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| Surname | | | | | Other names | | | | |
| Centre Number | | | | | Candidate Number | | | | |
| Pearson Edexcel International Primary Curriculum | | | | | | | | | |
| <h1>Science</h1> <h2>Year 6 Achievement Test</h2> | | | | | | | | | |
| Friday 1 June 2018 – Morning Time: 1 hour | | | | | Paper Reference JSC01/01 | | | | |
| Materials you will need: Ruler | | | | | | | | Total Marks | |

Instructions

- Use **black** ink or **black** 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 ►

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SECTION A

Answer ALL questions.

For questions 1 – 8 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 This ice cream is turning into liquid.



This is called

- A cooling.
 B evaporating.
 C freezing.
 D melting.

(Total for Question 1 = 1 mark)

- 2 The photograph shows some micro-organisms.
They have been magnified to look much bigger than they really are.



What equipment would a scientist use to see micro-organisms?

- A binoculars
 B camera phone
 C microscope
 D telescope

(Total for Question 2 = 1 mark)

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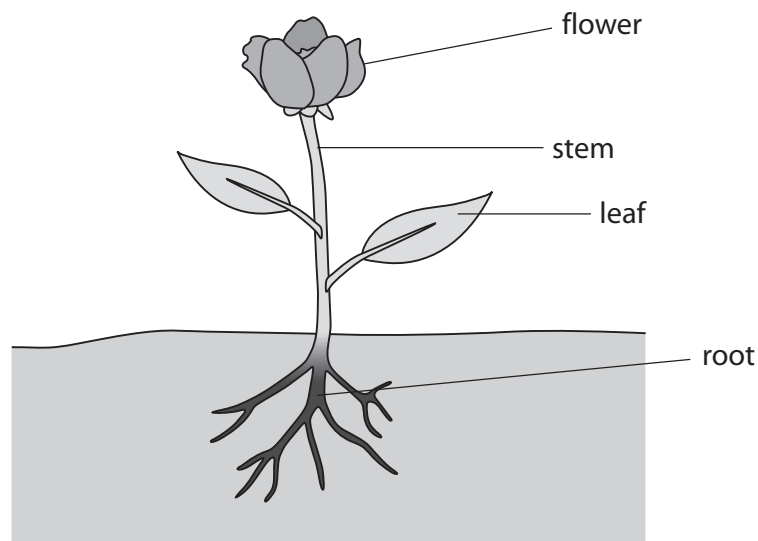


3 Which of these is a source of light?

- A a mirror
- B the Moon
- C the Sun
- D a telescope

(Total for Question 3 = 1 mark)

4 A farmer puts fertiliser on the soil in his field.
Which part of a plant takes in the fertiliser?



- A flower
- B stem
- C leaf
- D root

(Total for Question 4 = 1 mark)

5 An opaque object

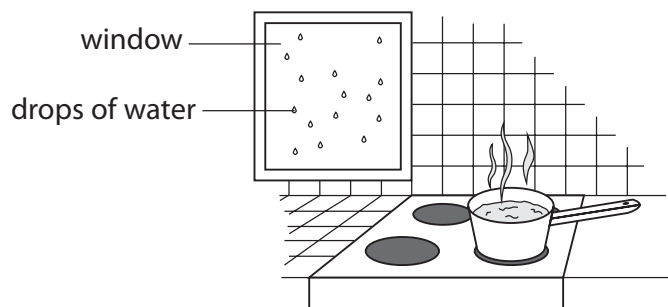
- A allows light to pass through it.
- B blocks light.
- C makes light become brighter.
- D magnifies light.

(Total for Question 5 = 1 mark)



P 5 5 9 5 0 A 0 3 2 8

- 6 Mrs Smith is boiling some water in a pan.
She sees drops of water on the inside of her kitchen window.



What are the drops of water on the inside of the window called?

- A condensation
- B ice
- C raindrops
- D smoke

(Total for Question 6 = 1 mark)

- 7 Which soil is best for earthworms to live in?

- A dry, closely packed soil
- B dry soil, with lots of air spaces
- C closely packed soil
- D wet soil, with lots of air spaces

(Total for Question 7 = 1 mark)

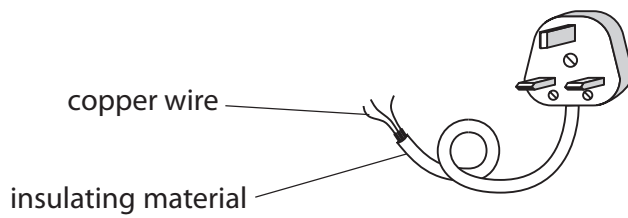
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8 The diagram shows part of the cable from an electric kettle.



Why is there insulating material around the copper wire?

- A Copper wire does not look very nice.
- B Copper wire would not bend without insulating material.
- C Insulating material makes the cable safer to use.
- D Insulating material makes the kettle boil water faster.

(Total for Question 8 = 1 mark)

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9 The photographs show a log fire, some bread in a hot oven and wax dripping from a candle.



a log fire



bread in a hot oven



wax dripping from a candle

(a) All three photographs show objects that could be hazards if they are not used carefully. Give **one** injury that **all three** of these objects could cause to a person.

(1)

(b) Complete the empty boxes in the table to describe the changes taking place in the pictures above. Three have been done for you.

(3)

| | Name of change | Is the change reversible? Write yes or no. | Is a new material made? Write yes or no. |
|----------------------------|----------------|---|---|
| a log fire | | no | |
| bread in a hot oven | baking | | |
| wax dripping from a candle | melting | | |

(Total for Question 9 = 4 marks)

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For questions 10 – 18 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 .

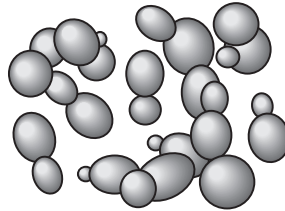
Each question is worth one mark.

10 Which of these is a life process?

- A adaptation
 B excretion
 C filtration
 D variation

(Total for Question 10 = 1 mark)

11 The picture shows some yeast.



What kind of organism is yeast?

- A a bacterium
 B a dead plant
 C a fungus
 D a small animal

(Total for Question 11 = 1 mark)

12 When salt is added to water, the salt seems to disappear.

This is because the salt

- A condenses.
 B dissolves.
 C evaporates.
 D melts.

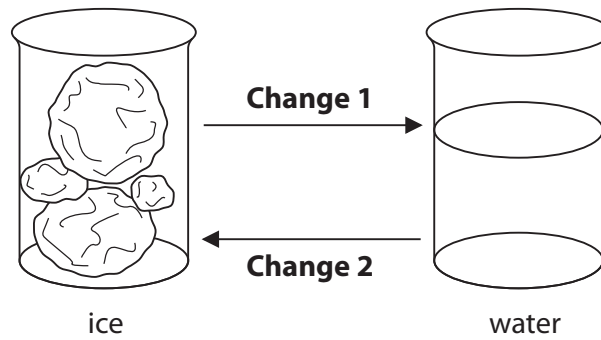
(Total for Question 12 = 1 mark)



P 5 5 9 5 0 A 0 7 2 8

13 Ice changes to water (**Change 1**) and water changes to ice (**Change 2**) very easily.

Which row of the table correctly describes what needs to be done to make these changes?



| | Change 1 | Change 2 |
|-----------------------------------|----------|----------|
| <input type="checkbox"/> A | cool | heat |
| <input type="checkbox"/> B | cool | freeze |
| <input type="checkbox"/> C | freeze | heat |
| <input type="checkbox"/> D | heat | freeze |

(Total for Question 13 = 1 mark)

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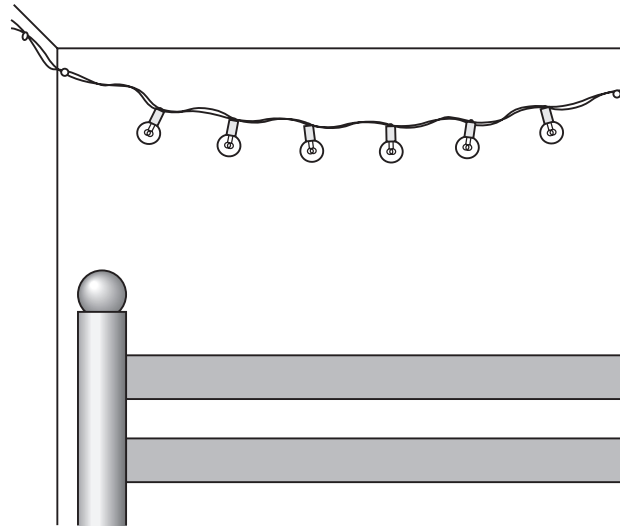
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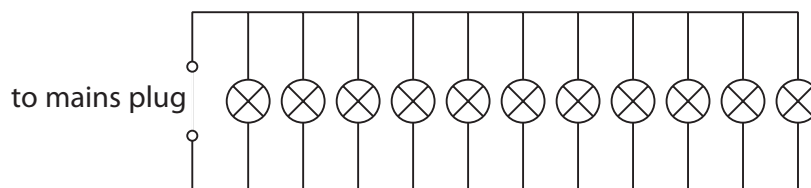


Questions 14 and 15
Use the information below to help you answer questions 14 and 15.

Mia has a set of lights hanging in her bedroom.



She draws the circuit that is used for her lights.



14 The circuit for Mia's lights is a

- A** parallel circuit.
- B** series circuit.
- C** short circuit.
- D** striped circuit.

(Total for Question 14 = 1 mark)

15 If one of the bulbs in the circuit breaks, what will happen to the other bulbs?

- A** All of the other bulbs will light.
- B** Half of the other bulbs will light.
- C** Most of the other bulbs will light.
- D** None of the other bulbs will light.

(Total for Question 15 = 1 mark)



16 Micro-organisms can be useful or harmful.

The list below shows four statements about micro-organisms.

1. They cause disease.
2. They are used to make bread.
3. They break down dead leaves.
4. They spoil food we want to eat.

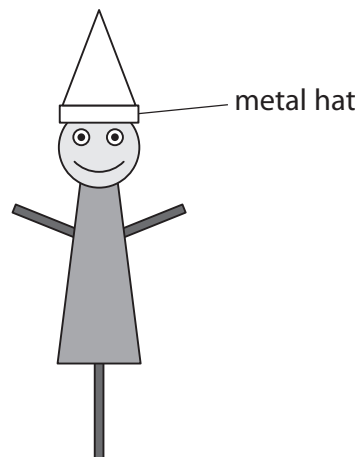
Which two statements show micro-organisms being useful?

- A 1 and 2
- B 2 and 3
- C 3 and 4
- D 1 and 4

(Total for Question 16 = 1 mark)

17 Jenna makes a puppet on a stick.

When she shines a light on the puppet, the metal hat looks shiny.



The metal hat looks shiny because the metal

- A blocks light.
- B gets hot.
- C is a solid.
- D reflects light.

(Total for Question 17 = 1 mark)

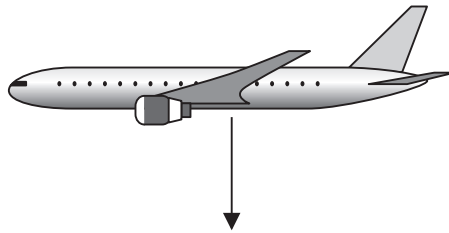
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18 What is the name of the force shown by the arrow in this picture?



- A air resistance
 B friction
 C upthrust
 D weight

(Total for Question 18 = 1 mark)

19 Four substances are shown in the boxes below.
 Draw **one** line from **each** substance to the correct description.

Each of the descriptions may be used once, more than once or not at all.

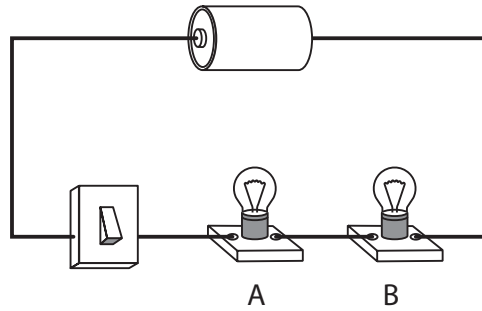
| Substance | Description |
|----------------|---------------------------|
| shaving foam | emulsion |
| sugar solution | foam |
| water | not an emulsion or a foam |
| salad dressing | |

(3)

(Total for Question 19 = 3 marks)



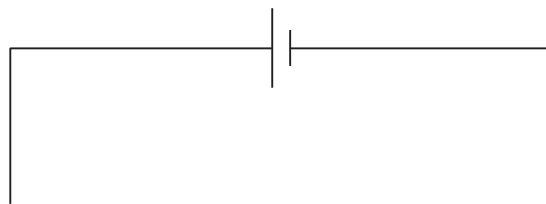
20 Jim makes this circuit.



(a) Jim starts to draw his circuit using circuit symbols.

Complete the drawing of Jim's circuit below.

(3)



(b) Write down **two different** things that Jim could do to his circuit to make bulb A brighter.

(2)

1

2

(Total for Question 20 = 5 marks)

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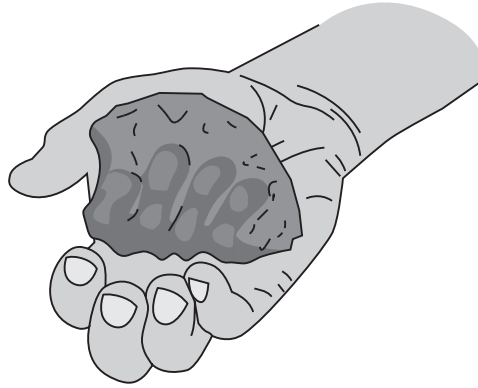


For questions 21 – 29 put a cross in one box to indicate your answer.

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.

- 21 Max is holding some wet soil that is very sticky.
When he squeezes the soil, he can see his fingerprints on it.



This soil is most likely to be a

- A chalky soil.
 B clay soil.
 C sandy soil.
 D stony soil.

(Total for Question 21 = 1 mark)

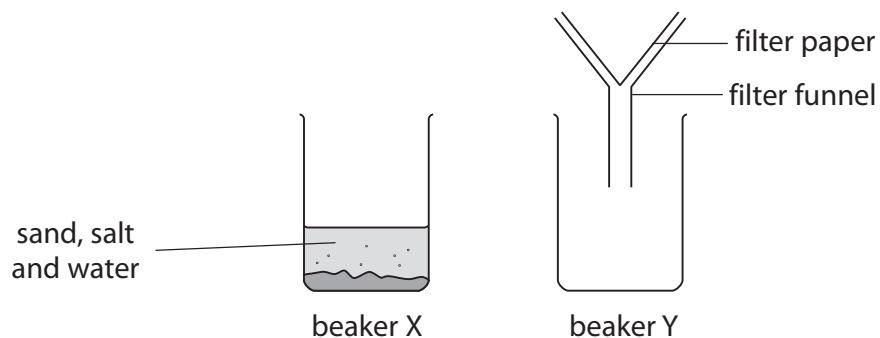
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22 Jay has a mixture of sand, salt and water in beaker X.



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Jay pours the mixture from beaker X into the filter funnel above beaker Y.

Which row of the table describes what happens after he does this?

| | The filter paper contains... | beaker Y contains... |
|----------------------------|------------------------------|----------------------|
| <input type="checkbox"/> A | salt only | sand and water |
| <input type="checkbox"/> B | sand and salt | water only |
| <input type="checkbox"/> C | sand | salt and water only |
| <input type="checkbox"/> D | nothing | sand, salt and water |

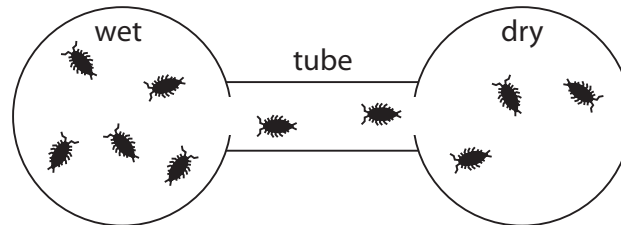
(Total for Question 22 = 1 mark)



23 Dom is learning about small animals called woodlice. He has two dishes that are joined together by a tube. One dish is wet inside. The other dish is dry inside.

He puts 10 woodlice in the tube. He leaves them to move around.

The diagram shows his results.



Dom's results show that

- A** the woodlice prefer the dry side.
- B** more woodlice prefer the dry side than the wet side.
- C** most of the woodlice prefer being in the tube.
- D** the woodlice prefer the wet side.

(Total for Question 23 = 1 mark)

24 The pictures show two plants. Although they look different, they are both the same type of plant.



This is an example of

- A** excretion.
- B** nutrition.
- C** reproduction.
- D** variation.

(Total for Question 24 = 1 mark)



25 The 'flow of electricity' around a circuit is called

- A an ammeter.
 B a battery.
 C a current.
 D a voltage.

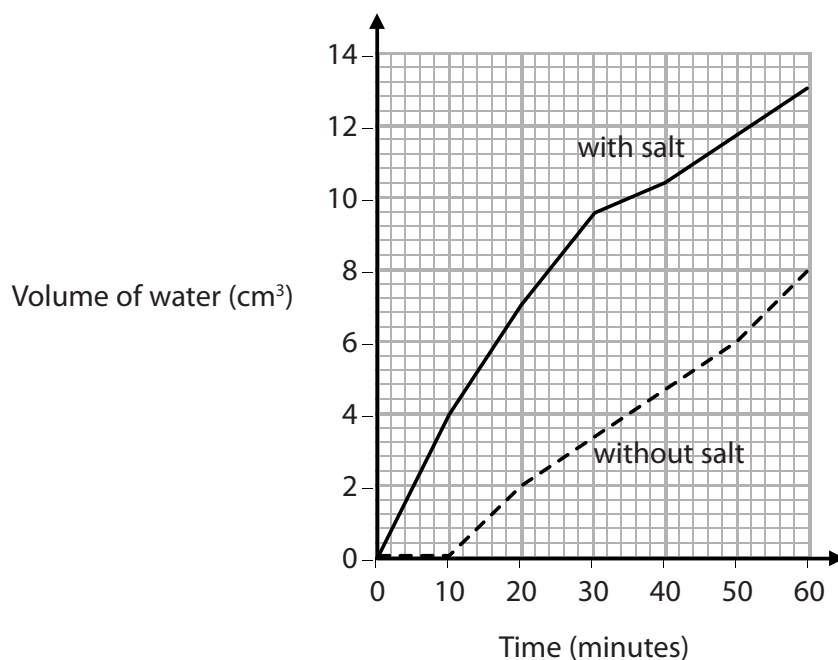
(Total for Question 25 = 1 mark)

26 Amy investigates the effect of salt on the time it takes for ice to melt.

She leaves some ice cubes to melt. She measures the total volume of water that has been produced every 10 minutes.

She repeats this with the same number of identical ice cubes that have salt sprinkled on them.

The graph below shows her results.



Which row of the table correctly shows how much water Amy had collected 20 minutes from the start of each investigation?

| | Volume of water collected (cm ³) | |
|----------------------------|--|--------------|
| | with salt | without salt |
| <input type="checkbox"/> A | 2 | 6.5 |
| <input type="checkbox"/> B | 2 | 7 |
| <input type="checkbox"/> C | 6.5 | 2 |
| <input type="checkbox"/> D | 7 | 2 |

(Total for Question 26 = 1 mark)



Questions 27 and 28

Use the information below to help you answer questions 27 and 28.

Ben adds a sugar cube to a beaker of water and stirs. After a while, he can no longer see the sugar cube.

Ben wants to find out how the temperature of the water affects the time it takes for him to no longer be able to see the sugar cube.

He does his experiment three times at four different temperatures. Each time he uses one sugar cube and the same volume of water.

| Temperature of water (°C) | Time (minutes) | | |
|---------------------------|----------------|--------|--------|
| | Test 1 | Test 2 | Test 3 |
| 30 | 10 | 9 | 11 |
| 40 | 8 | 8 | 9 |
| 50 | 7 | 7 | 8 |
| 60 | 6 | 6 | 7 |

27 Which statement best describes the pattern of Ben's results?

- A** The more water he uses, the shorter the time taken.
- B** The higher the temperature, the longer the time taken.
- C** The more water he uses, the longer the time taken.
- D** The higher the temperature, the shorter the time taken.

(Total for Question 27 = 1 mark)

28 What other factor would be most likely to **change** Ben's results to give **shorter** times?

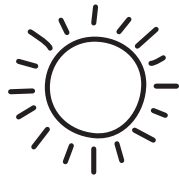
- A** repeating his results another time
- B** stirring the mixture faster
- C** using bigger cubes of sugar
- D** using a heavier beaker

(Total for Question 28 = 1 mark)



P 5 5 9 5 0 A 0 1 7 2 8

29 Molly is reading a book outdoors.



Draw a ray of light on the diagram to show how sunlight allows Molly to see the words in her book.

Put arrows on your ray of light to show the direction of the light.

(Total for Question 29 = 2 marks)

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30 The animal shown in the photograph is a snowshoe hare.



It lives in places where there is a lot of snow.

Snowshoe hares eat plants.

Snowshoe hares are the prey of big wild cats called lynx.

(a) What is the scientific term for the place where animals and plants live?

(1)

(b) In the space below, draw a food chain for the snowshoe hare, the plants and the lynx.

(2)

(c) Explain **three different ways** in which the snowshoe hare is adapted to survive.

Use **only** the information in the question and features you can see in the photograph to help you.

(3)

1

.....

2

.....

3

.....

(Total for Question 30 = 6 marks)

TOTAL FOR SECTION A = 45 MARKS



P 5 5 9 5 0 A 0 1 9 2 8

SECTION B

Answer ALL questions.

31 A classroom has a safety poster on the wall.

Science Rules

1. Wear safety glasses.
2. Tie back long hair.
3. Do not run in the classroom.
4. Clear up anything you drop or spill on the floor.
5. Do not touch anything electrical with wet hands.
6. Wash your hands when you finish science.

(a) Which science rule(s) could prevent these accidents?

Write **one** rule number in **each** box.

(i) Someone splashing a chemical into their eye.

Rule number

(1)

(ii) Someone slipping on a wet floor.

Rule number and Rule number

(2)

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(b) Here are some photographs of science equipment and their names.

Draw **one** line from each photograph of equipment to its correct name.

When you have finished, there will be **three** names that will **not** have been used.

(2)

Photograph of
equipment



Name

● filter funnel

● ammeter

● test tube

● measuring cylinder

● beaker

● weighing scales

● sieve

(Total for Question 31 = 5 marks)

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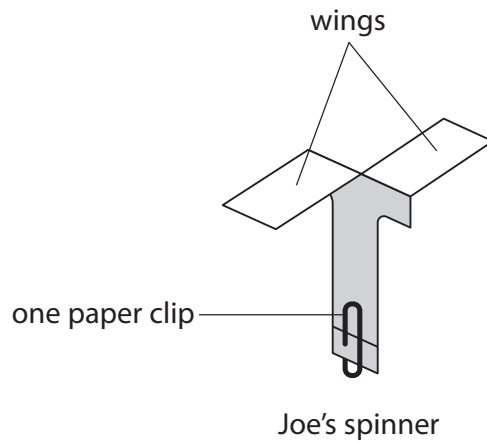
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P 5 5 9 5 0 A 0 2 1 2 8

32 Joe's class is investigating spinners made of folded paper.



Six children each drop a paper spinner, with one paper clip attached, from a high place.

They time how long each spinner takes to reach the floor. They time to the nearest second.

Everyone then repeats their test with two paper clips attached to their spinner and then with three paper clips attached.

(a) Write down **two** things that the children should keep the same to make their investigation a fair test.

(2)

1

2

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(b) The children write their results in a table.

| Number of paper clips | Time for spinner to reach the floor (seconds) | | | | | |
|-----------------------|--|-------|-----|-------|------|--------|
| | Seb | Alice | Nat | Milly | Enzo | Billie |
| 1 | 4 | 3 | 4 | 5 | 5 | 4 |
| 2 | 4 | 3 | 3 | 3 | 6 | 3 |
| 3 | 3 | 2 | 2 | 2 | 2 | 2 |

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

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

(1)

(ii) Write a conclusion for this investigation, ignoring the incorrect result.

(1)

.....

.....

.....

(c) The children did not try the investigation with 4 paper clips because they thought the results would not be accurate enough.

(i) Predict what would have happened with 4 paper clips.

(1)

.....

.....

(ii) How could the children change their investigation to get more accurate results?

(1)

.....

.....

(Total for Question 32 = 6 marks)

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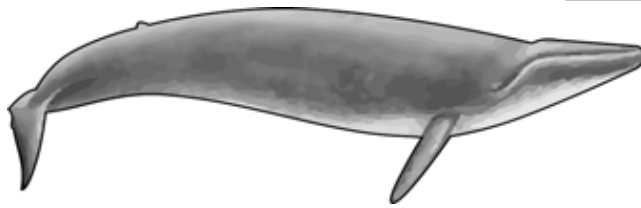
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33 Some information about the average length of four different types of whale is shown below.

Types of whale

Not drawn to
scale



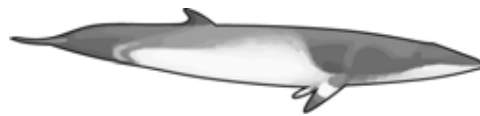
blue whale 29.5 m



humpback whale 14 m



fin whale 23 m



minke whale 10 m

Draw a bar chart to show the average length of each whale.

Remember to label the axes of your bar chart.

(4)

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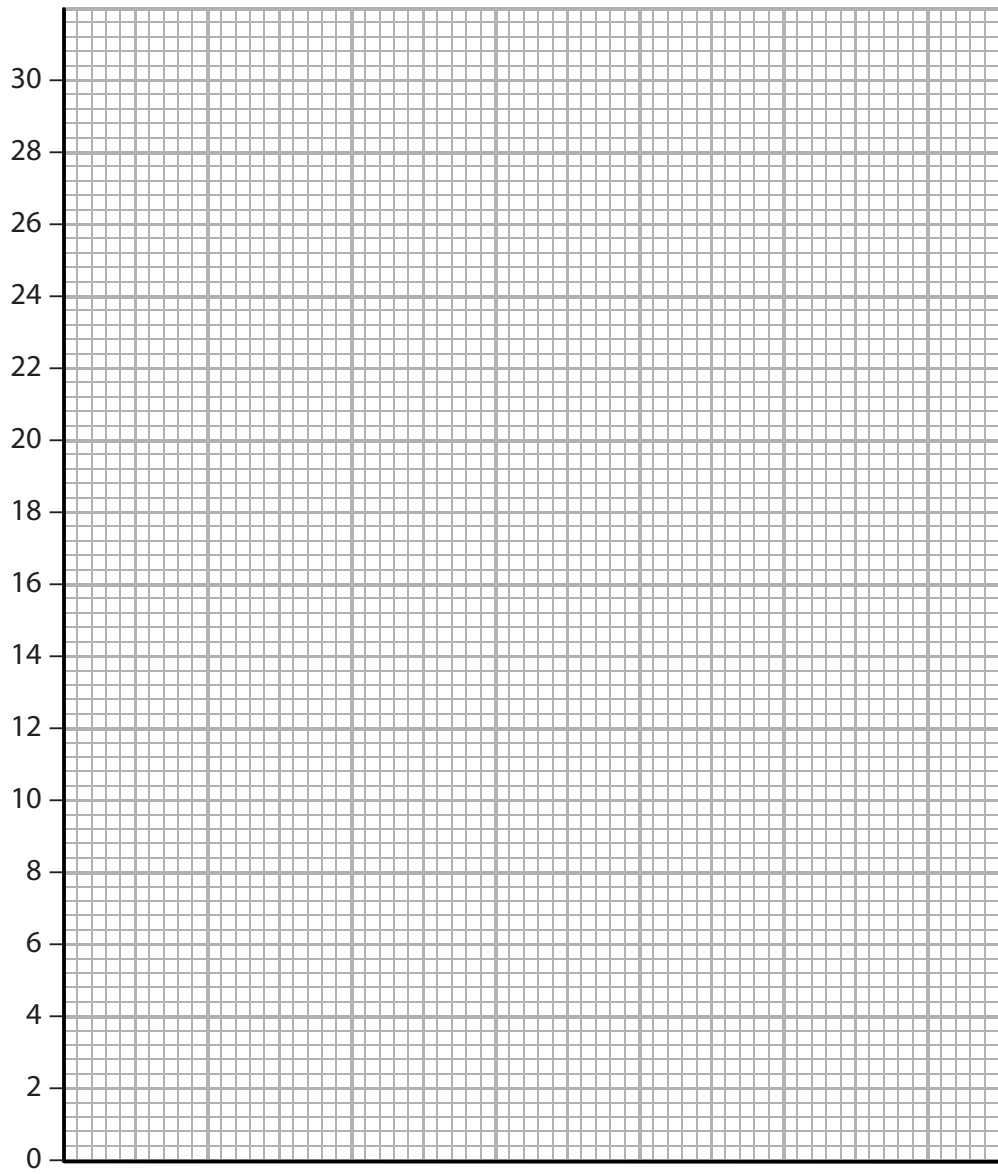
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(Total for Question 33 = 4 marks)

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



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