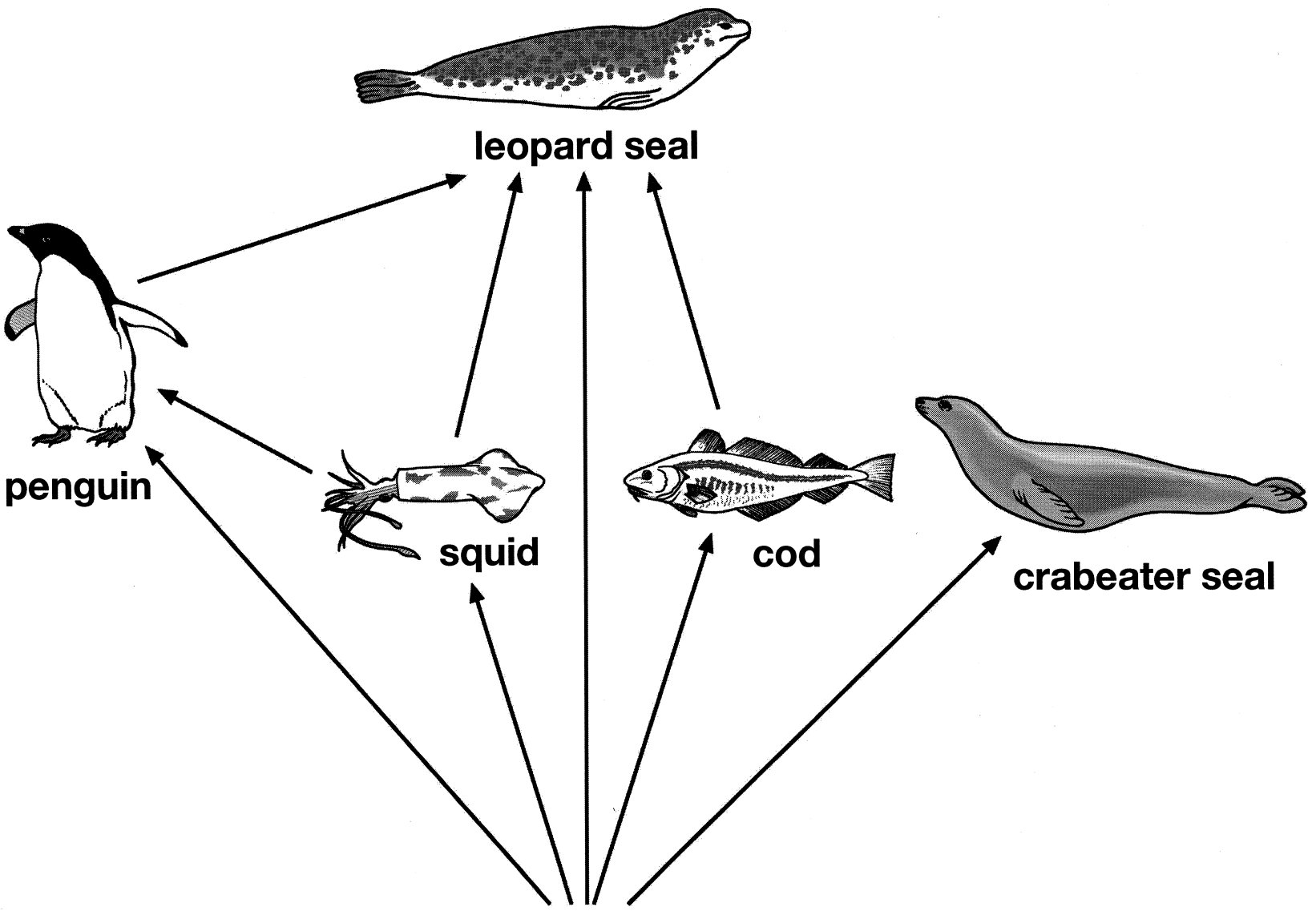
(ii) **Look at the food web. It is shown again on the opposite page.**
Leopard seals also eat krill.

A decrease in the number of krill will affect the crabeater seals sooner than it affects leopard seals.

Give the reason for this. [1 mark]

[maximum 6 marks]

The drawing below shows the same food web in the sea around Antarctica.



not to scale

2. **Choose words from the box below to answer all the questions below.**

cell division	digestion	fertilisation	foetus	genes
intestine	ovary	ovum (egg)	sperm	testis	uterus

(a)



A

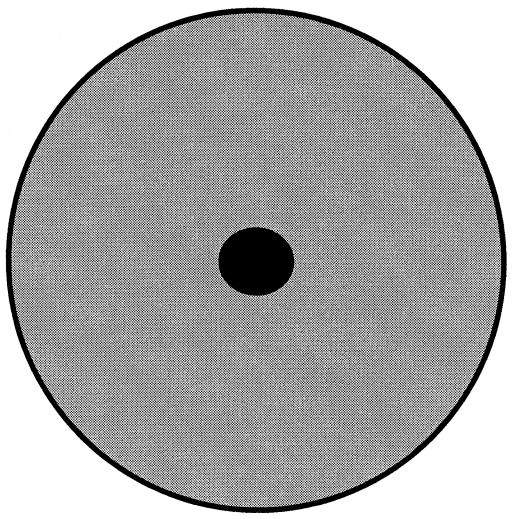
(i) **What is the name of cell A? [1 mark]**

_____

(ii) **Where is cell A produced? [1 mark]**

_____

(b)



B

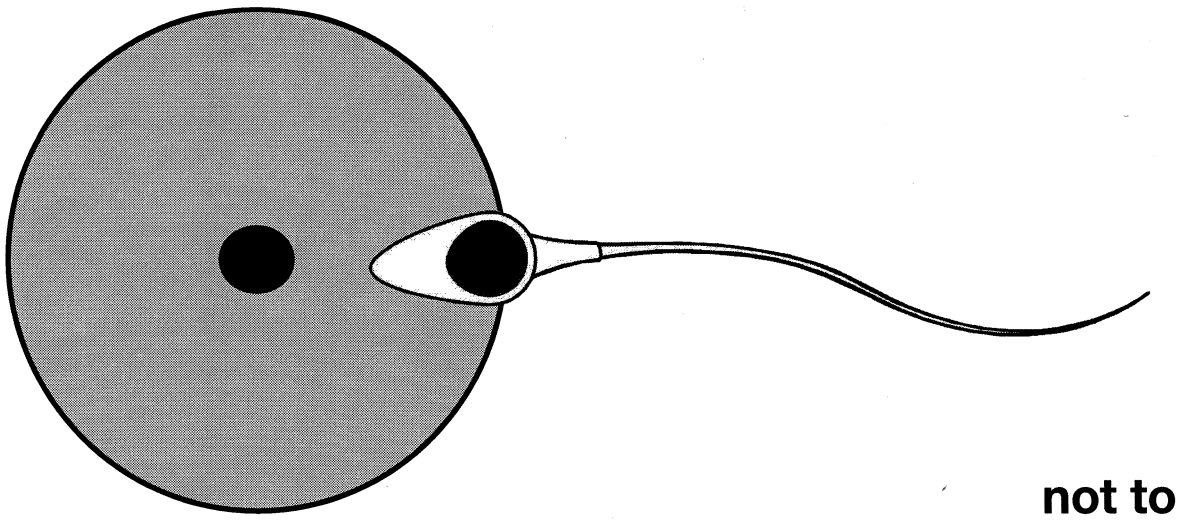
(i) **What is the name of cell B? [1 mark]**

_____

(ii) **Where is cell B produced? [1 mark]**

_____

(c)



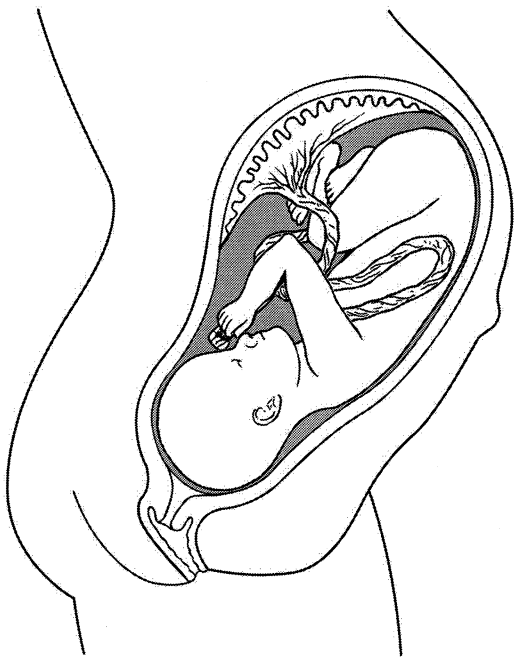
not to scale

C

What process is shown in C? Choose your answer from the box opposite. [1 mark]

_____

(d) **The diagram shows a baby developing inside its mother.**



(i) Which word means an unborn baby? Choose your answer from the box opposite. [1 mark]

_____

(ii) Where does the unborn baby develop? Choose your answer from the box opposite. [1 mark]

_____

[maximum 7 marks]

3. **The drawings below show three healthy young plants.**



A B C

The drawings below show the three plants after two weeks.



A B C

(a) (i) **Look at the plants at the bottom of the opposite page.**

Plant B did not have enough light.

How can you tell this from the drawing? [1 mark]

_____

_____

_____

(ii) **Plant C did not have enough water.**

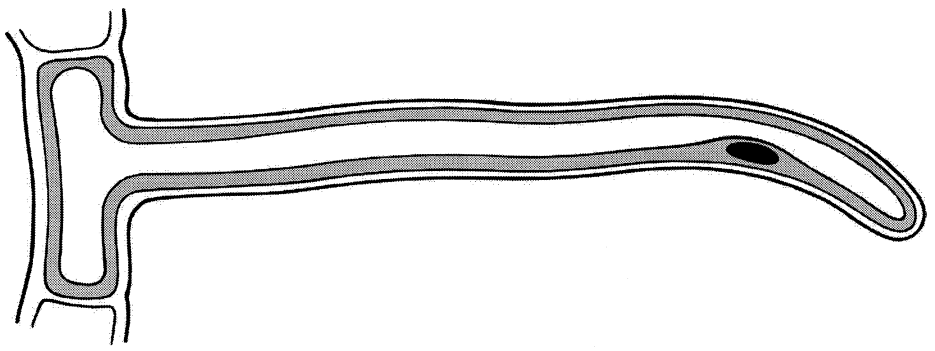
How can you tell this from the drawing? [1 mark]

_____

_____

_____

(b) **The drawing below shows a root hair cell.**



Give two substances that root hair cells absorb from the soil. [2 marks]

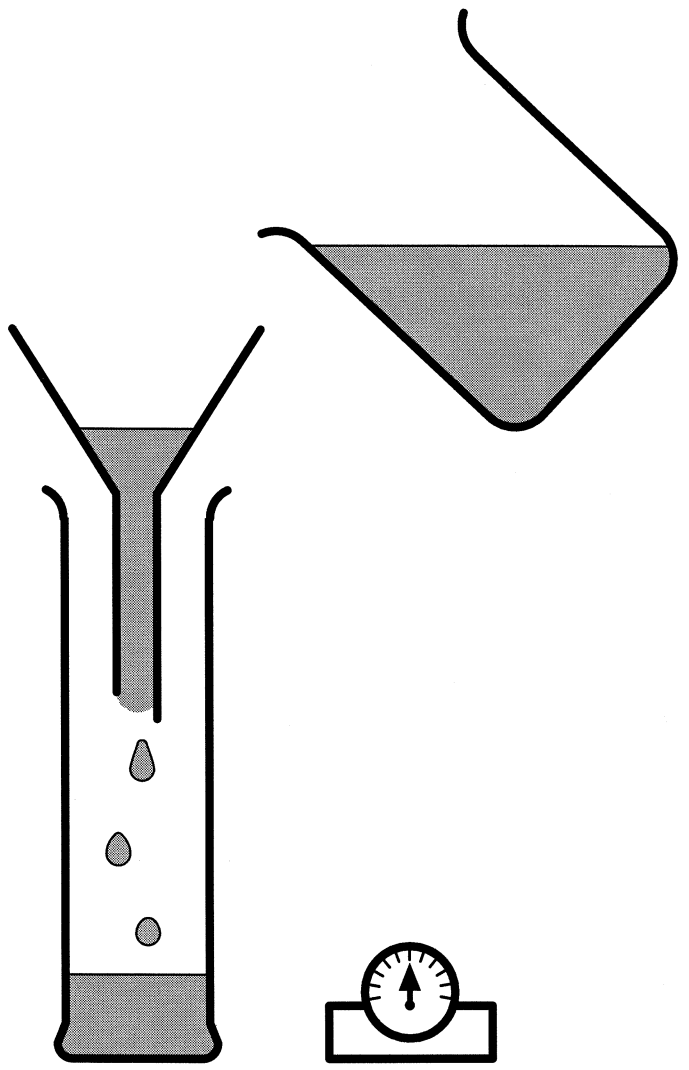
1. _____

2. _____

[maximum 4 marks]

4. **Two pupils investigated the effect of temperature on how fast oil flows through a funnel.**

They used the equipment in the diagram below.



(a) **They measured the time taken for all the oil to flow through the funnel.**

What equipment did they use to measure the time? [1 mark]

_____

_____

(b) **Complete the table below to show what they should do with each factor in their investigation.**

Tick one box for each factor. [2 marks]

factor	change it	keep it the same	measure it
temperature of the oil			
type of oil			
volume of oil			
time taken for all the oil to flow through the funnel			

THIS QUESTION CONTINUES ON THE NEXT PAGE

(c) Look at their results in the table below.

temperature of oil (°C)	time taken for all the oil to flow through the funnel (s)
22	131
40	35
60	22
80	19

What happens to the time taken for the oil to flow through the funnel as its temperature increases? [1 mark]

(d) **How long does it take for all the oil to flow through the funnel at 15°C?**

Choose from the following times.

Tick the correct box. [1 mark]

15 seconds ☐

80 seconds ☐

131 seconds ☐

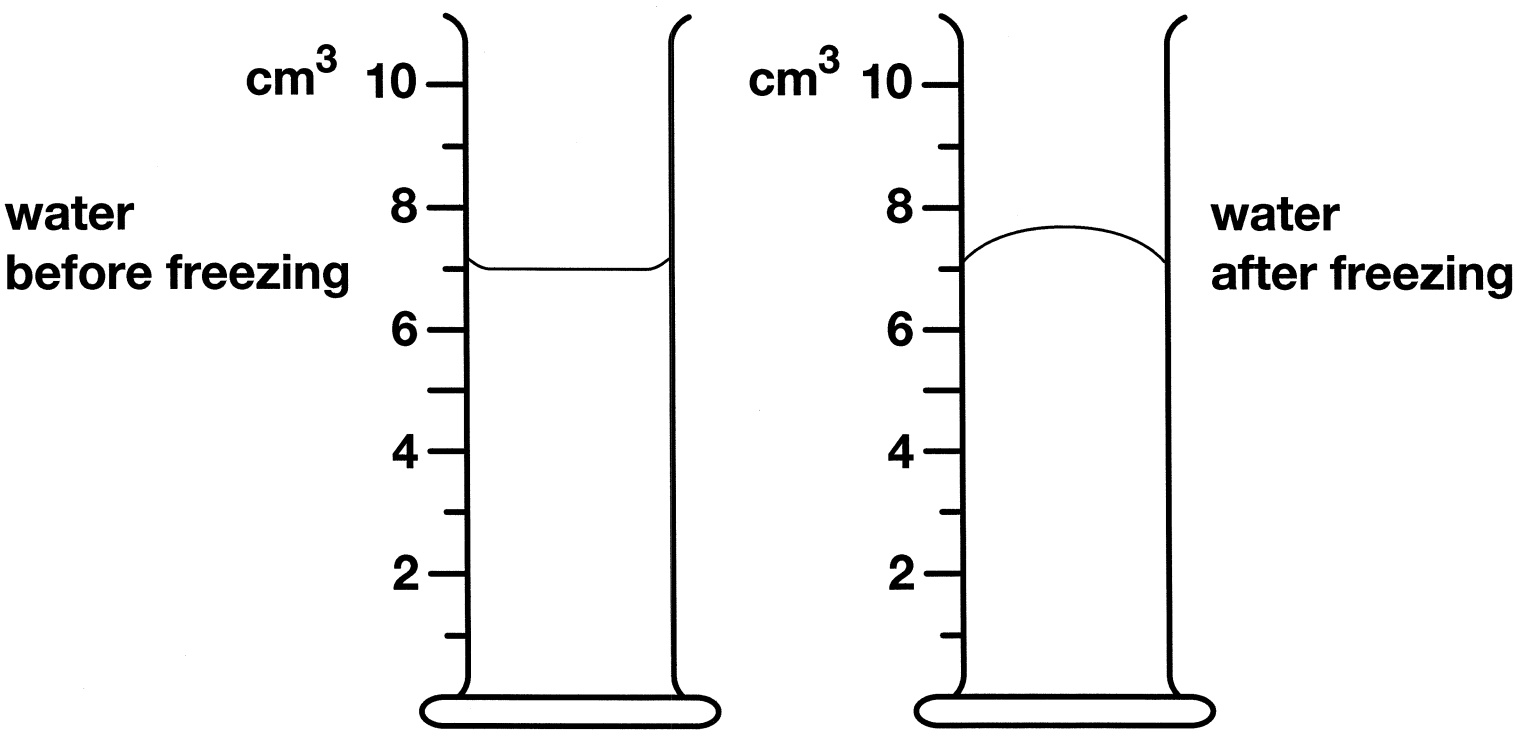
180 seconds ☐

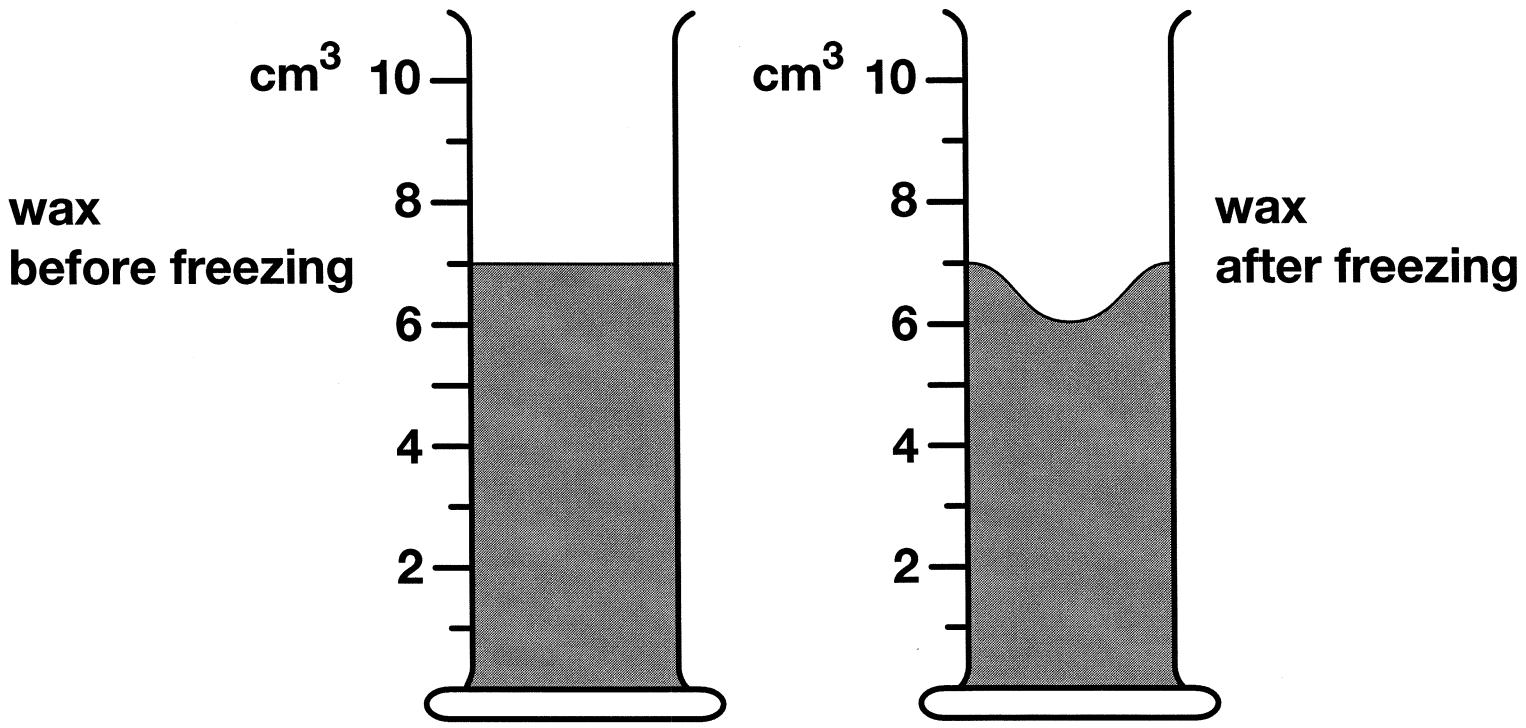
[maximum 5 marks]

5. Meera poured 7 cm^3 of water into a measuring cylinder.

She poured 7 cm^3 of melted wax into another measuring cylinder.

She put both measuring cylinders into a freezer for twenty four hours.





(a) **Look at the measuring cylinders.**

What happened to the volume of the water and the wax after freezing? [1 mark]

the volume of water

_____

the volume of wax

_____

(b) **The measuring cylinders were taken out of the freezer and left in a room at 20°C.**

- **Frozen water melts at 0°C.**
- **Wax melts at 53°C.**

What would the physical state of each substance be at 20°C?

Choose from gas or liquid or solid. [1 mark each]

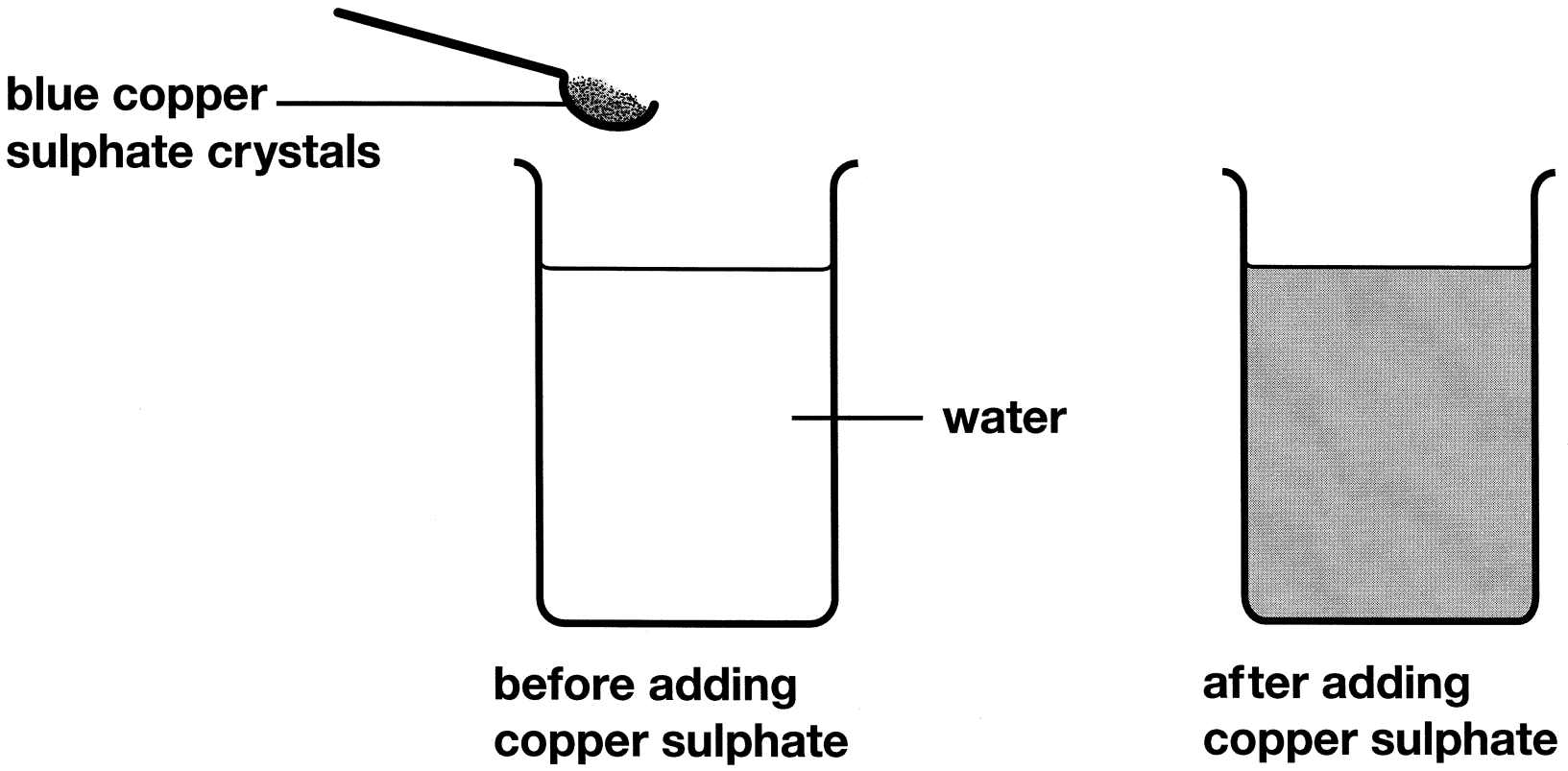
water _____

wax _____

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(c) **Meera added blue copper sulphate crystals to some water in a beaker.**

The copper sulphate dissolved in the water.



(i) **Give one way Meera could see that the copper sulphate had dissolved in the water. [1 mark]**

(ii) **Give one way that she could get the copper sulphate to dissolve more quickly. [1 mark]**

(d) **Meera poured some of the copper sulphate solution into a dish. She left it in a warm room for a week.**



A week later there was a blue solid but no liquid in the dish.

(i) **What happened to the water in the copper sulphate solution? [1 mark]**

_____

_____

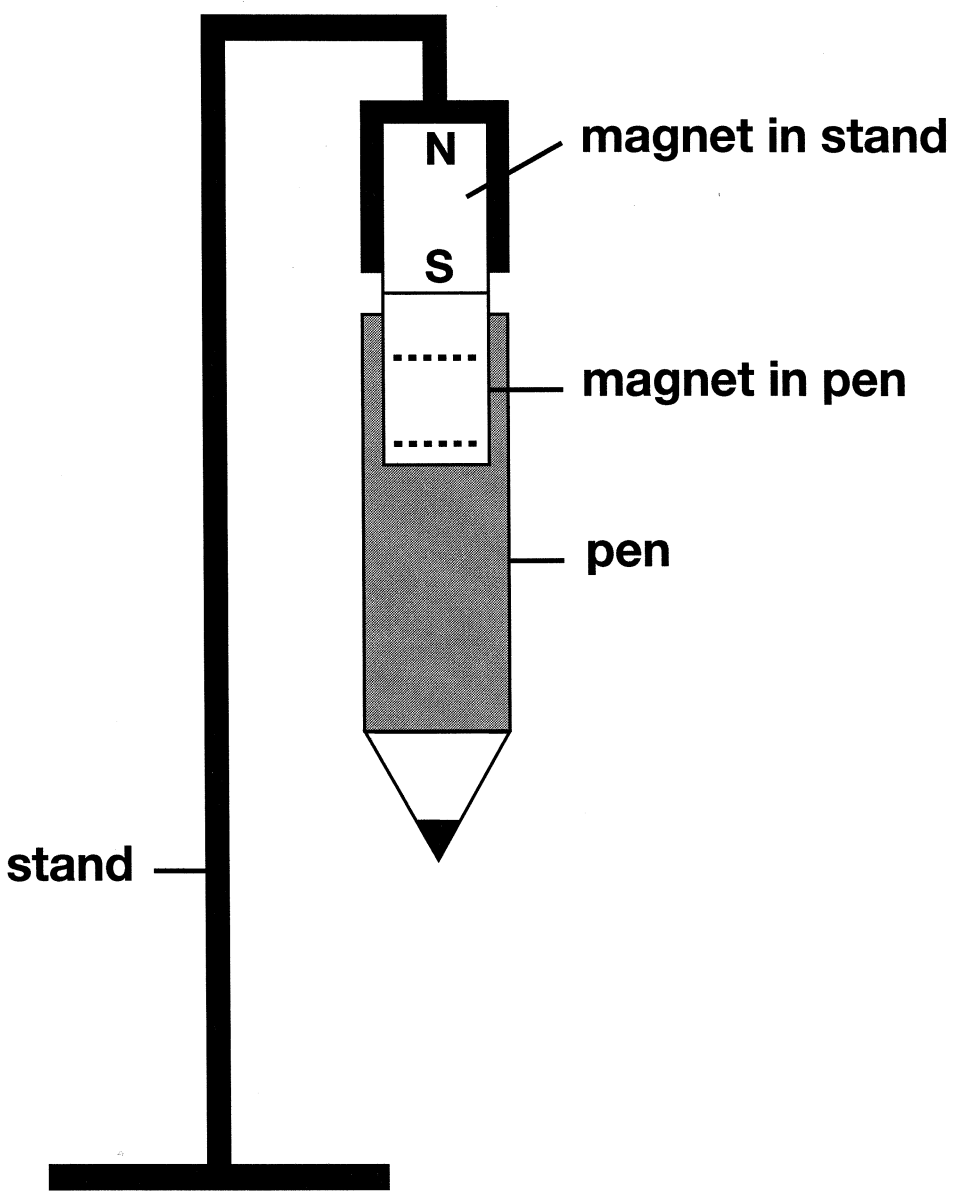
(ii) **What was the blue solid left in the dish? [1 mark]**

_____

[maximum 7 marks]

6. **The diagram below shows a pen.**

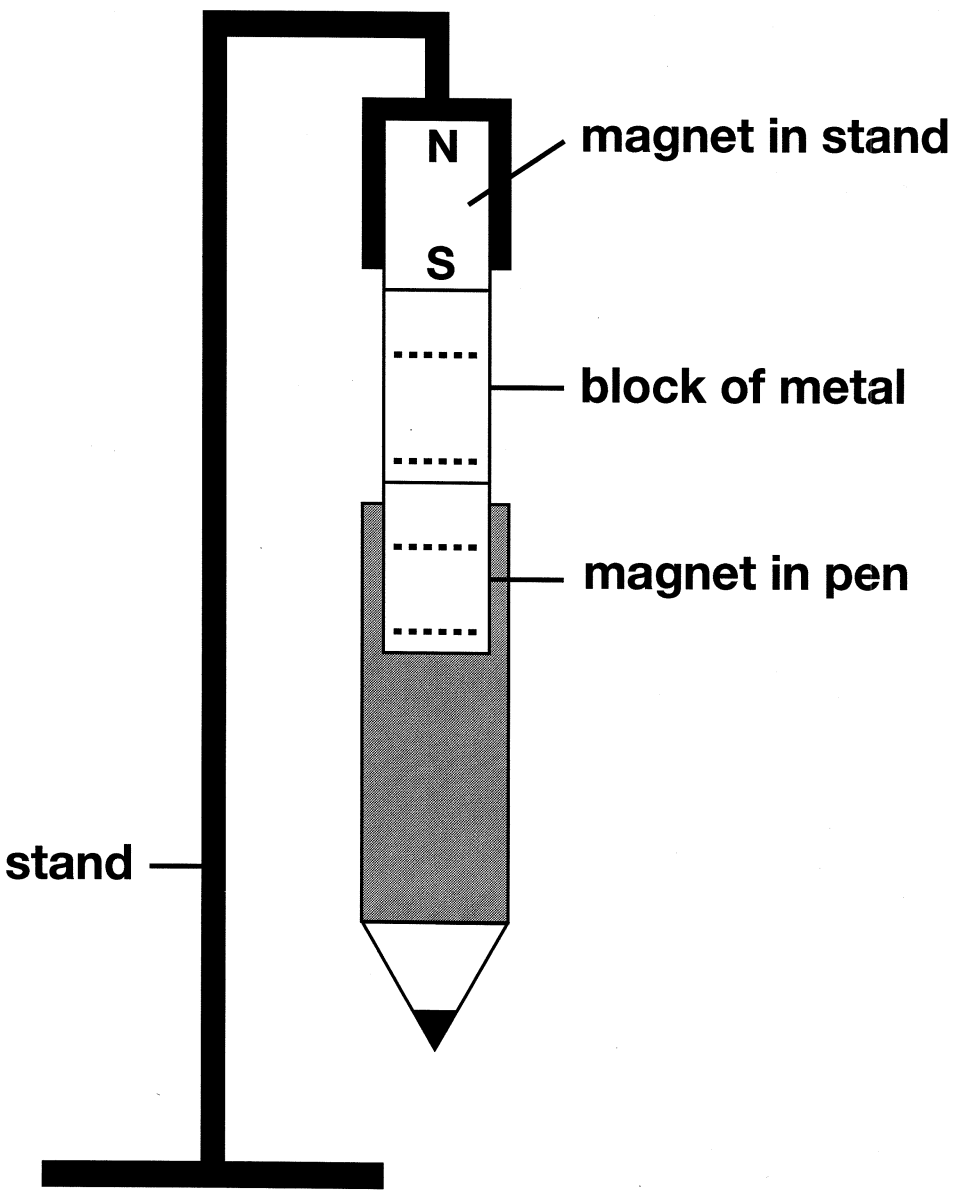
The pen is held up by two magnets, one in the stand and the other in the pen.



(a) **On the dotted lines above, label the North pole and the South pole of the magnet in the pen.**

Use the letters N and S. [1 mark]

(b) John put a block of metal between the two magnets as shown below.



The block of metal became a magnet.

(i) On the dotted lines above, label the North poles and the South poles of both the block of metal and the magnet.

Use the letters N and S. [1 mark]

(ii) What metal could the block be made of? [1 mark]

_____

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(c) **John repeated the experiment using a piece of wood instead of a block of metal.**

The pen did not stay up.

Give the reason for this. [1 mark]

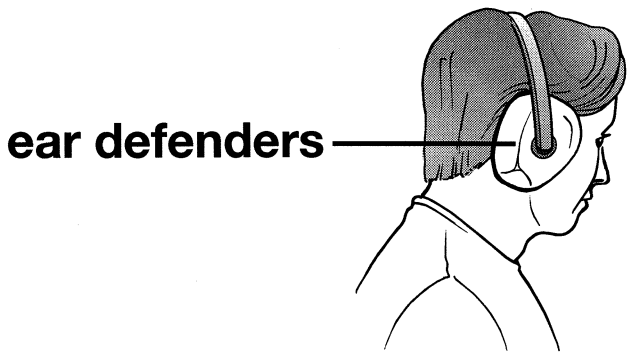
_____

_____

[maximum 4 marks]

7. **Three pupils watched a firework display.**

(a) **A man lit the fireworks. He wore ear defenders.**



Why should he wear ear defenders when he is close to loud fireworks? [1 mark]

_____

_____

_____

_____

THIS QUESTION CONTINUES ON THE NEXT PAGE

(b) A rocket exploded making a loud sound and a bright flash.

Peter, Sabrina and Jan were standing at different distances from the rocket.







Sabrina



Peter



Jan

When the rocket exploded, Jan heard the quietest sound. Why did Jan hear the quietest sound? [1 mark]

(c) Jan saw the flash before she heard the sound.

What does this tell you about the speed of light and the speed of sound? [1 mark]

_____

_____

_____

_____

(d) Complete the sentences below using words from the list.

chemical electrical heat light sound

(i) Jan, Sabrina and Peter could see the rocket explode because it gave out _____ energy. [1 mark]

(ii) They could hear the rocket explode because it gave out _____ energy. [1 mark]

(e) When the rocket stopped burning it fell to the ground.

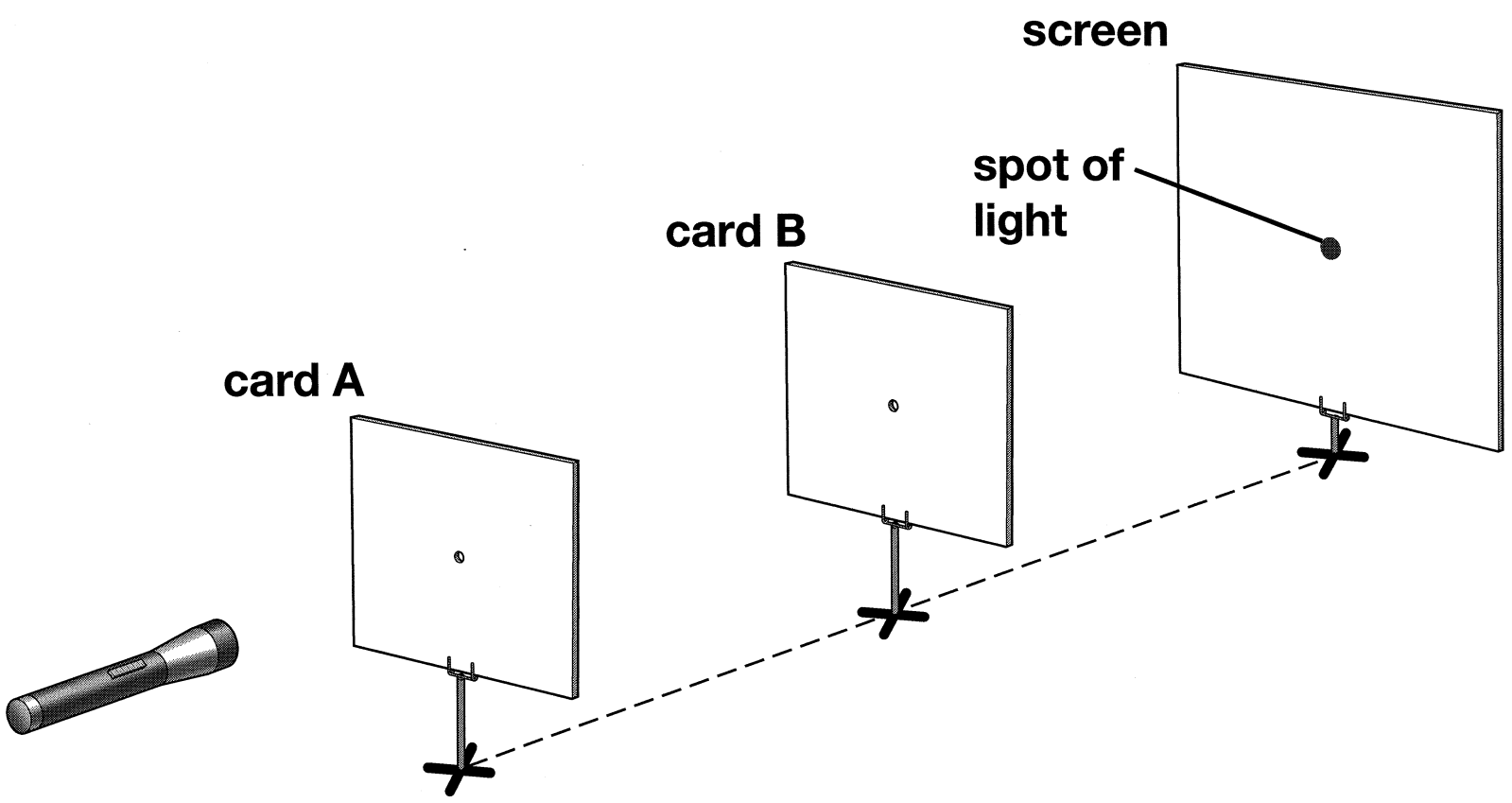
What force caused it to fall to the ground? [1 mark]

_____

[maximum 6 marks]

8. Gabby arranged a torch, two cards and a screen as shown below.

Light from the torch passed through holes in the cards and onto the screen.



(a) Why did a spot of light appear on the screen?
Tick the correct box. [1 mark]

Light can be split up into many colours. ☐

Light can travel through empty space. ☐

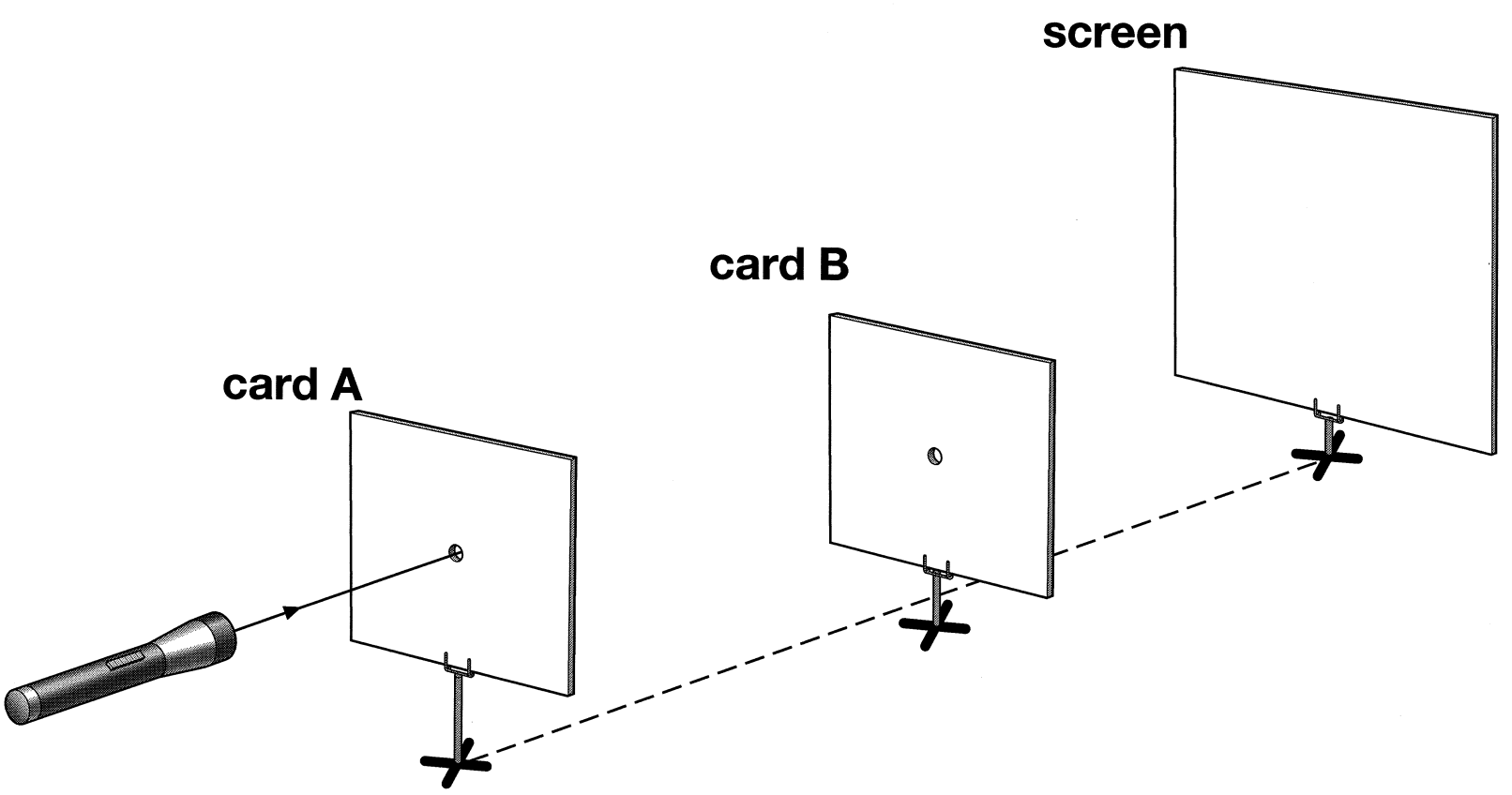
Light travels in straight lines. ☐

Light travels very fast. ☐

(b) **Gabby moved card B to one side as shown below.**

The ray of light passed through the hole in card A and on to card B.

Continue the ray of light from the torch to show where it would hit card B. Use a ruler. [1 mark]



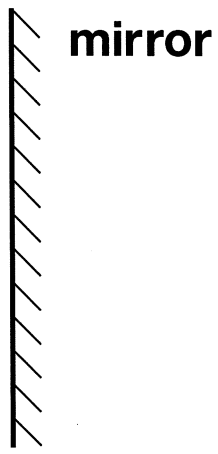
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(c) **Gabby used a torch to shine a ray of light towards a mirror.**

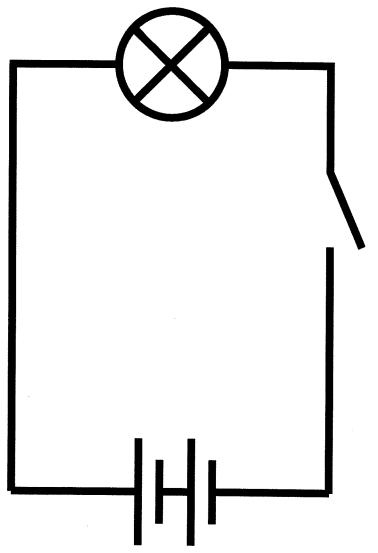
Continue the ray of light to show how it reflects off the mirror.

Add an arrow to show the direction of the reflected ray.
Use a ruler. [3 marks]





(d) **Gabby built a circuit like the circuit in her torch.**



What could she do to the circuit to make this bulb brighter? Tick the correct box. [1 mark]

Add another battery. ☐

Add another bulb. ☐

Add another switch. ☐

Add longer wires. ☐

[maximum 6 marks]

END OF FIRST PART

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