Write your name here

Surname	Other names

Pearson Edexcel International Primary Curriculum

Centre Number | | | | | |

Candidate Number | | | | |

Science

Year 6
Achievement Test

Thursday 2 June 2016 – Morning
Time: 1 hour

Paper Reference
JSC01/01

Materials you will need:
Ruler

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided
  – *there may be more space than you need.*

Information

- The total mark for this paper is 60.
- The marks for **each** question are shown in brackets
  – *use this as a guide as to how much time to spend on each question.*
- Candidates may use a calculator.

Advice

- Read each question carefully before you start to answer it.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ▶

P46440A

1/1/3/3/3/2/

P 4 6 4 4 0 A 0 1 3 2

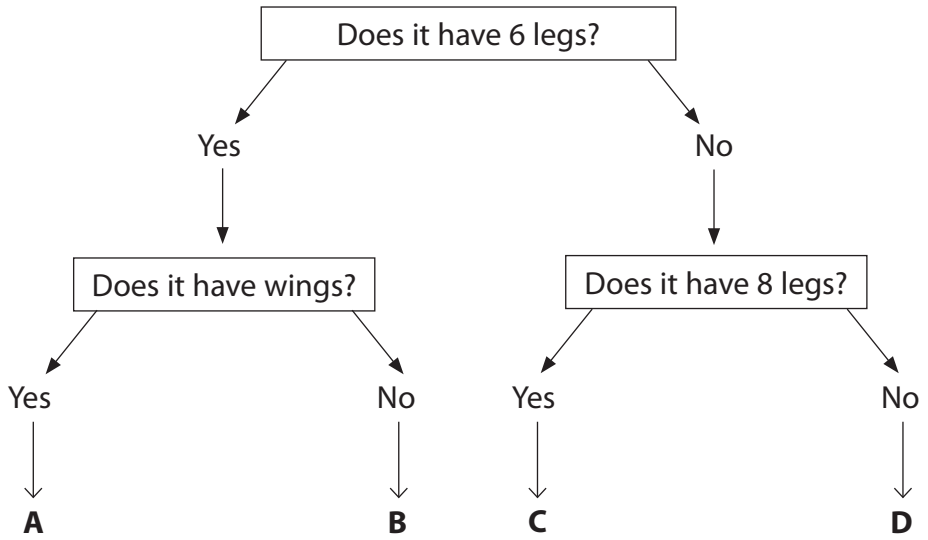
PEARSON

SECTION A

Answer ALL questions.

For questions 1 – 10 put a cross in one box ☒ to indicate your answer.
If you change your mind, put a line through the box ☒ and then put a cross in another box ☒.
Each question is worth one mark.

1 Use the key to identify this animal.



☒ **A** a hornet

☒ **B** an ant

☒ **C** a scorpion

☒ **D** a millipede

(Total for Question 1 = 1 mark)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

2 Leaf shape is one way to identify plants. The pictures show four different leaves.

1. 

2. 

3. 

4. 

Which two leaves are the most similar?

☒ **A** 1 and 2

☒ **B** 2 and 3

☒ **C** 1 and 4

☒ **D** 3 and 4

(Total for Question 2 = 1 mark)

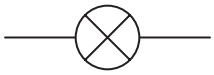
DO NOT WRITE IN THIS AREA

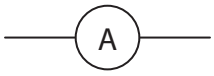
DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

3 Which of these is the correct circuit symbol for a switch?

☒ **A** 

☒ **B** 

☒ **C** 

☒ **D** 

(Total for Question 3 = 1 mark)

4 Which of these substances dissolves in water?

☒ **A** flour

☒ **B** salt

☒ **C** sand

☒ **D** sawdust

(Total for Question 4 = 1 mark)

5 Which of the following involves micro-organisms?

☒ **A** burning paper

☒ **B** running

☒ **C** sleeping

☒ **D** spreading disease

(Total for Question 5 = 1 mark)

6 Which of these materials is an electrical insulator?

☒ **A** aluminium

☒ **B** copper

☒ **C** plastic

☒ **D** steel

(Total for Question 6 = 1 mark)

7 Any substance that does not dissolve in water can be separated from water by

☒ **A** filtering.

☒ **B** magnetism.

☒ **C** melting.

☒ **D** stirring.

(Total for Question 7 = 1 mark)

8 Which of these is a unit of length?

☒ **A** amps

☒ **B** grams

☒ **C** kilograms

☒ **D** kilometres

(Total for Question 8 = 1 mark)

9 Which of these is a source of light?

☒ **A** the eye

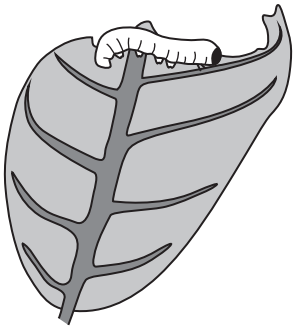
☒ **B** a switch

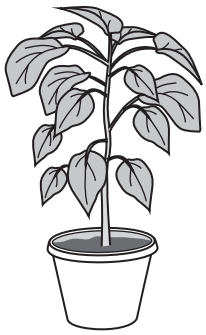
☒ **C** the Moon

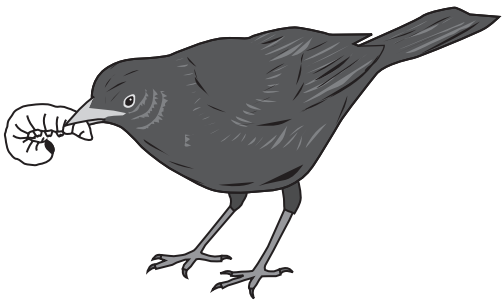
☒ **D** a torch

(Total for Question 9 = 1 mark)

10 Which of these shows the correct order in a food chain?







☒ **A** plant ⟶ bird ⟶ caterpillar

☒ **B** caterpillar ⟶ plant ⟶ bird

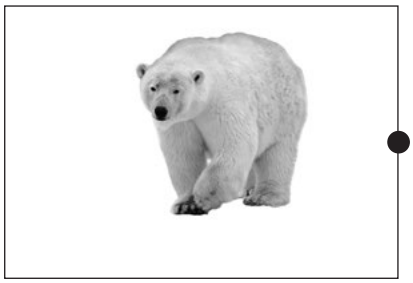
☒ **C** plant ⟶ caterpillar ⟶ bird

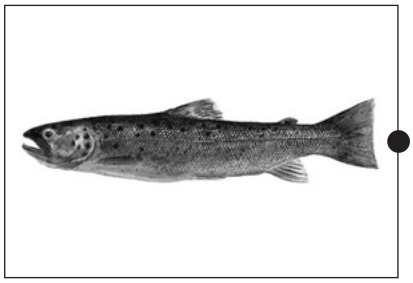
☒ **D** bird ⟶ caterpillar ⟶ plant

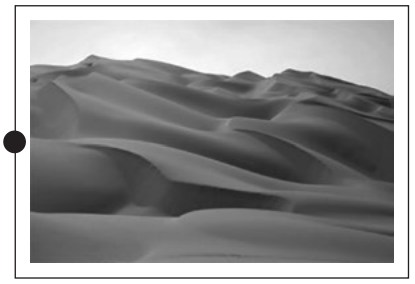
(Total for Question 10 = 1 mark)

11 Draw **one** straight line from each animal to the animal's habitat.

One of the habitats will not be used.

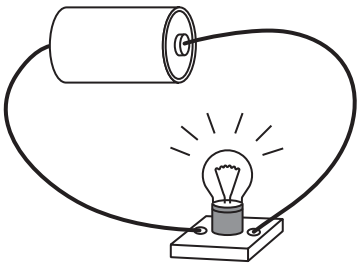




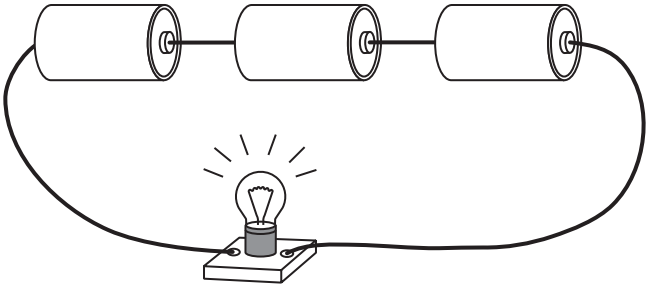


(Total for Question 11 = 2 marks)

12 Joe makes the circuit shown in the diagram.



(a) He adds two more cells as shown below.



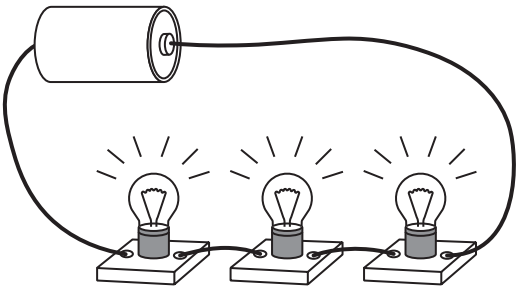
Describe what happens to the brightness of the bulb now he has added more cells.

(1)

.....

.....

(b) Joe adds two more bulbs to his first circuit.



Describe what happens to the brightness of the bulbs now he has added more bulbs.

(1)

.....

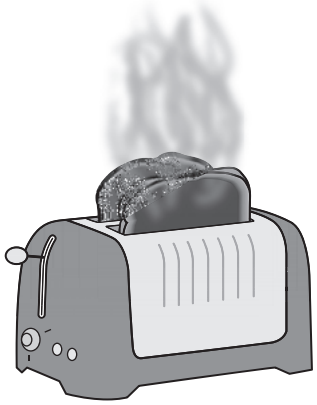
.....

(Total for Question 12 = 2 marks)

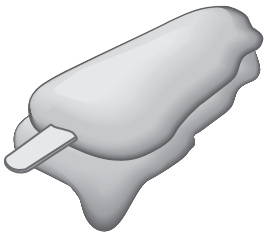
For questions 13 – 21 put a cross in one box ☒ to indicate your answer.
If you change your mind, put a line through the box ☒ and then put a cross in another box ☒.
Each question is worth one mark.

13 Which of these is an **irreversible** change?

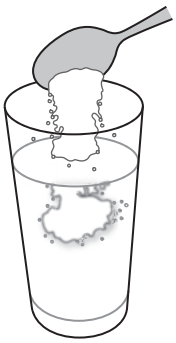
☒ **A** burning toast



☒ **B** melting ice cream



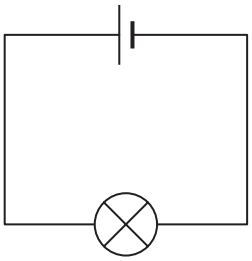
☒ **C** dissolving sugar



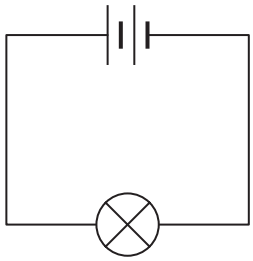
☒ **D** freezing water

(Total for Question 13 = 1 mark)

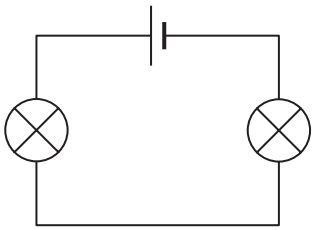
14 In which of these circuit diagrams would the bulb(s) be brightest?



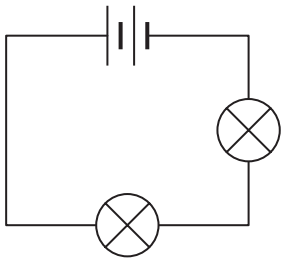
A ☒



B ☒



C ☒



D ☒

(Total for Question 14 = 1 mark)

15 A farmer adds chemical fertiliser to his fields. This helps to provide

☒ **A** warmth to the soil.

☒ **B** water for the crops.

☒ **C** nutrients for the plants.

☒ **D** food for the worms.

(Total for Question 15 = 1 mark)

16 An animal that feeds **only** on meat is

☒ **A** a carnivore.

☒ **B** a herbivore.

☒ **C** prey.

☒ **D** a producer.

(Total for Question 16 = 1 mark)

17 A student adds a spoonful of sugar to a beaker of cold water and stirs until all the sugar crystals dissolve.

He keeps adding spoonfuls of sugar, one at a time, until no more sugar dissolves.

His friend does exactly the same experiment but uses hot water.

Which statement **best** describes what they find out?

☒ **A** More sugar dissolves in the cold water than in the hot water.

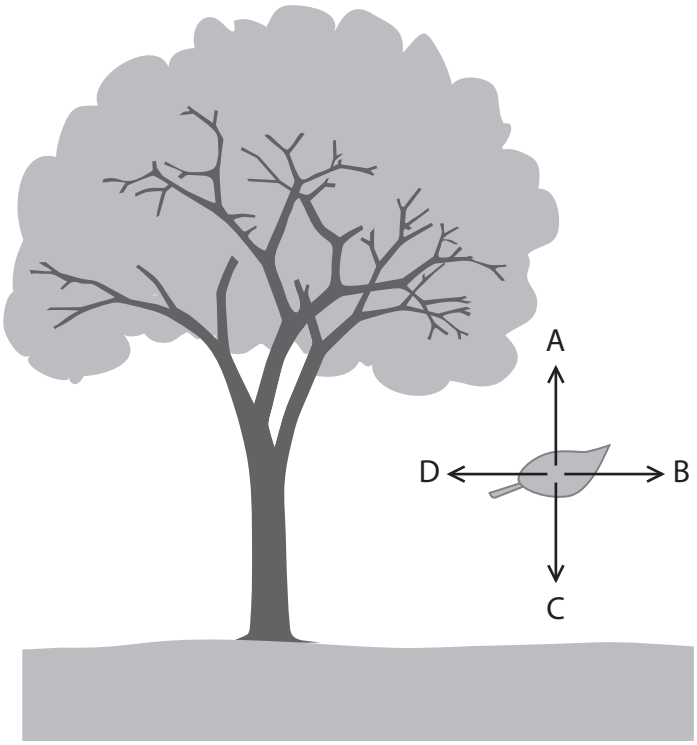
☒ **B** Sugar does not dissolve in the cold water unless it is stirred.

☒ **C** The hotter the water, the more sugar dissolves in it.

☒ **D** The same amount of sugar dissolves in cold water as in the hot water.

(Total for Question 17 = 1 mark)

18 A leaf is falling from a tree. There is no wind, so it falls straight down to the ground.



The falling of the leaf is slowed down by the force of air resistance.

In which direction does the force of air resistance act?

☒ **A**

☒ **B**

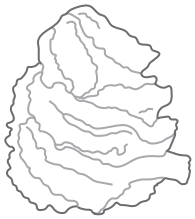
☒ **C**

☒ **D**

(Total for Question 18 = 1 mark)

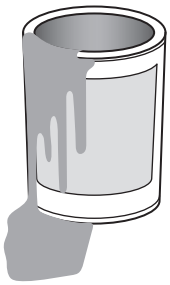
19 Which of these substances is a foam?

☒ **A** whipped cream

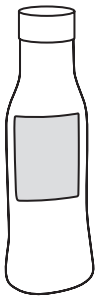


☒ **B** milk

☒ **C** paint



☒ **D** salad dressing



(Total for Question 19 = 1 mark)

20 Which piece of equipment is used to look at bacteria?

☒ **A** binoculars

☒ **B** microscope

☒ **C** mirror

☒ **D** telescope

(Total for Question 20 = 1 mark)

21 An irreversible change **always**

☒ **A** produces smoke.

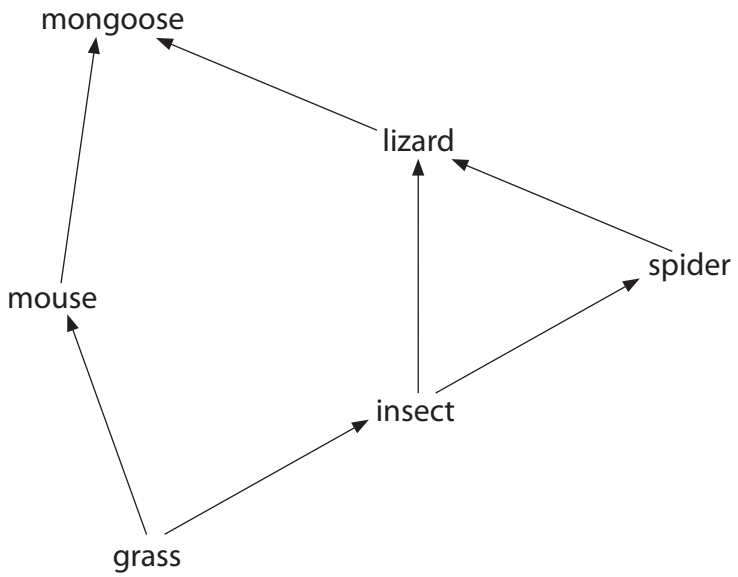
☒ **B** involves heating.

☒ **C** produces sound.

☒ **D** makes a new substance.

(Total for Question 21 = 1 mark)

22 (a) The diagram shows a simple food web.



(i) Name **one** producer in this food web. .....

(1)

(ii) Name **one** herbivore in this food web. .....

(1)

(iii) Which animal is the prey of the spider? .....

(1)

(iv) Which animal is a predator of the lizard? .....

(1)

(b) All animals and plants require nutrition.

State **one other** life process that all animals and plants carry out.

(1)

.....

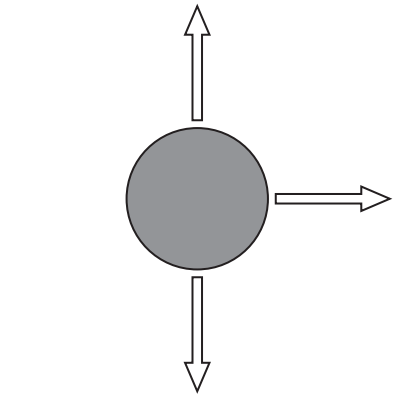
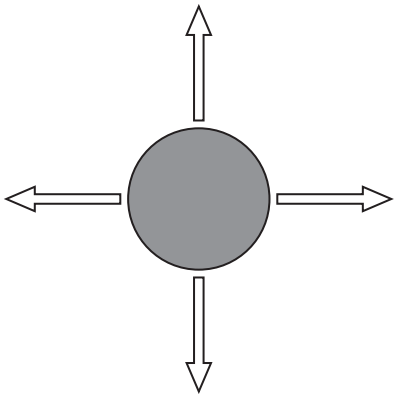
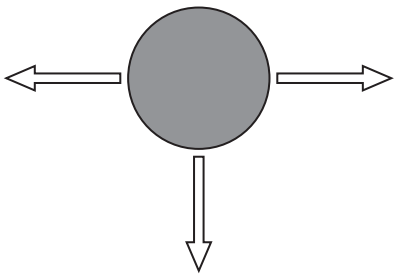
(Total for Question 22 = 5 marks)

23 The table shows the forces acting on three identical balls.

(a) Complete the table by putting **one** tick (✓) in each row to show the direction in which the ball will move.

(3)

All the forces shown are equal in size.

	Left (←)	**Right (→)**	**Up (↑)**	**Down (↓)**	**Does not move**
					
					
					

(b) What units do we use to measure forces?

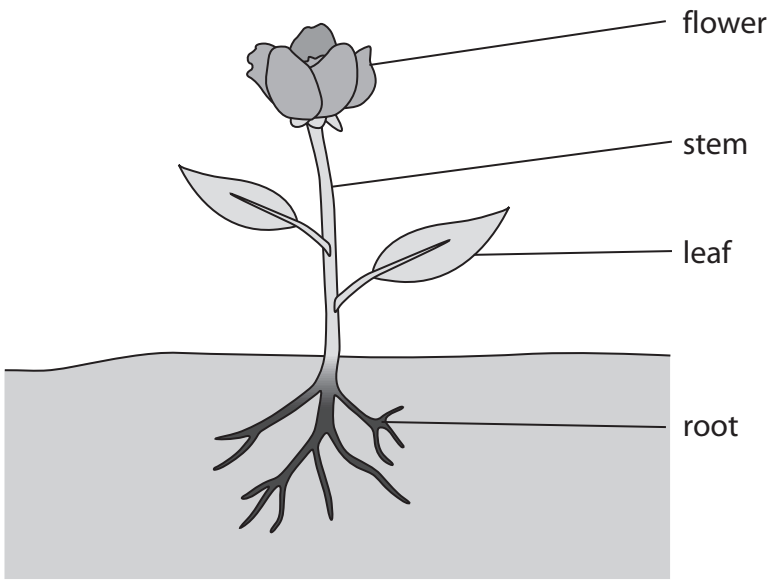
(1)

.....

(Total for Question 23 = 4 marks)

For questions 24 – 29 put a cross in one box ☒ to indicate your answer.
If you change your mind, put a line through the box ☒ and then put a cross in another box ☒.
Each question is worth one mark.

24 Which part of the plant takes in nitrates?



☒ **A** flower

☒ **B** stem

☒ **C** leaf

☒ **D** root

(Total for Question 24 = 1 mark)

25 Which of these changes would **speed up** the dissolving of a solid in a liquid?

☒ **A** Carry out the dissolving in a dark room.

☒ **B** Cool the liquid before adding the solid.

☒ **C** Use powdered solid instead of large lumps.

☒ **D** Add the solid a little at a time.

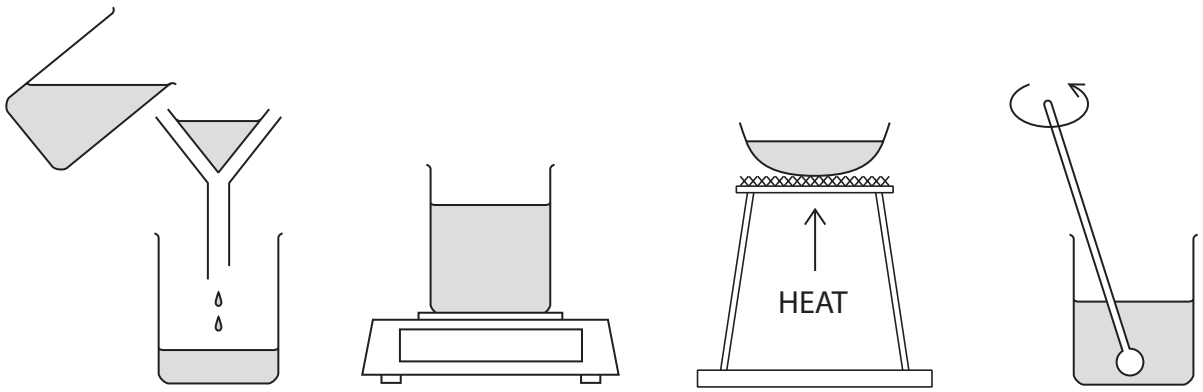
(Total for Question 25 = 1 mark)

26 When a liquid evaporates, any solid that is dissolved in it

- ☒ **A** escapes with the liquid.
- ☒ **B** becomes a gas.
- ☒ **C** becomes a liquid.
- ☒ **D** stays behind.

(Total for Question 26 = 1 mark)

27 The diagrams show some pieces of science equipment.



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

Which of the diagrams shows equipment for evaporation?

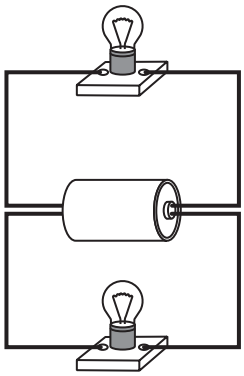
- ☒ **A**
- ☒ **B**
- ☒ **C**
- ☒ **D**

(Total for Question 27 = 1 mark)

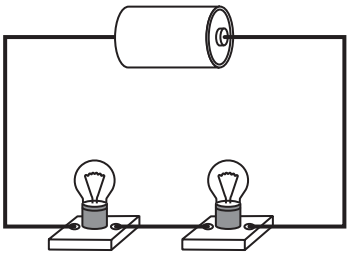
28 The diagrams show four circuits.

In which of the circuits are the bulbs connected in series?

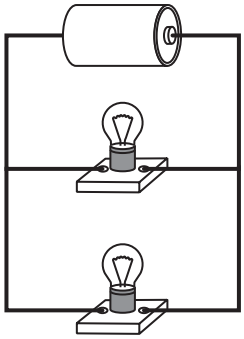
☒ **A**



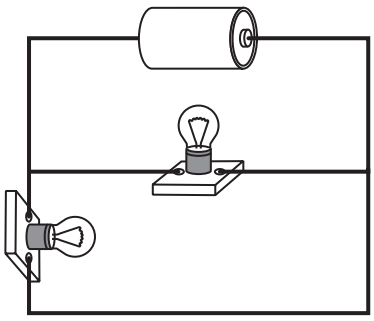
☒ **B**



☒ **C**



☒ **D**

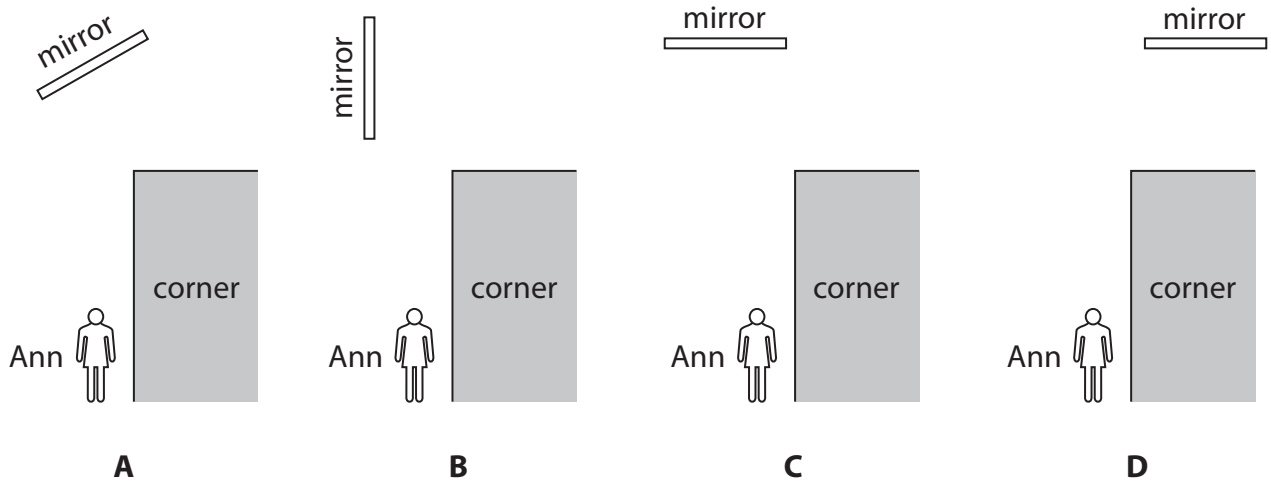


(Total for Question 28 = 1 mark)

29 Ann is using a mirror to see around the corner of a large building.

She tries the mirror in four different positions.

Which diagram shows the best position of the mirror for Ann to see around the corner?



☒ **A**

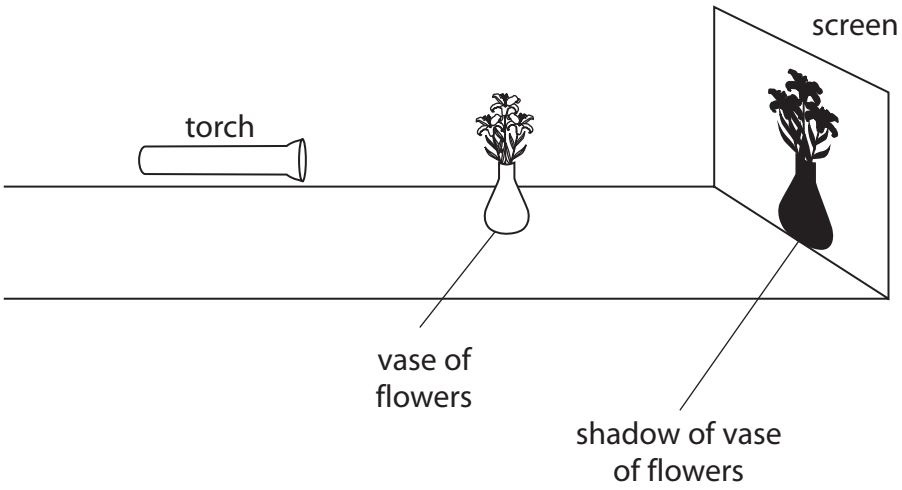
☒ **B**

☒ **C**

☒ **D**

(Total for Question 29 = 1 mark)

30 Rakesh uses this equipment to investigate shadows. In his first experiment he moves the vase of flowers. In his second experiment he moves the torch.



Describe what will happen to the **size** of the shadow on the screen when

(a) Rakesh moves the vase of flowers closer to the screen.

(1)

.....

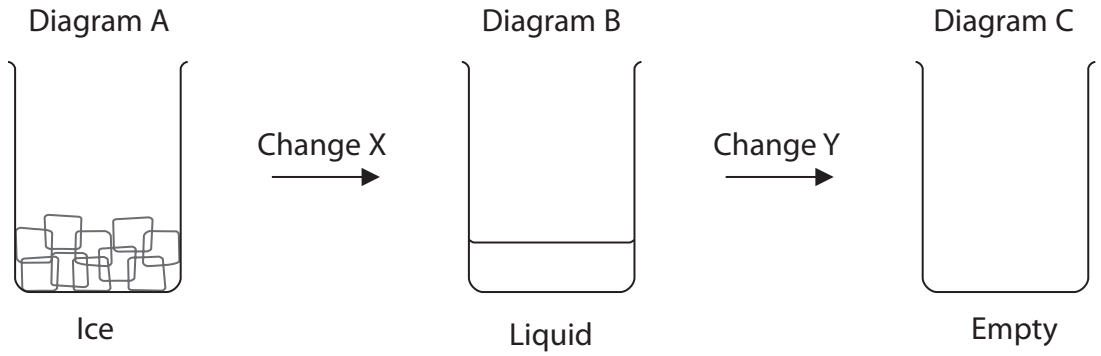
(b) Rakesh moves the torch further away from the vase of flowers.

(1)

.....

(Total for Question 30 = 2 marks)

31 Emma is investigating how ice changes when it is left in a warm room.



She puts some ice in a beaker and draws a diagram of the beaker (Diagram A).

She leaves the beaker in a warm room for an hour and then comes back and draws the beaker again (Diagram B).

(a) Name the liquid in Diagram B.

(1)

.....

(b) The next day she looks at the beaker and it is empty (Diagram C).

What name is given to change X and change Y?

(i) Change X is .....

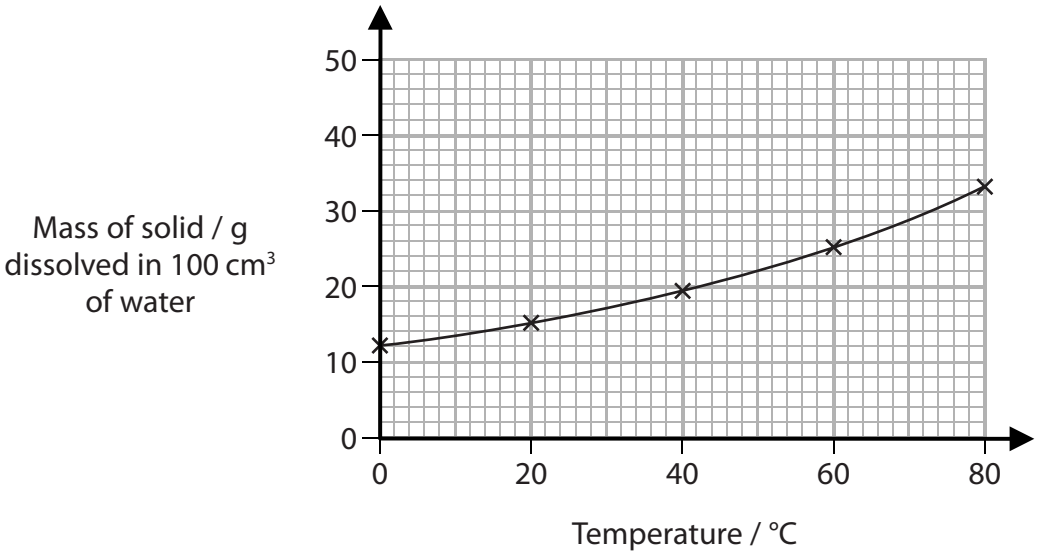
(1)

(ii) Change Y is .....

(1)

(Total for Question 31 = 3 marks)

32 The graph shows the mass of a solid that dissolves in 100 cm^3 of water at different temperatures.



How much more solid dissolves in 100 cm^3 of water at 60 °C than at 40 °C?

(2)

Show your working.

Answer = ...g

(Total for Question 32 = 2 marks)

TOTAL FOR SECTION A = 45 MARKS

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

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SECTION B

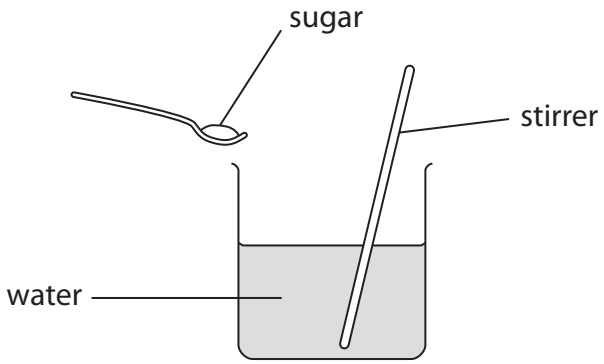
Answer ALL questions.

33 Jamil is investigating how much sugar dissolves in water at different temperatures.

In his experiment:

- He puts some water into a beaker, adds a spoonful of sugar and stirs it until it dissolves.
- He keeps adding the sugar, one spoonful at a time, until no more sugar will dissolve.
- He records the amount of sugar he has added.

He repeats his experiment using water at different temperatures.



(a) Name **two** measuring instruments that Jamil will need for his investigation.

(2)

1 .....

2 .....

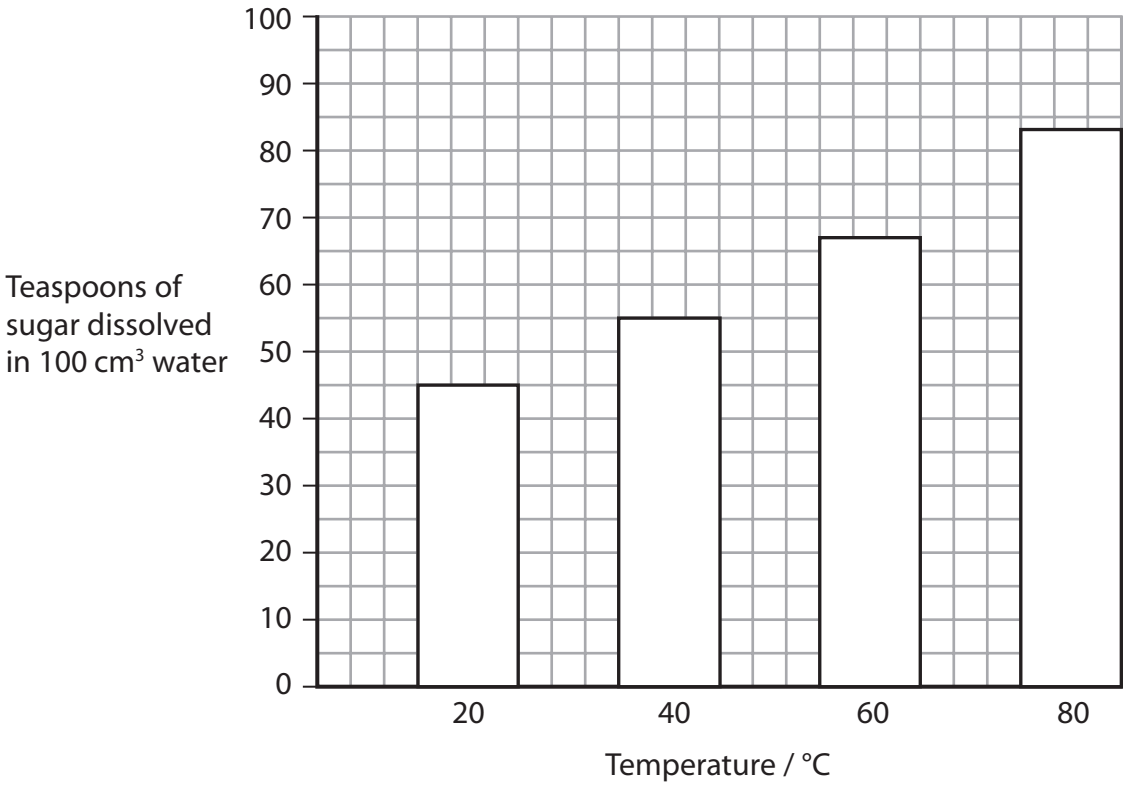
(b) Write down **one** thing that Jamil should keep the same to make his investigation a fair test.

(1)

.....

.....

(c) Jamil plots a bar chart of his results.



Predict how many teaspoons of sugar would dissolve in 100 cm^3 of water at 30 °C.

(1)

Answer = ...

(d) What could Jamil do to make his results more reliable?

(1)

.....

.....

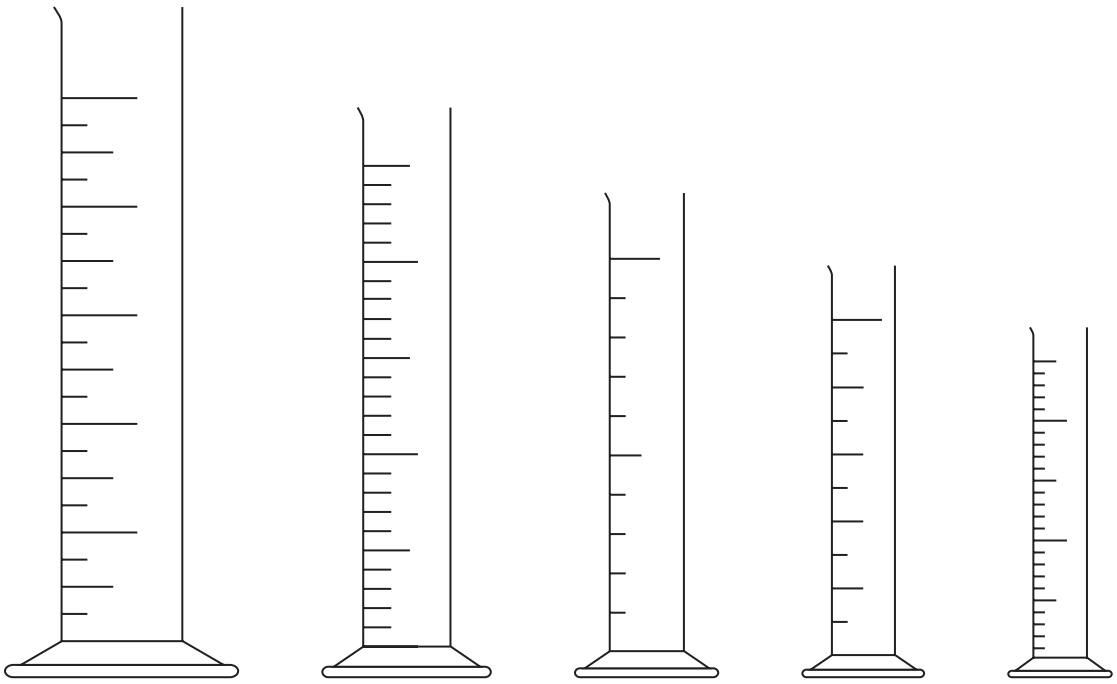
(Total for Question 33 = 5 marks)

34 Oscar notices that the speed at which his hot drink cools changes when he uses different shaped cups. He investigates this, using two different shaped cups.

cup A cup B

(a) Both cups are made of the same type of plastic and are the same thickness.

60 cm^3 of hot water is put into each cup.



500 cm^3 250 cm^3 100 cm^3 50 cm^3 25 cm^3

P **Q** **R** **S** **T**

Which **one** of the measuring cylinders, **P**, **Q**, **R**, **S** or **T**, should be used to measure the water?

Measuring cylinder .....

(1)

(b) Oscar measures the temperature of the water in each cup every two minutes.

He makes a table of his results.

Time (minutes)	Temperature of water (°C)	
	Cup A	Cup B
0	95	95
2	61	72
4	39	43
6	26	45
8	24	35
10	24	26
12	24	24

(i) Oscar thinks that one of the results is incorrect.

Put a circle round the result that is **most likely** to be incorrect.

(1)

(ii) What was the temperature of the room he worked in? Explain your answer.

Room temperature ..... °C

(2)

Explanation: .....

.....

(Total for Question 34 = 4 marks)

35 Imogen measures the length of 100 different leaves to the nearest millimetre.

Her results are shown in the table.

(a) Two rows of Imogen's table are incomplete.

Complete her table by writing the length and number of leaves in the blank spaces.

(2)

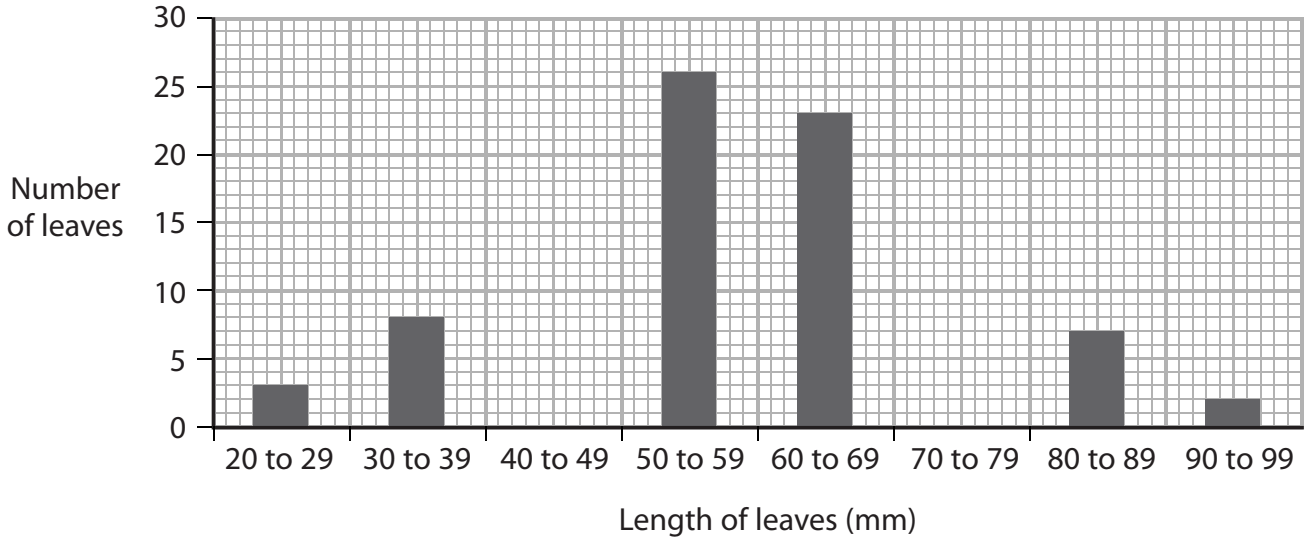
Length of leaf (mm)	Tally	Number of leaves
20–29	| | |	3
30–39	𝍸 | | |	8
.....	𝍸 𝍸 𝍸	.....
50–59	𝍸 𝍸 𝍸 𝍸 𝍸 |	26
60–69	𝍸 𝍸 𝍸 𝍸 | | |	23
.....	𝍸 𝍸 𝍸 |	.....
80–89	𝍸 | |	7
90–99	| |	2
		Total = 100

(b) Imogen makes a bar chart of her results.

Two bars are missing.

Draw both of the missing bars.

(2)



(c) Write true or false next to each statement in this table.

(2)

Statement	True or false?
The longest leaf was 89 mm in length.	.....
More than half of the leaves were 50–59 mm in length.	.....
11 leaves were between 20 and 39 mm in length.	.....
26 leaves were between 60–69 mm in length.	.....

(Total for Question 35 = 6 marks)

TOTAL FOR SECTION B = 15 MARKS
TOTAL FOR PAPER = 60 MARKS

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