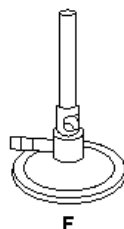
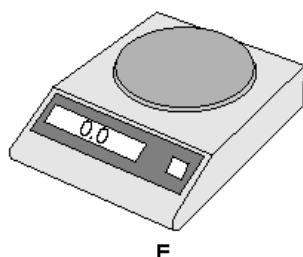
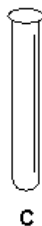
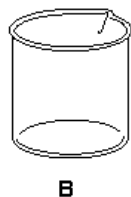
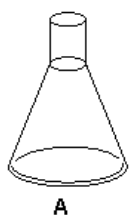


SET 1 - aiming for level 3-4 at GCSE

Q1. The diagram below shows six pieces of equipment.



(a) Linda investigates how quickly sugar dissolves in water.

- (i) Which piece of equipment does she use to weigh 5 g of sugar?
Tick the correct box.

A	B	C	D	E	F
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1 mark

- (ii) Which piece of equipment does she use to measure out 90 cm³ of water?
Tick the correct box.

A	B	C	D	E	F
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1 mark

(b) Linda heats the water in a beaker.

- (i) Which piece of equipment shown is a beaker?
Tick the correct box.

A	B	C	D	E	F
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1 mark

- (ii) Which piece of equipment shown is used to heat water?
Tick the correct box.

A	B	C	D	E	F
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1 mark

- (c) Linda adds 5 g of sugar to the hot water.

- (i) She measures the time it takes for the sugar to dissolve.
The equipment used for timing is **not** shown in the diagram.

What piece of equipment is used to measure the time taken?

.....

1 mark

- (ii) The equipment used to measure the temperature of the water is **not** shown in the diagram.

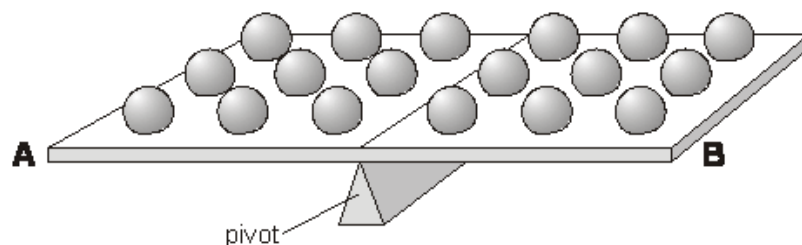
What piece of equipment is used to measure temperature?

.....

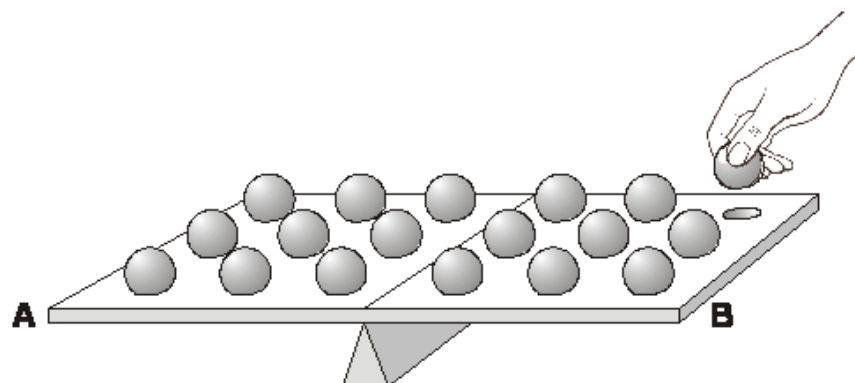
1 mark
maximum 6 marks

Q2. Fran has a balancing game.

On each side of the pivot there are nine steel balls. The tray is balanced.



- (a) Fran removes one of the steel balls as shown below.



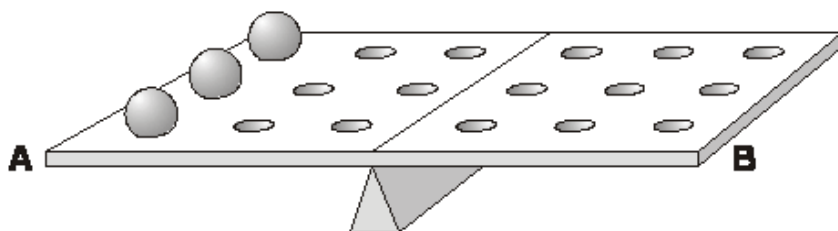
What will happen to end A?

.....

1 mark

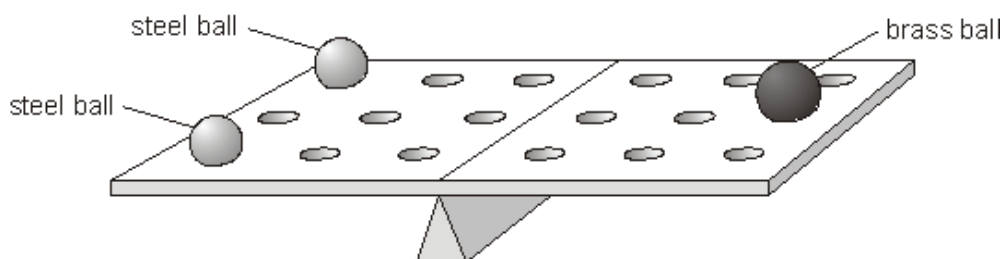
- (b) There are three balls on side A as shown below.

Draw three other balls in the correct positions to balance the tray.



1 mark

- (c) Fran puts two steel balls on one side and one brass ball on the other side. The tray is balanced.



The mass of each steel ball is 50 g.

What is the mass of the brass ball

..... g

1 mark

- (d) The table below gives information about the brass and steel balls.

	Is it attracted to a magnet?	elements in the ball
brass	no	copper and zinc
steel	yes	iron and carbon

- (i) Which element is **not** a metal?
Tick the correct box.

carbon	<input type="checkbox"/>	copper	<input type="checkbox"/>
iron	<input type="checkbox"/>	zinc	<input type="checkbox"/>

1 mark

- (ii) Look at the elements in the brass ball and the steel ball.

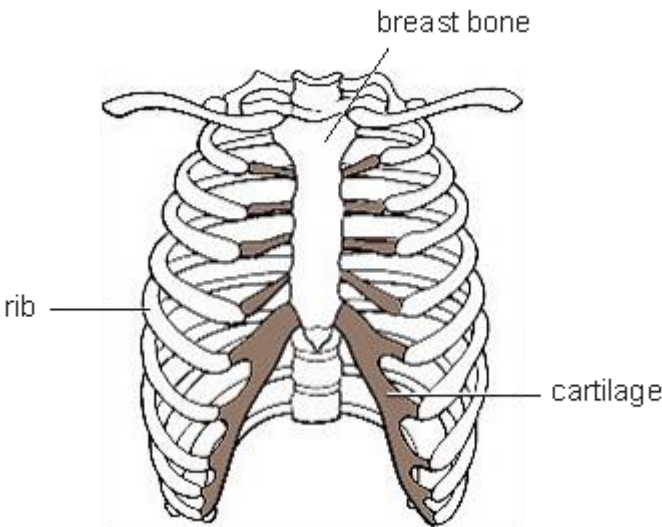
Why is steel attracted to a magnet but brass is **not**?

.....

1 mark
maximum 5 marks

Q3.

The drawing below shows the human rib cage.



(a) The rib cage protects organs in the chest.

Give the names of **two** organs in the chest.

- 1.
- 2.

2 marks

(b) The ribs are attached to the breast bone by cartilage which bends easily. This lets the space in the chest get bigger.

Why is it important that the space can get bigger?

.....
.....

1 mark

SEE NEXT PAGE

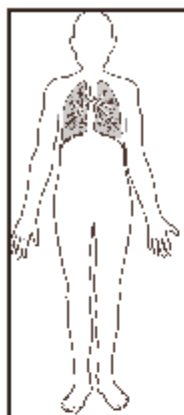
- (c) The drawings below show parts of three different organ systems.

Draw a line from each organ system to its function.

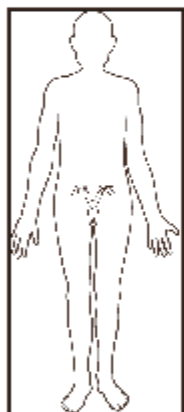
Draw only **three** lines.

organ system

function



digestion of food



reproduction



control of the body

taking in oxygen from
the air

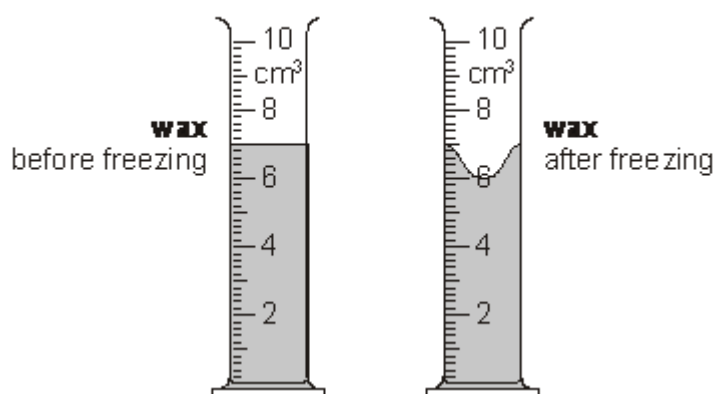
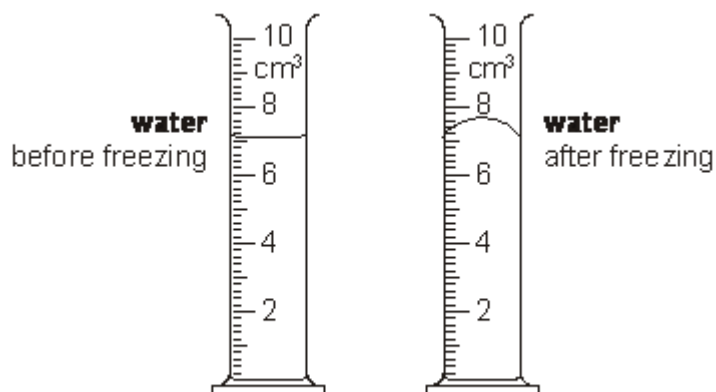
movement of the body

3 marks
maximum 6 marks

Q4.

Meera poured 7 cm³ of water into a measuring cylinder.

She poured 7 cm³ of melted wax into another measuring cylinder.
She put both measuring cylinders into a freezer for 24 hours.



- (a) Look at the measuring cylinders.
What happened to the volume of the water and the wax after freezing?

the volume of water

the volume of wax

1 mark

- (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?

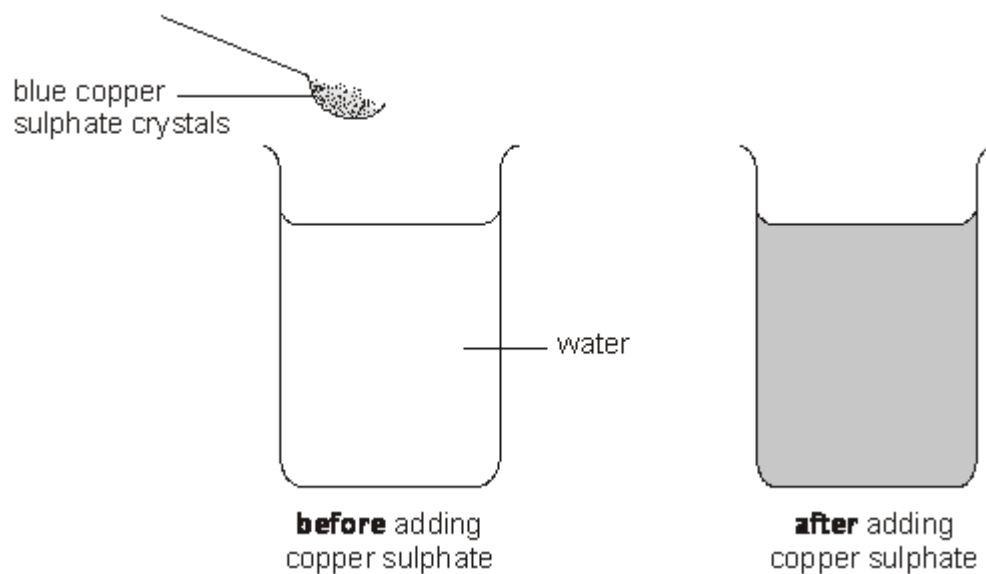
Choose from **gas** or **liquid** or **solid**.

water

wax

2 marks

- (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

