

Please check the examination details below before entering your candidate information

Candidate surname

Other names

Centre Number

Candidate Number

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Pearson Edexcel International Award in Primary

Time 1 hour

Paper
reference

JSC11/01

Science

Year 6

Achievement Test iPrimary

You must have:

a ruler

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- If pencil is used for diagrams/sketches/graphs it must be dark (HB or B).
- **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 paper is divided into two sections, Section A and Section B.
- The total mark for Section A is 45.
- The total mark for Section B is 15.
- 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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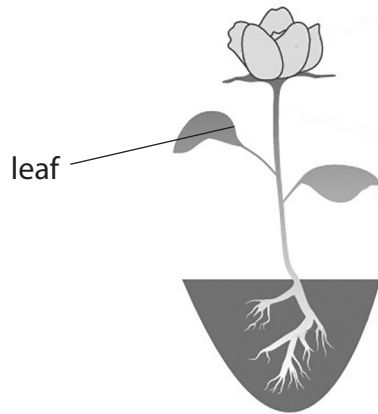
SECTION A

Answer ALL questions.

For questions 1–10 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 The diagram shows a flowering plant.



What is the main function of a leaf?

- A to make food
- B to form fruit
- C to produce pollen
- D to spread seeds

(Total for Question 1 = 1 mark)

2 Which of these is a force?

- A area
- B gravity
- C length
- D mass

(Total for Question 2 = 1 mark)

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3 Which of these passes from the soil into the roots of a plant?

- A light
- B micro-organisms
- C minerals
- D pollen

(Total for Question 3 = 1 mark)

4 A child spills some water onto a pavement on a sunny day.

The water forms a puddle that disappears quickly.

Why did the water disappear?

- A it condensed
- B it evaporated
- C it melted
- D it precipitated

(Total for Question 4 = 1 mark)

5 Which row of the table gives the correct meanings of the terms **predator** and **herbivore**?

	Predator	Herbivore
<input type="checkbox"/> A	an animal that hunts and eats other animals	an animal that eats plants and other animals
<input type="checkbox"/> B	an animal that is hunted and eaten by other animals	an animal that eats only plants
<input type="checkbox"/> C	an animal that hunts and eats other animals	an animal that eats only plants
<input type="checkbox"/> D	an animal that is hunted and eaten by other animals	an animal that eats plants and other animals

(Total for Question 5 = 1 mark)



6 Which of these will make sugar dissolve in water most quickly?

- A using cold water and not stirring
- B using hot water and not stirring
- C using cold water and stirring
- D using hot water and stirring

(Total for Question 6 = 1 mark)

7 The table shows the melting point and boiling point of four substances.

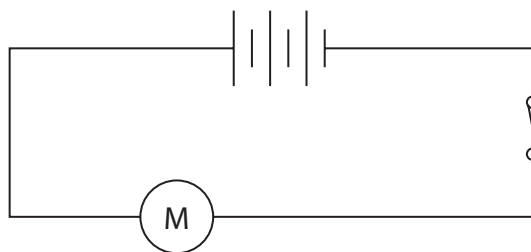
Which substance is water?

	Melting point in °C	Boiling point in °C
<input type="checkbox"/> A	0	100
<input type="checkbox"/> B	-9	103
<input type="checkbox"/> C	100	0
<input type="checkbox"/> D	-114	78

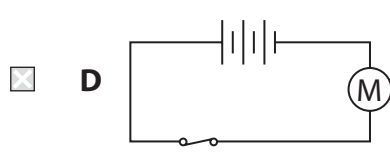
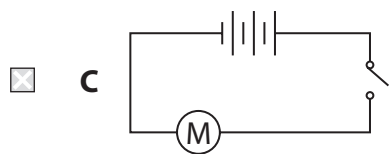
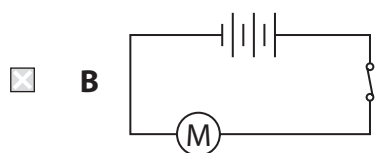
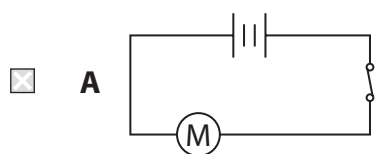
(Total for Question 7 = 1 mark)



8 The motor in this circuit turns in a clockwise direction.



In which of the following circuits will the motor turn in the opposite direction?



(Total for Question 8 = 1 mark)

9 A blue substance dissolves in water. The water turns blue.

What is formed as the substance dissolves?

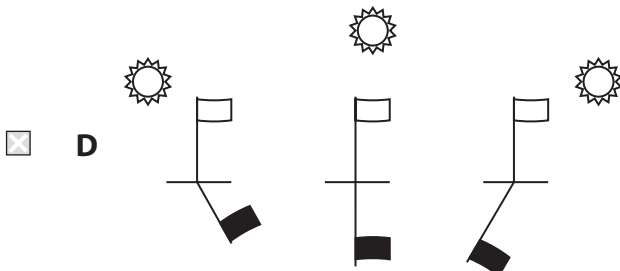
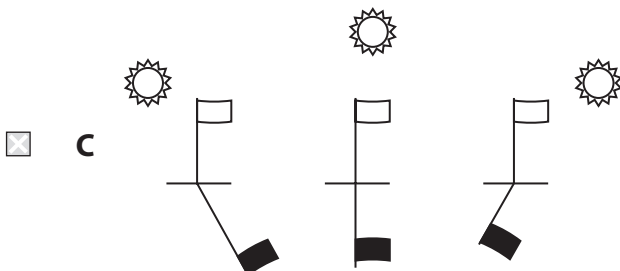
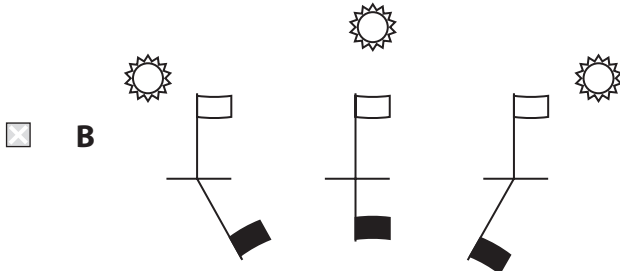
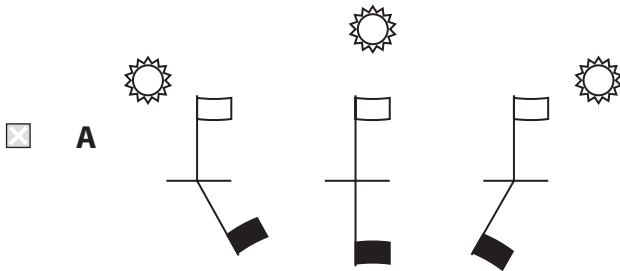
- A a solid
- B a solute
- C a solution
- D a solvent

(Total for Question 9 = 1 mark)



10 Shadows change length and direction during a day.

Which diagram shows the correct length and direction of the shadow of a flag during a day?



(Total for Question 10 = 1 mark)



11 (a) The table gives some statements about micro-organisms.

Tick (✓) each statement in the table which is true.

(1)

Statement	True
bacteria, viruses and yeasts are all micro-organisms	
micro-organisms can only be seen using binoculars	
bacteria can be useful in making cheese	
micro-organisms are only found in soil	

(b) A sandwich is being made.

Give **two** food hygiene precautions to take when making the sandwich.

(2)

1

.....

2

.....

(c) A sandwich is made without taking food hygiene precautions.

State a problem that could be caused by eating this sandwich.

(1)

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(Total for Question 11 = 4 marks)

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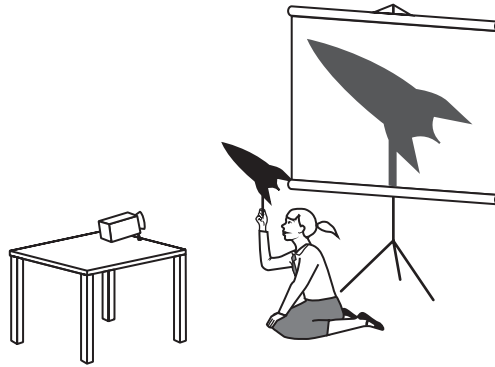
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12 A class is performing a shadow play.

A student wants to make the image of the rocket on the screen look bigger.



Circle the correct words in each pair of words shown in **bold** to show how the student makes the image of the rocket look bigger.

(1)

To make the image of the rocket look bigger the student moves the rocket to be **closer to / further from** the **light source / screen** .

(Total for Question 12 = 1 mark)

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For questions 13–18 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.

13 Which statement about temperature is correct?

- A temperature is measured in Newtons
- B temperature is a measure of length
- C temperature is measured using a thermometer
- D temperature is a measurement of force

(Total for Question 13 = 1 mark)

14 What are the names of the five vertebrate groups?

- A amphibians, birds, fish, mammals and reptiles
- B birds, fish, worms, mammals and reptiles
- C amphibians, birds, crabs, mammals and reptiles
- D birds, fish, mammals, reptiles and snails

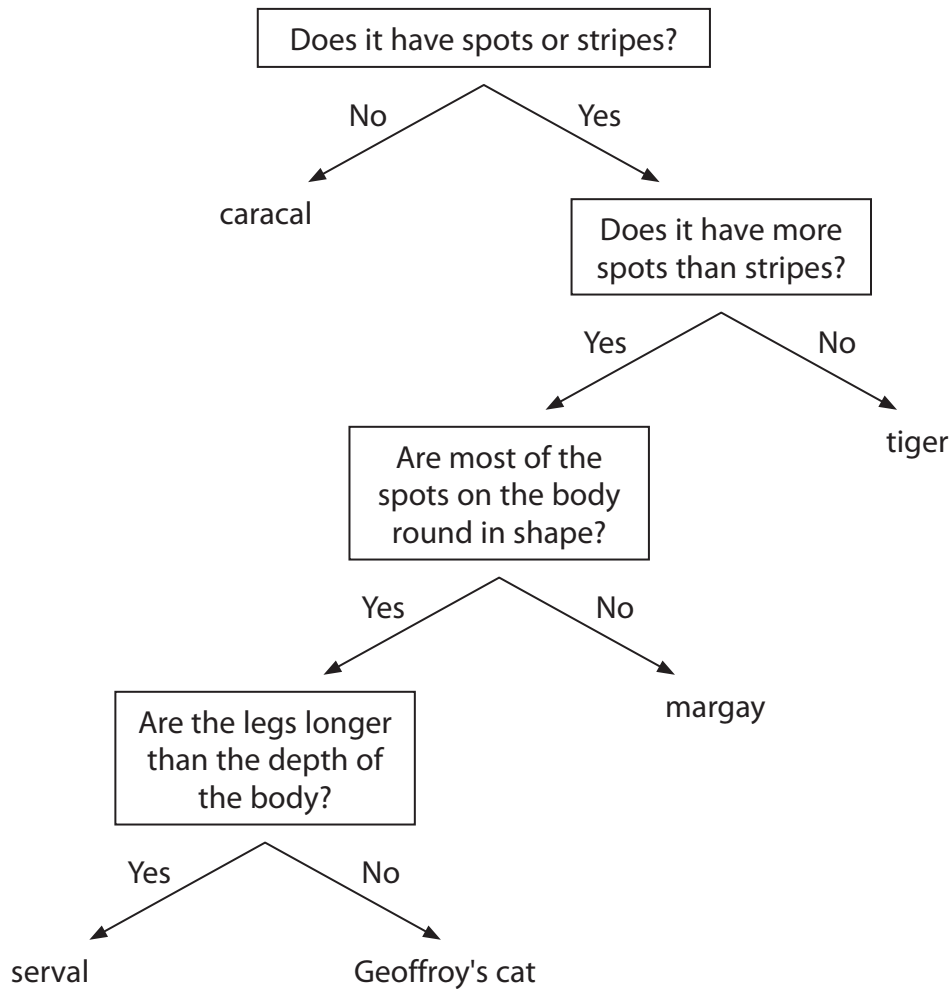
(Total for Question 14 = 1 mark)



15 Use the key to identify the species of wild cat shown.



(Source: Chaithanya Krishnan/Shutterstock)



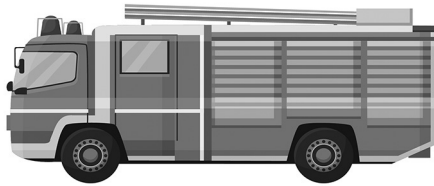
- A a caracal
- B a Geoffroy's cat
- C a margay
- D a serval

(Total for Question 15 = 1 mark)



16 Which vehicle has the most streamlined shape?

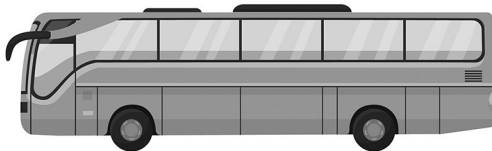
A



B



C



D



(Source: KittyVector / Shutterstock)

(Total for Question 16 = 1 mark)

17 Which statement about stages in a plant's life cycle is correct?

- A fertilisation is when the flower bud opens
- B flowering is when the nucleus from pollen combines with the nucleus in an ovule
- C germination is when the seed starts to grow
- D pollination is when the seeds are spread further from the plant

(Total for Question 17 = 1 mark)

18 Which of these is **NOT** a mechanism by which seeds are dispersed?

- A explosion
- B fire
- C water
- D wind

(Total for Question 18 = 1 mark)

19 Plants have adaptations to the habitats they live in.

The photographs show two different habitats, a desert and a rainforest.

Draw **one** straight line from each adaptation to the habitat where this adaptation is found.

(2)

Adaptation

large leaves to absorb sunlight

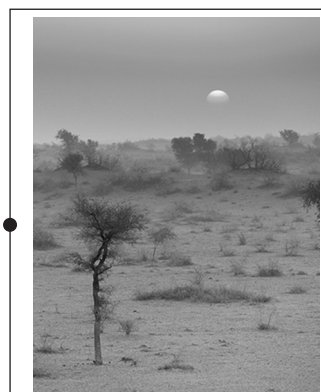
thick stems to store water

pointed end of leaves so water drips away

small leaves to prevent water loss

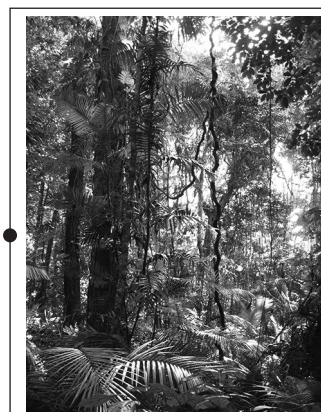
long roots to find water

Habitat



desert

(Source: © Jan Włodarczyk/Alamy Stock Photo)



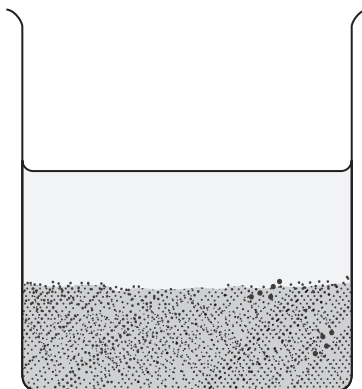
rainforest

(Source: Sean Lema/Shutterstock)

(Total for Question 19 = 2 marks)



20 A student is given a mixture of seawater and sand.



- (a) (i) What separation method should they use to remove the sand from the mixture?

(1)

- (ii) To obtain the salt from the seawater, the student evaporates the water.

How can evaporated water be condensed?

(1)

- (b) Complete the following sentence.

(1)

Condensation, evaporation, melting and freezing are all examples of changes of

.....

(Total for Question 20 = 3 marks)



21 (a) A day on Jupiter lasts 10 hours.

A day on Earth lasts 24 hours.

Explain why Jupiter has a shorter day than Earth.

(2)

(b) At night, when it is dark on Earth, the Moon can be seen in the sky.



(Source: LeStudio/Shutterstock)

The Moon is not a source of light.

Why can the Moon be seen at night?

(1)

(Total for Question 21 = 3 marks)



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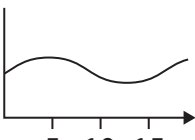
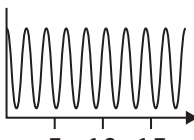
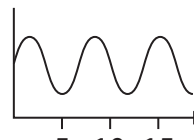
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22 The graphs show the breathing rate of a student during three different activities, sleeping, walking to school and playing football.

When the curve on the graph goes up, the student is breathing in. When the curve on the graph goes down, the student is breathing out.

Complete the table by stating the correct activity below each breathing rate graph.

(1)

Breathing rate graph	 <p>5 10 15 time in seconds</p>	 <p>5 10 15 time in seconds</p>	 <p>5 10 15 time in seconds</p>
Activity	<p>.....</p> <p>.....</p>	<p>.....</p> <p>.....</p>	<p>.....</p> <p>.....</p>

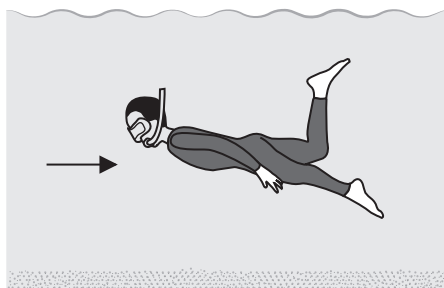
(Total for Question 22 = 1 mark)



For questions 23–26 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.

23 The diagram shows a person swimming underwater.



What force does the arrow represent?

- A mass
- B movement
- C water resistance
- D weight

(Total for Question 23 = 1 mark)

24 The table shows some statements about breathing and respiration.

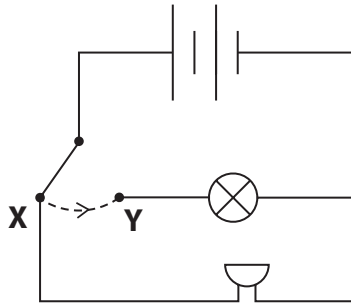
In which row are both statements correct?

	Breathing	Respiration
<input type="checkbox"/> A	moves oxygen to the brain	is carbon dioxide being carried in the blood
<input type="checkbox"/> B	moves oxygen to the lungs	is carbon dioxide being carried in the blood
<input type="checkbox"/> C	moves oxygen to the brain	is oxygen being used by the organs
<input type="checkbox"/> D	moves oxygen to the lungs	is oxygen being used by the organs

(Total for Question 24 = 1 mark)



25 The diagram shows an electrical circuit that a student makes.



What happens when the switch is moved from position X to position Y?

- A the bulb lights up
- B the bulb lights up and the buzzer sounds
- C the buzzer sounds
- D the bulb does not light up and the buzzer does not sound

(Total for Question 25 = 1 mark)

26 The diagram shows a flower.



(Source: kip Moody/Dembinsky Photo Associates / Alamy / Alamy Stock Photo)

What can be concluded about this flower?

- A it is insect pollinated
- B it is wind pollinated
- C it is insect pollinated and produces juicy, edible fruits
- D it is wind pollinated and produces sticky seeds

(Total for Question 26 = 1 mark)

27 A ball is kicked up into the air.

What effect does gravity have on the ball?

(1)

(Total for Question 27 = 1 mark)

28 Changes can be reversible or irreversible.

Tick (✓) the boxes to show if the changes are reversible or irreversible.

(1)

Change	Reversible	Irreversible
bread turning into toast		
water turning into ice		
salt dissolving in water		

(Total for Question 28 = 1 mark)

29 A student investigates adding bicarbonate of soda to vinegar. Vinegar is an acid.

The diagram shows what happens.



Circle the correct words in each pair of words shown in **bold** to explain what happens when bicarbonate of soda is added to vinegar.

(1)

This change is **reversible/irreversible** because

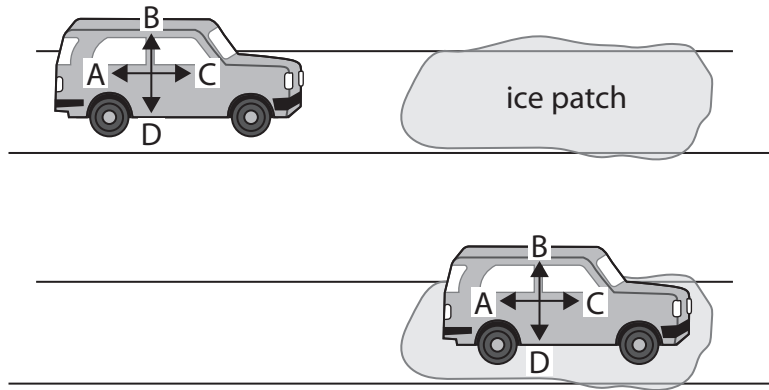
no new substance / a new substance has been formed.

(Total for Question 29 = 1 mark)



30 The diagrams show a car slowly moving along a road.

There are four forces acting on it, A, B, C and D.



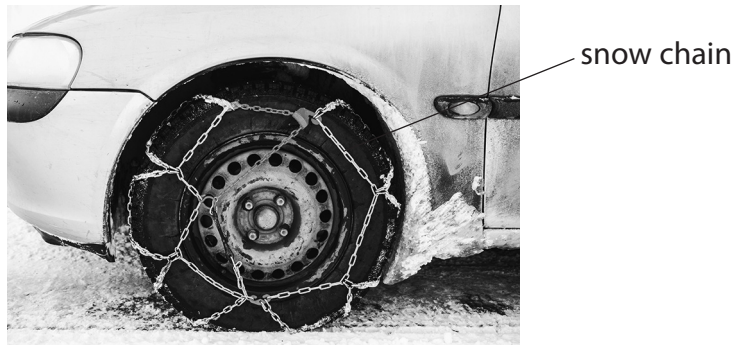
The car reaches an icy area. The wheels start spinning and the car does not move.

(a) (i) Which **two** of the forces, A, B, C or D, have **not** changed? (1)

..... and

(ii) Give the **name** of the force that is no longer affecting the car. (1)

(b) Another car goes by with snow chains on its tyres.



(Source: © Anastasia Pelikh/Shutterstock)

Explain why the car with the snow chains is able to move through the icy area. (2)

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(Total for Question 30 = 4 marks)



31 A student goes running. Their pulse rate is taken during the running session.

They measure their pulse rate

- at rest before exercise
- after jogging for three minutes
- after sprinting for three minutes
- two minutes after they stopped exercising

After doing their exercise each day for six weeks, the student compares their pulse rates with their pulse rates at the beginning of the six weeks.

The table shows their results.

	Pulse rate in beats per minute	
	Day one	After six weeks
At rest before exercise	67	68
After jogging for three minutes	121	103
After sprinting for three minutes	162	162
Two minutes after they stopped exercising	95	70

(a) The fitter a person is, the sooner their pulse rate returns to normal.

The student states: "I am fitter after six weeks than I was on day one."

What evidence is there in the table to support their statement?

(2)

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(b) Explain why the heart beats faster during exercise.

(2)

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(Total for Question 31 = 4 marks)

TOTAL FOR SECTION A = 45 MARKS

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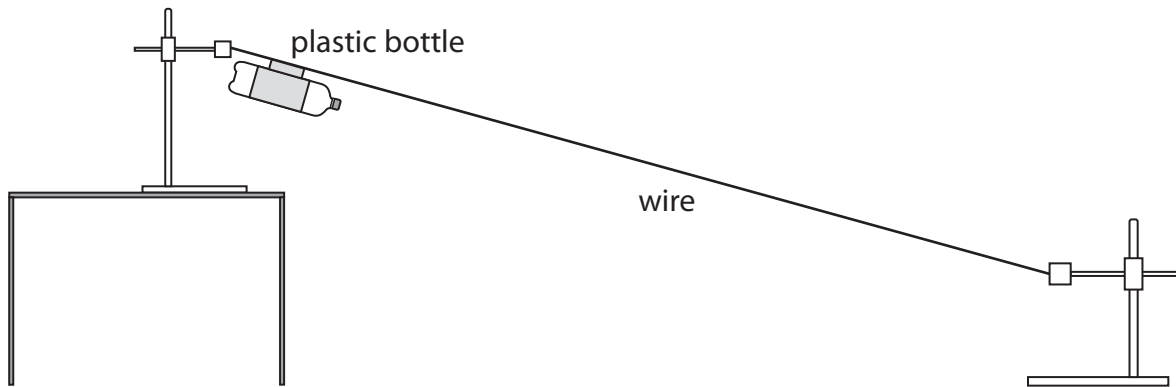
SECTION B

Answer ALL the questions. Write your answers in the spaces provided.

32 A class investigates how the mass of an object affects the time it takes to slide down a wire.

They use a plastic bottle and a five metre length of wire.

The diagram shows their apparatus.



This is the method the class uses.

Step 1: measure the mass of the empty plastic bottle

Step 2: attach the plastic bottle to the top end of the wire

Step 3: release the bottle and measure the time taken for it to reach the end of the wire

Step 4: put 40 g of sand in the bottle and repeat the experiment

(a) Name two pieces of measuring equipment needed for this investigation and state their units of measurement.

(3)

Name of piece of equipment	Unit of measurement
.....
.....

(b) Describe what the class must do to make their results more reliable.

(1)

.....

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(c) Which other scientific questions would it be sensible to test using the same apparatus?

Tick (✓) the boxes in the table to show your answers.

(2)

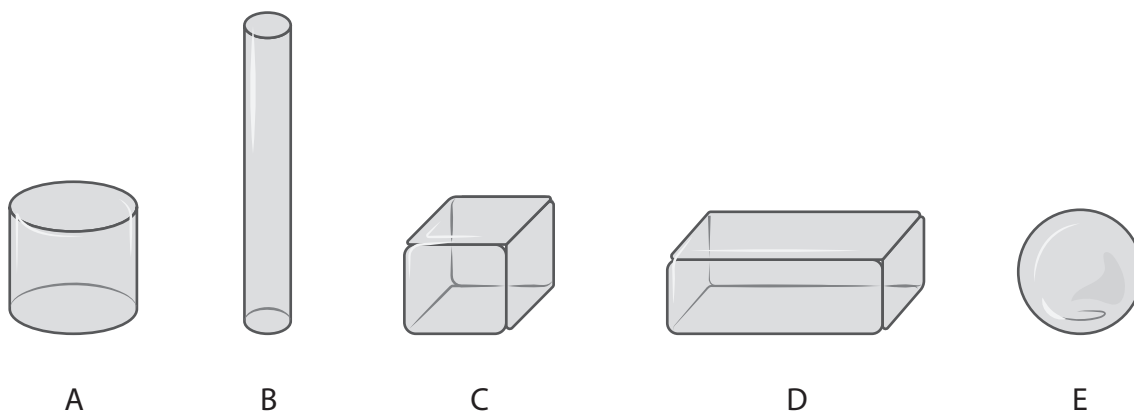
Scientific question	Yes	No
Does the thickness of the wire affect the speed the bottle goes down the wire?		
Does the shape of the bottle affect the speed the bottle goes down the wire?		
Does the time of year affect the speed the bottle goes down the wire?		
Does the type of material the wire is made from affect the speed the bottle goes down the wire?		

(Total for Question 32 = 6 marks)



33 A student investigates how the shape of a piece of ice affects the time it takes to melt.

The diagram shows the shapes of five pieces of ice, A, B, C, D, and E, the student investigates.



The student takes all the pieces of ice out of the freezer at the same time.

The student places each of the pieces of ice on a plate and starts timing.

They record the time it takes each piece of ice to change into water.

(a) Name **two** variables that must be kept the same to make the investigation a fair test.

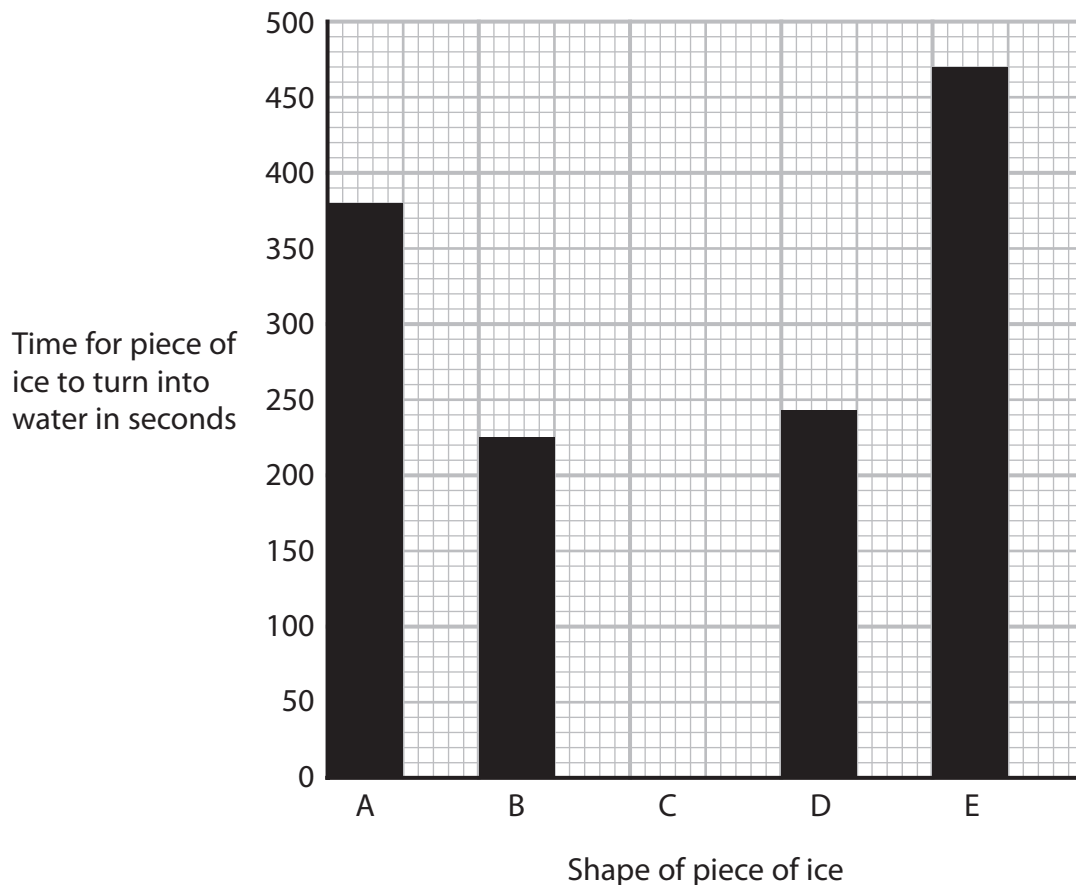
(2)

1

2



(b) The student draws a bar chart to show the results of the investigation.



(i) The shape C takes 330 seconds to turn into water.

Add the bar for shape C to the bar chart.

(1)

(ii) How long did it take for shape D to turn into water?

(1)

(iii) Which shape, A, B, C, D, or E, melted the fastest?

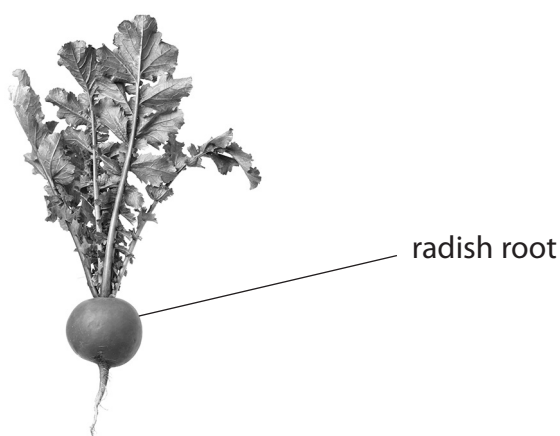
(1)

(Total for Question 33 = 5 marks)



34 A class investigates the effect of different amounts of fertiliser on the growth of radish plants.

The picture shows a radish plant. The radish root is edible.



(Source: © JIANG HONGYAN/Shutterstock)

The class splits into five groups.

Each group

- uses the same size plant pot
- plants five seeds in the pot
- puts their pot containing the seeds in the same place
- adds the same amount of water each week

Each group uses a different amount of fertiliser in the water.

Table 1 shows how much fertiliser each group uses.

Group	Teaspoons of fertiliser
A	0
B	1
C	2
D	3
E	4

Table 1



After six weeks each group records how many plants are alive and measures the length and circumference of the radish roots.

Table 2 shows their results.

Group	Number of radish plants alive after 6 weeks	Average length of radish root in mm	Average circumference of radish root in mm
A	5	15	125
B	5	17	156
C	5	20	192
D	4	20	171
E	3	12	123

Table 2

(a) Why does group A use water with no fertiliser?

(1)

.....

.....

(b) Explain, using the class results, the best conditions for growing radishes.

(2)

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(c) Describe **one** improvement the class could make to their investigation.

(1)

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(Total for Question 34 = 4 marks)

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



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