

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.
- **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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Q:1/1/1/1/1/1/1/



P 6 7 6 3 1 R A 0 1 3 2



Pearson

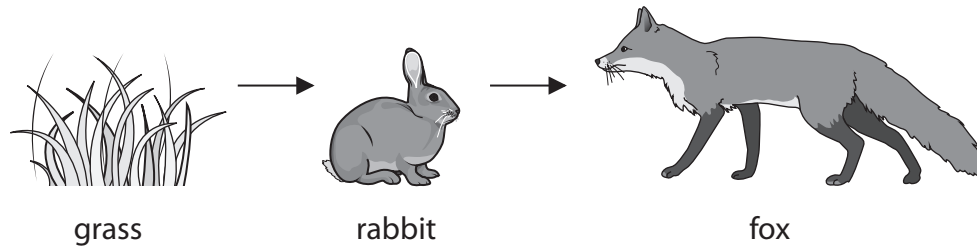
## SECTION A

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 The diagram shows a food chain.

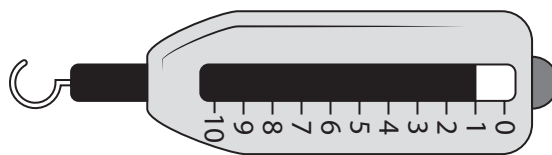


Which of the following is true about the food chain?

- A the fox is a producer
- B the grass is a consumer
- C the grass is a producer
- D the rabbit is a producer

(Total for Question 1 = 1 mark)

2 The diagram shows a force meter.



A force meter is used to measure forces.

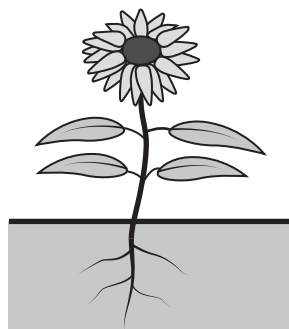
What is the correct scientific unit for a force?

- A centimetres
- B degrees Celsius
- C kilograms
- D newtons

(Total for Question 2 = 1 mark)



3 Plants use minerals in the soil to help them grow.



Which of the following can be used to increase the useful minerals in the soil?

- A fertiliser
- B heat
- C light
- D sand

(Total for Question 3 = 1 mark)

4 The picture shows an ice lollipop that is turning from a solid into a liquid.



(Source: © Cultura Creative RF / Alamy Stock Photo)

Which change of state takes place when the ice lollipop is turning from a solid into a liquid?

- A condensing
- B evaporating
- C freezing
- D melting

(Total for Question 4 = 1 mark)

5 The Earth is a planet in our Solar System.

It takes time for the Earth to complete an orbit of the Sun and to spin once on its axis.

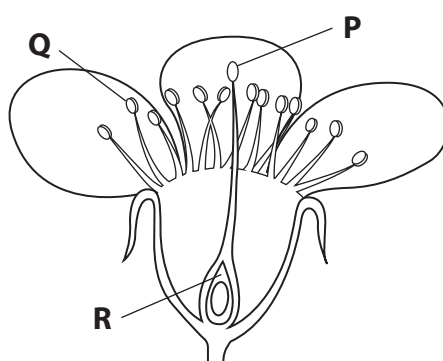
Which row in the table is correct?

	Time for Earth to complete an orbit of the Sun	Time for Earth to spin once on its axis
<input type="checkbox"/> A	365 hours	24 days
<input type="checkbox"/> B	24 years	365 days
<input type="checkbox"/> C	365 days	24 hours
<input type="checkbox"/> D	24 days	365 years

(Total for Question 5 = 1 mark)

6 The diagram shows a flower.

P, Q and R are parts of the flower.



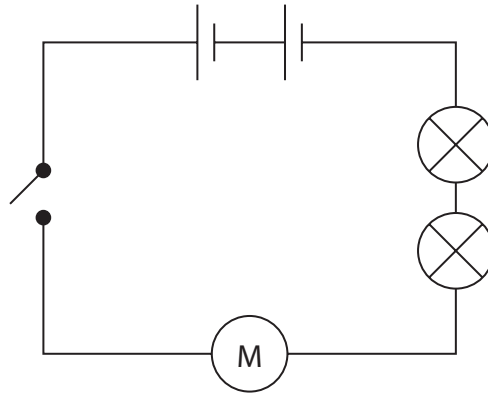
Which row in the table correctly names the parts P, Q and R?

	P	Q	R
<input type="checkbox"/> A	anther	ovary	stigma
<input type="checkbox"/> B	anther	stigma	ovary
<input type="checkbox"/> C	stigma	ovary	anther
<input type="checkbox"/> D	stigma	anther	ovary

(Total for Question 6 = 1 mark)



7 The diagram shows an electric circuit.

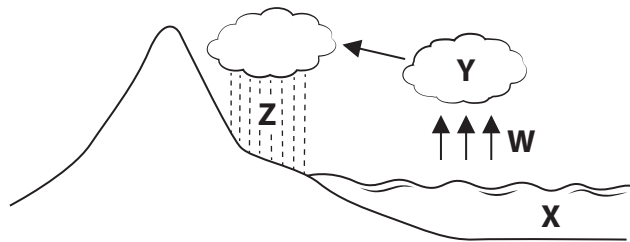


Which row in the table gives the correct number of each component in the circuit?

	Bulbs	Cells	Motors	Switches
<input type="checkbox"/> A	1	1	1	1
<input type="checkbox"/> B	2	1	1	1
<input type="checkbox"/> C	2	2	1	1
<input type="checkbox"/> D	1	1	2	2

(Total for Question 7 = 1 mark)

8 The diagram shows four parts of the water cycle, W, X, Y and Z.



Which row in the table correctly names parts W, X, Y and Z?

	W	X	Y	Z
<input type="checkbox"/> A	evaporation	condensation	sea	precipitation
<input type="checkbox"/> B	evaporation	sea	condensation	precipitation
<input type="checkbox"/> C	precipitation	condensation	evaporation	sea
<input type="checkbox"/> D	precipitation	sea	condensation	evaporation

(Total for Question 8 = 1 mark)

9 Poor food hygiene when preparing a meal can cause food poisoning.

Which of the following is an example of poor food hygiene?

- A cleaning food preparation surfaces
- B handwashing before and after food preparation
- C storing food in a refrigerator
- D storing food in an unsealed container

(Total for Question 9 = 1 mark)

10 The picture shows a frog.

Frogs are amphibians.



(Source: © Chros/Shutterstock)

Which of these statements about frogs is true?

- A they are invertebrates and have scaly, dry skin
- B they are invertebrates and have smooth, slimy skin
- C they are vertebrates and have scaly, dry skin
- D they are vertebrates and have smooth, slimy skin

(Total for Question 10 = 1 mark)



11 The table shows some properties of the substances iron, salt and sand.

Complete the table by placing a circle around the correct answer Yes / No in each box. Two boxes have been completed for you.

(2)

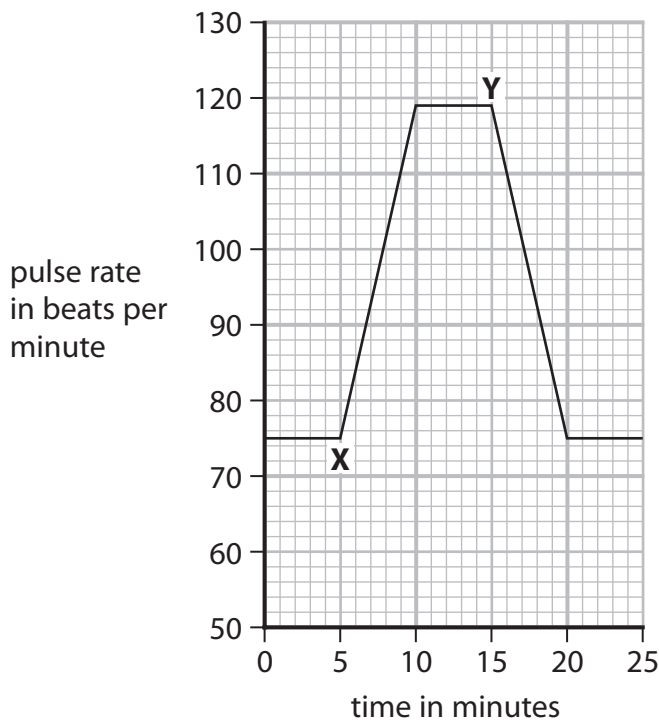
Substance	Property	
	is a solid at room temperature	is magnetic
iron	Yes / No	Yes / No
salt	Yes / No	Yes / No
sand	Yes / No	Yes / No

(Total for Question 11 = 2 marks)



P 6 7 6 3 1 R A 0 7 3 2

- 12 The diagram shows the effect of exercise on the pulse rate of a student.  
The student starts exercising at position X and stops exercising at position Y.



- (a) State the length of time the student was exercising.

(1)

..... minutes

- (b) State the name of the organ that causes the pulse.

(1)

- (c) The blood and lungs are parts of the body involved during exercise.

Draw **one** straight line from each of these parts to its function during exercise.

(1)

Body part	Function
<div style="border: 1px solid black; padding: 5px; display: inline-block;">blood</div>	<div style="border: 1px solid black; padding: 5px; display: inline-block;">breathing</div>
<div style="border: 1px solid black; padding: 5px; display: inline-block;">lungs</div>	<div style="border: 1px solid black; padding: 5px; display: inline-block;">increasing the pulse rate</div>
	<div style="border: 1px solid black; padding: 5px; display: inline-block;">transporting oxygen</div>

(Total for Question 12 = 3 marks)



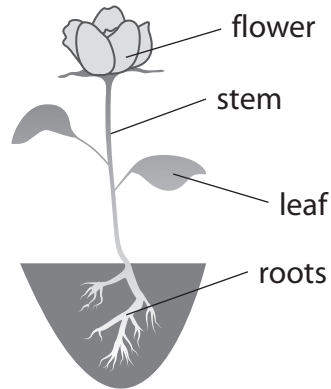


For questions 13–18(a) put a cross in one box  to indicate your answer.  
If you change your mind, put a line through the box  and then put a cross in another box .

Each question is worth one mark.

13 The diagram shows parts of a flowering plant.

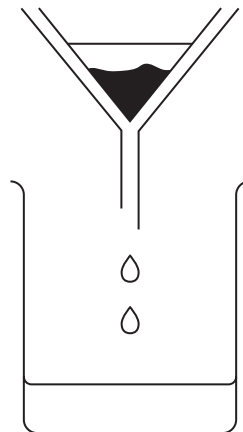
Which part anchors the plant and takes in water and nutrients?



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

(Total for Question 13 = 1 mark)

14 The diagram shows the apparatus used in an experiment.



What is the name of the experimental technique shown in the diagram?

- A filtering
- B heating
- C sieving
- D stirring

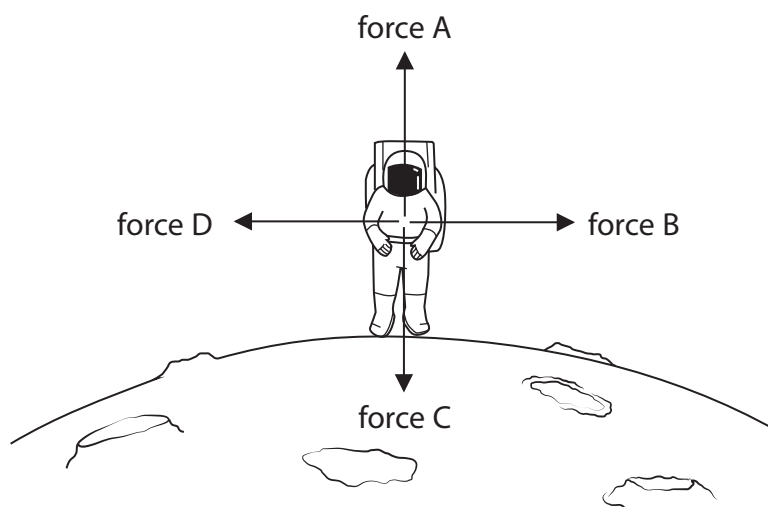
(Total for Question 14 = 1 mark)

15 Which statement about all predators is true?

- A all predators eat prey
- B all predators are eaten by prey
- C all predators are producers
- D all predators only eat plants

(Total for Question 15 = 1 mark)

16 The diagram shows some forces acting on an astronaut walking on the Moon.



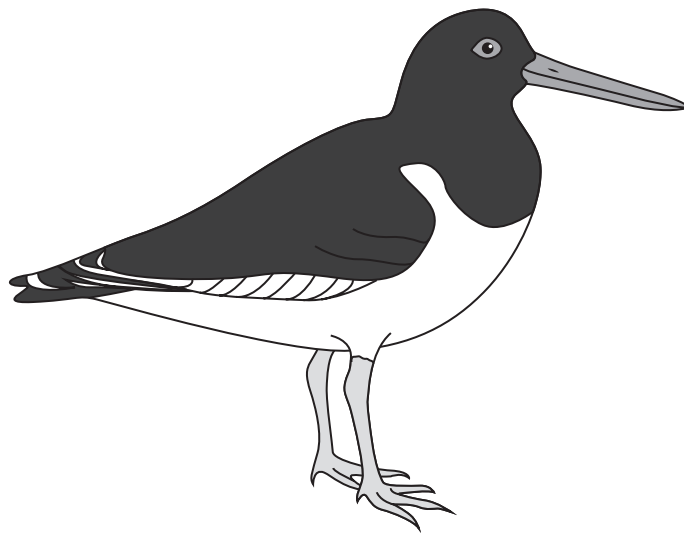
Which force shows the weight acting on the astronaut?

- A force A
- B force B
- C force C
- D force D

(Total for Question 16 = 1 mark)



17 The diagram shows a bird.

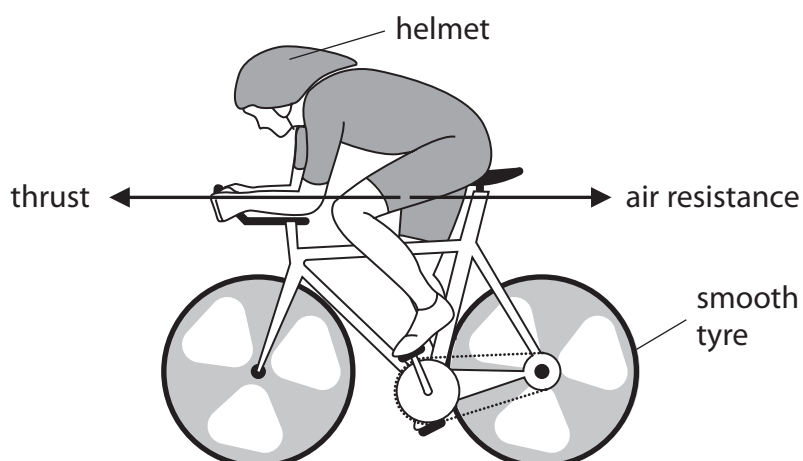


Which row in the table gives two correct features of this bird?

	Feature 1	Feature 2
<input type="checkbox"/> A	curved beak	crest of feathers on head
<input type="checkbox"/> B	curved beak	no crest of feathers on head
<input type="checkbox"/> C	straight beak	crest of feathers on head
<input type="checkbox"/> D	straight beak	no crest of feathers on head

(Total for Question 17 = 1 mark)

- 18 The diagram shows two forces acting on a cyclist moving along a racing track. The arrows in the diagram show the size and direction of the two forces.



- (a) Which of the following statements about these two forces is correct?

(1)

- A the forces are the same size and act in the opposite direction
- B the forces are the same size and act in the same direction
- C the forces are a different size and act in the opposite direction
- D the forces are a different size and act in the same direction

- (b) Explain how the shape of the helmet helps the cyclist to go faster.

(2)

.....

.....

.....

.....

- (c) During wet conditions the racing track becomes very slippery.

State a change the cyclist could make to the bicycle to overcome the wet conditions.

(1)

.....

.....

(Total for Question 18 = 4 marks)



19 When sugar is added to water the sugar disappears and the water becomes sweeter.

Use terms from the box to complete the sentences about this process.

(2)

dissolving    a solute    a solvent    a solution    melting

The sugar in this process is an example of .....

The sweet liquid produced in this process is an example of .....

**(Total for Question 19 = 2 marks)**

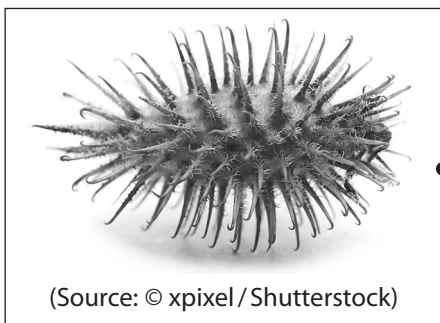


20 Plants have different ways of dispersing their seeds.

Draw **one** straight line from each picture of a seed to the correct method of dispersal.

(3)

**Picture of seed**



**Method of dispersal**

• dispersed by the wind

• dispersed by being attached to animals

• dispersed by being carried by water

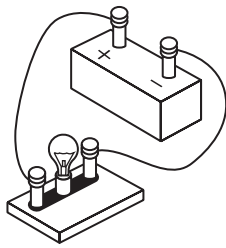
• dispersed by explosion

• dispersed by animals eating and then excreting them

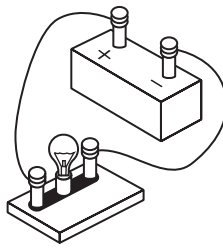
(Total for Question 20 = 3 marks)



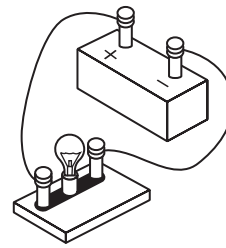
21 The diagram shows three circuits. The light bulb in each circuit is identical. The table describes the brightness of the bulb in each circuit.



circuit A



circuit B



circuit C

Circuit	Brightness of bulb
A	bright
B	dim
C	very bright

Give **one** conclusion that can be made about the size of the voltages in each of these circuits.

(1)

(Total for Question 21 = 1 mark)



For questions 22–25 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.

22 The picture shows a microscope.



(Source: © MARTIN SHIELDS/SCIENCE PHOTO LIBRARY)

Which of the following can only be observed using a microscope?

- A bacteria
- B insects
- C mammals
- D reptiles

(Total for Question 22 = 1 mark)

23 Temperature can be measured with a thermometer.

Which of these statements is true?

- A temperature is a measure of how hot something is
- B temperature is a measure of how long something is
- C temperature is a measure of how shiny something is
- D temperature is a measure of how solid something is

(Total for Question 23 = 1 mark)

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24 When a person breathes, their lungs inflate and deflate.

What is the reason why lungs inflate?

- A to decrease the amount of blood in the lungs
- B to decrease the amount of oxygen in the lungs
- C to increase the amount of blood in the lungs
- D to increase the amount of oxygen in the lungs

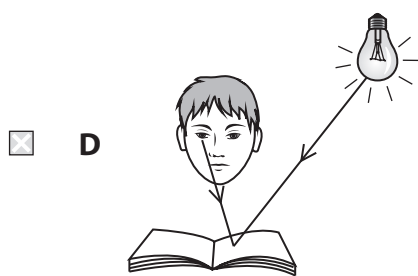
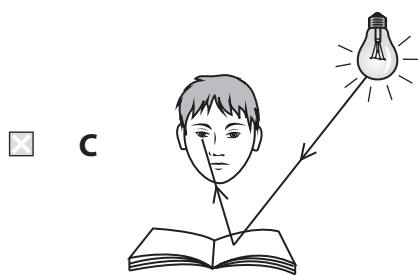
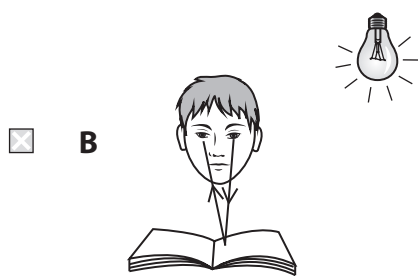
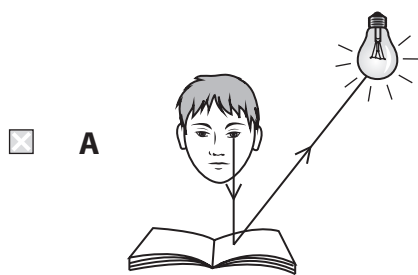
(Total for Question 24 = 1 mark)



P 6 7 6 3 1 R A 0 1 7 3 2

25 The diagrams show a book being read.

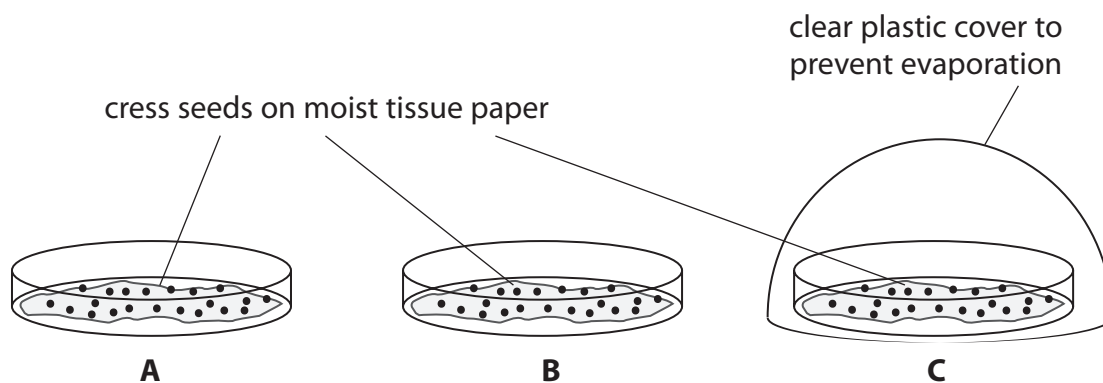
Which diagram correctly shows how the book is read?



(Total for Question 25 = 1 mark)



26 Some cress seeds are placed on moist tissue paper in three dishes, A, B and C, as shown in the diagram.



Dish A is placed in a cold room.

Dishes B and C are placed in a warm room.

Explain in which of the dishes **A**, **B** or **C** the cress seeds would germinate best.

(2)

.....

.....

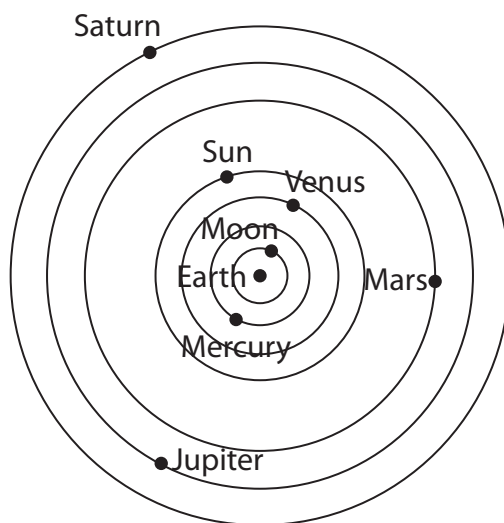
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(Total for Question 26 = 2 marks)



27 The diagram shows the Ptolemy geocentric model of our Solar System.



(a) The Ptolemy model does not include the planets Uranus and Neptune.

Give **two** other ways in which the Ptolemy model is different to the present model of the Solar System.

(2)

1 .....

2 .....

(b) Give **one** reason why the Ptolemy model does not include Uranus and Neptune.

(1)

.....

.....

(Total for Question 27 = 3 marks)



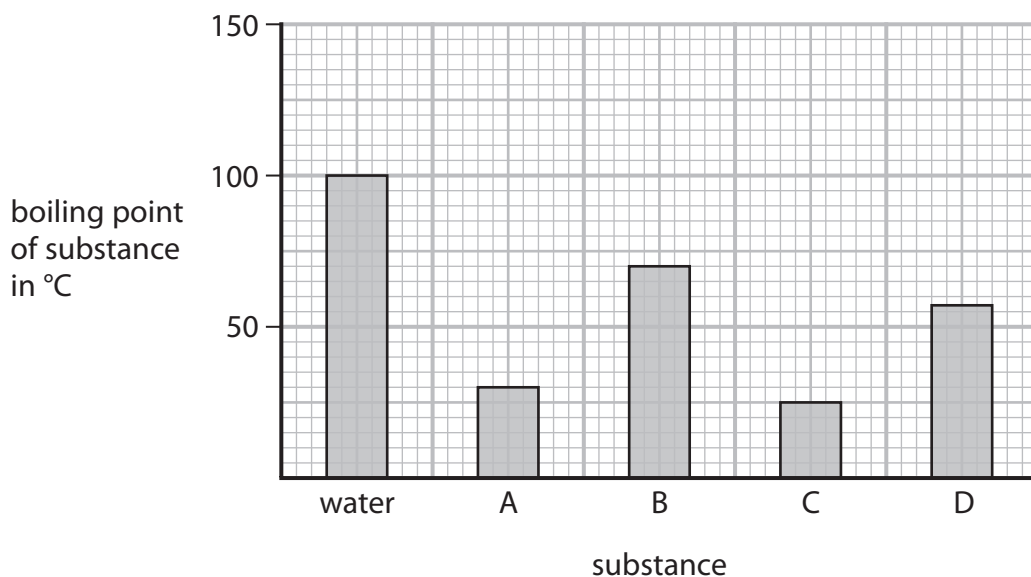
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28 When a substance boils it changes state from a liquid to a gas.

The bar chart shows the boiling points of water and four other substances, A, B, C and D.



(a) State which of the substances are liquids at 60°C.

(1)

.....

.....

(b) State which of the substances are gases at 40°C.

(1)

.....

.....

**(Total for Question 28 = 2 marks)**

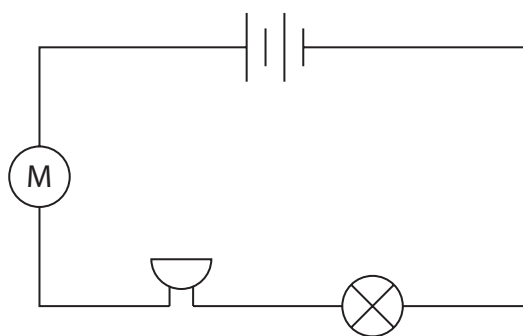
.....



P 6 7 6 3 1 R A 0 2 1 3 2




29 The diagram shows a circuit used to scare wild birds to stop them eating plants in a garden.



State what change will occur in each of the following components in the circuit when another cell is added to increase the voltage.

(2)

Component  will

Component  will

(Total for Question 29 = 2 marks)



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**30** The picture shows the leaves and thorns found on an acacia tree.

This type of acacia tree grows in very hot and dry conditions where there is little vegetation for herbivores to feed on.



(Source: © Wolfgang Kaehler/Contributor/Getty Images)

Explain how this type of acacia tree has adapted to the conditions where it grows.

(2)

.....

.....

.....

.....

**(Total for Question 30 = 2 marks)**

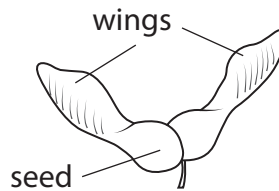
**TOTAL FOR SECTION A = 45 MARKS**



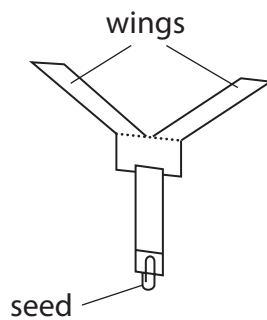
## SECTION B

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

- 31 The diagram shows a seed from a tree. The seed has wings which catch the wind and carry the seed away from the tree.

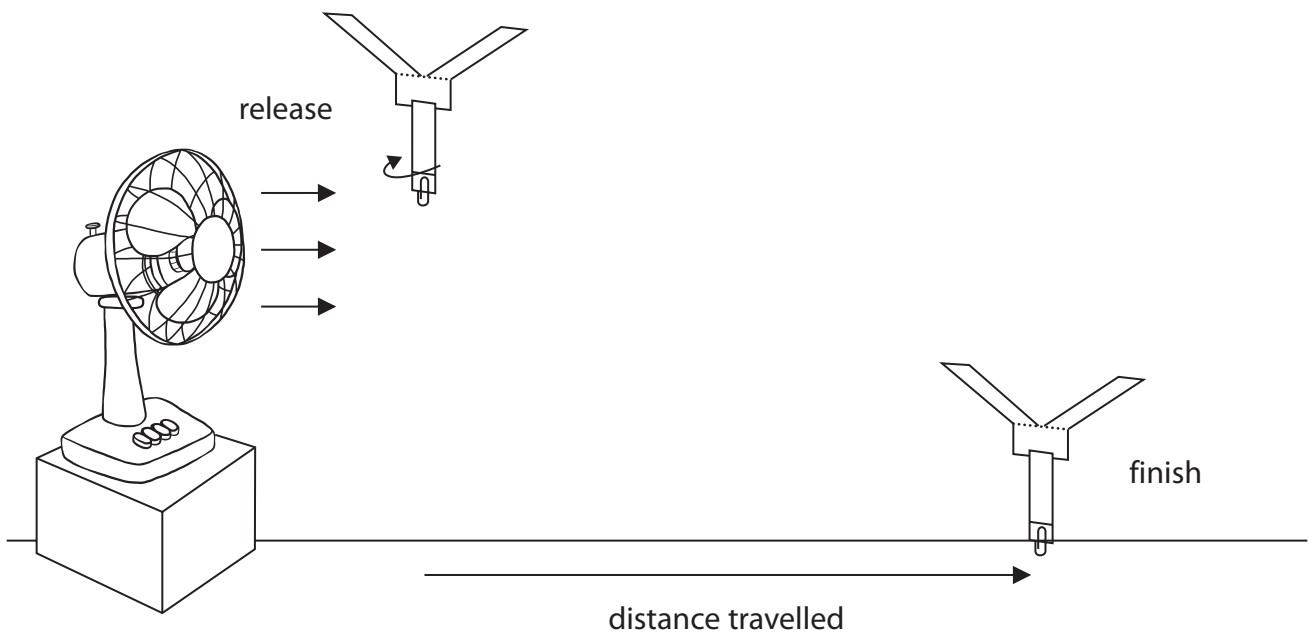


The diagram shows a model for a seed with wings.



In the model the wings are made from paper and the seed is a paper clip.

A student uses the model seed to investigate how the length of the wings affects the distance the seed travels.



(Source: © owatta/Shutterstock)





This is the student's method.

**Step 1** make the model with each wing 2 cm long and 1 cm wide

**Step 2** switch the fan on

**Step 3** hold the model seed 2 metres above the ground and 1 metre away from the fan

**Step 4** release the model seed

**Step 5** measure the distance travelled by the model seed

**Step 6** repeat steps 1 to 5 for model seeds with 4 cm and 6 cm long wings of the same width and the same type of paper

(a) State **two** things the student does to make the investigation a fair test.

(2)

1 .....

2 .....

(b) Which variable does the student change in the investigation?

(1)

.....



The table shows the student's results.

Length of wings in cm	Distance travelled in cm		
	Test 1	Test 2	Test 3
2	33	35	34
4	75	78	45
6	90	92	89

(c) State what the student has done to ensure the results are reliable.

(1)

(d) The student notices something odd about one of the test results.

Explain which of the results looks odd.

(2)

(Total for Question 31 = 6 marks)



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32 A student suggests four scientific questions about substances dissolving.

**Question 1** Does stirring affect how quickly sand dissolves in water?

**Question 2** Does changing the amount of water affect how quickly sand dissolves in water?

**Question 3** Does changing the temperature of the water affect how quickly flour dissolves in water?

**Question 4** Does stirring affect how quickly salt dissolves in water?

(a) Which question could be investigated to produce a range of results?

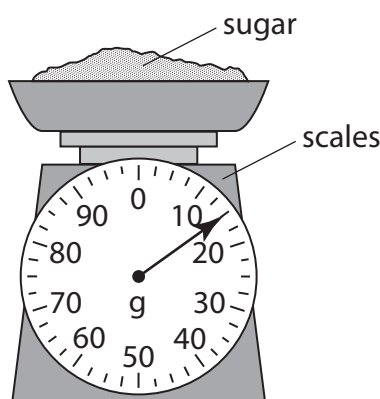
(1)

(b) Another student investigates how temperature affects how quickly sugar dissolves in water.

The student uses water at three different temperatures, 15 °C, 30 °C and 45 °C.

The student uses the same mass of sugar and the same volume of water each time.

The student uses scales to measure the mass of the sugar.



What is the mass of the sugar shown on the scales?

(1)

mass of sugar = ..... g



(c) This is the student's method.

**Step 1** measure the mass of sugar

**Step 2** add the sugar to 100 cm<sup>3</sup> of water at 15 °C and stir

**Step 3** start a stopwatch

**Step 4** stop the stopwatch when all the sugar has dissolved

**Step 5** record the result in a table

**Step 6** repeat steps 1 to 5 with water at 30 °C and 45 °C

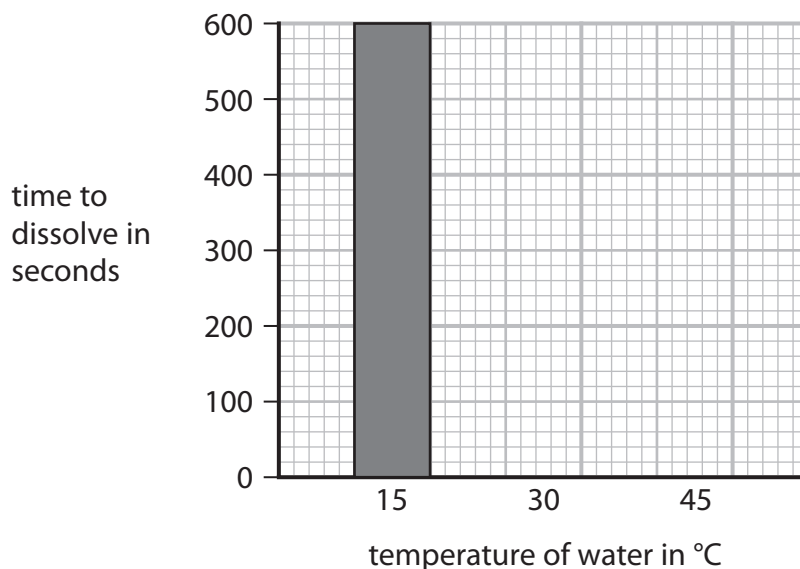
The table shows the student's results.

Temperature of water in °C	Time to dissolve in seconds
15	600
30	300
45	120

The student uses the results to start to draw a bar chart.

Complete the bar chart by adding the results for 30 °C and 45 °C.

(2)



(d) The student makes a conclusion from their results.

(1)

Use **one** term from the box to complete their conclusion.

decreases      increases      stays the same

As the temperature of the water increases, the time it takes for the sugar to dissolve .....

(Total for Question 32 = 5 marks)



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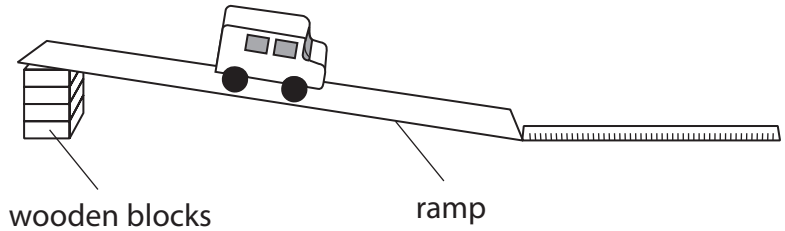
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**33** A student performs an investigation into how the height of a ramp affects the distance a toy car travels.

The student uses equal sized wooden blocks to raise the height of the ramp.

The diagram shows the apparatus the student uses in the investigation.



This is the student's method.

**Step 1** place one wooden block under the start of the ramp

**Step 2** place the toy car at the top of the ramp

**Step 3** release the toy car

**Step 4** when the car stops, measure the stopping distance from the bottom of the ramp to the back of the car

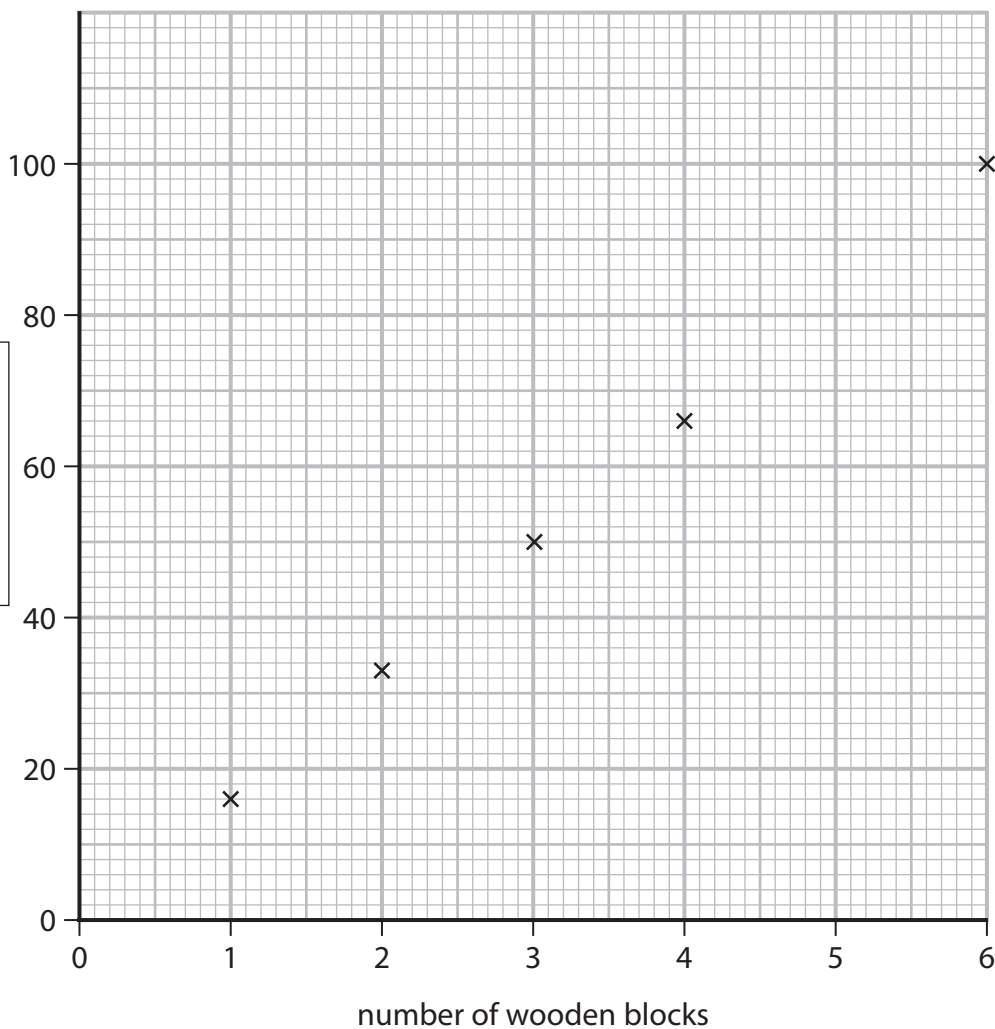
**Step 5** repeat steps 2 to 4 using two, three, four and six blocks of wood

(a) Name the apparatus the student should use to measure the distance in step 4. (1)

(b) State **one** thing the student does to collect systematic observations. (1)



(c) The graph shows the student's results.



(i) Label the vertical axis in the box on the graph. (1)

(ii) Use the graph to predict the stopping distance when five wooden blocks are used. (1)

..... cm

**(Total for Question 33 = 4 marks)**

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

