

iPrimary

# SCIENCE

## SAMPLE ASSESSMENT MATERIALS

Pearson Edexcel International Award in Primary Science (JSC11)

For first teaching September 2018

First examination June 2019

Issue 1



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# Introduction

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The Pearson Edexcel International Award in Primary Science is designed for use in international schools. It is part of a suite of *iPrimary* qualifications offered by Pearson.

These sample assessment materials have been developed to support this qualification and will be used as the benchmark to develop the assessment students will take.



# General marking guidance

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- All candidates must receive the same treatment. Examiners must mark the last candidate in exactly the same way as they mark the first.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than be penalised for omissions.
- Examiners should mark according to the mark scheme – not according to their perception of where the grade boundaries may lie.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification/indicative content will not be exhaustive. However different examples of responses will be provided at standardisation.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, a senior examiner must be consulted before a mark is given.
- Crossed-out work should be marked **unless** the candidate has replaced it with an alternative response.

## Subject specific marking guidance

### *Symbols, terms used in the mark scheme*

- Round brackets ( ): words inside round brackets are to aid understanding of the marking point but are not required to award the point.
- Curly brackets { }: indicate the beginning and end of a list of alternatives (separated by obliques) where necessary to avoid confusion.
- Oblique /: words or phrases separated by an oblique are alternatives to each other and either answer should receive full credit.
- ecf: indicates error carried forward which means that a wrong answer given in an early part of a question is used correctly to a later part of a question.

You will not see 'owtte' (or words to that effect). Alternative correct wording should be credited in every answer unless the ms has specified specific.

The Additional Guidance column is used for extra guidance to clarify any points in the mark scheme. It may be used to indicate:

- what will not be accepted for that marking point in which case the phrase 'do not accept' will be alongside the relevant marking point
- it might have examples of possible acceptable answers which will be adjacent to that marking point.





Please check the examination details below before entering your candidate information

Candidate surname					Other names				
Centre Number					Candidate Number				
<b>Pearson Edexcel International Award in Primary</b>					<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px;"></div> </div> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px;"></div> </div>				
<b>Sample Assessment Materials for first teaching September 2018</b>									
Time: 1 hour					Paper Reference JSC11/01				
<b>Science</b> <b>Achievement test</b>									
<b>You must have:</b> 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 ►

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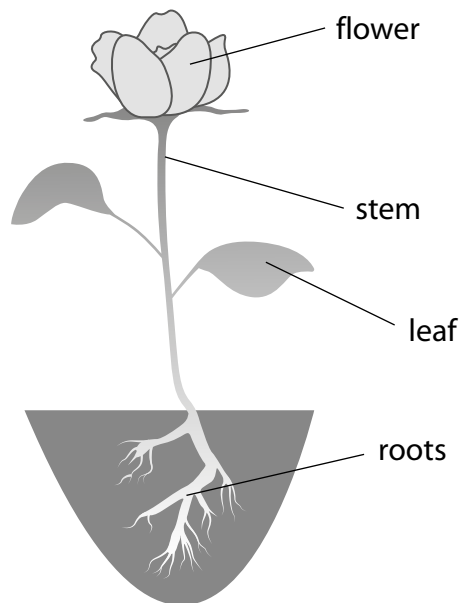


## SECTION A

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 parts of a flowering plant.



Which part of the plant takes in water and nutrients?

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

(Total for Question 1 = 1 mark)

- 2 What pumps blood around the body?

- ☐ A heart
- ☐ B lungs
- ☐ C oxygen
- ☐ D thorax

(Total for Question 2 = 1 mark)

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3 Which statement about opaque objects is true?

- ☐ A they bend light
- ☐ B they block light
- ☐ C they filter light
- ☐ D they let light through

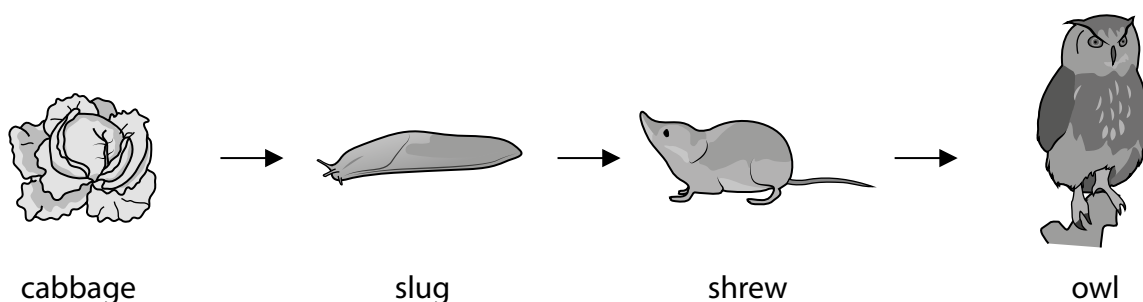
(Total for Question 3 = 1 mark)

4 Which of these is a source of light?

- ☐ A the eye
- ☐ B a mirror
- ☐ C the Moon
- ☐ D the Sun

(Total for Question 4 = 1 mark)

5 The diagram shows a food chain.

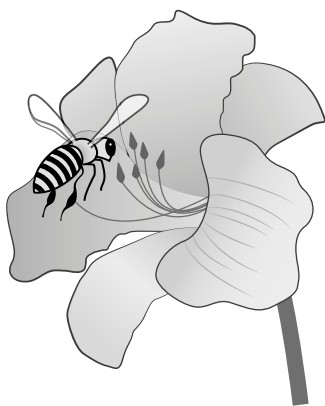


Which organism in this food chain is the producer?

- ☐ A cabbage
- ☐ B owl
- ☐ C shrew
- ☐ D slug

(Total for Question 5 = 1 mark)

- 6 The diagram shows a bee visiting a flower. When a bee visits different flowers it transfers pollen from anthers to stigmas.



What is this process called?

- ☐ A fertilisation
- ☐ B germination
- ☐ C pollination
- ☐ D seed production

(Total for Question 6 = 1 mark)

- 7 A student times how long it takes to dissolve a spoonful of sugar in water. They add a spoonful of sugar to some cold water and stir until all the sugar dissolves. Their friend repeats this experiment using hot water.

Which statement describes what they should find out?

- ☐ A changing the temperature of the water makes no difference to the result
- ☐ B sugar dissolves faster in hot water than in cold water
- ☐ C sugar dissolves more slowly in hot water when it is stirred
- ☐ D sugar will dissolve in water only if it is stirred

(Total for Question 7 = 1 mark)

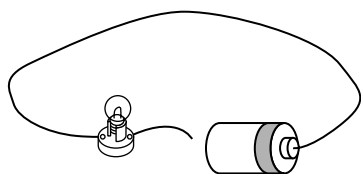
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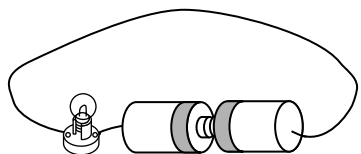
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8 In which circuit will the bulb light up?

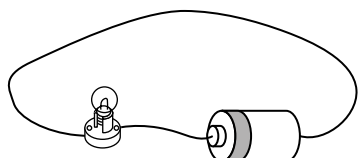
☐ A



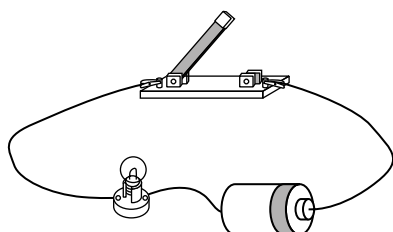
☐ B



☐ C



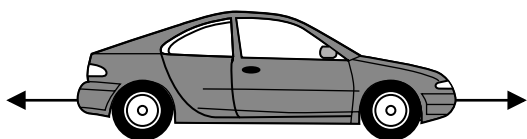
☐ D



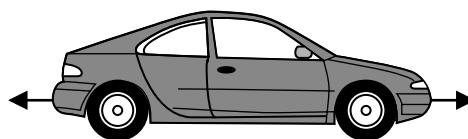
(Total for Question 8 = 1 mark)

9 The diagrams show two forces acting on a car that is moving forward.

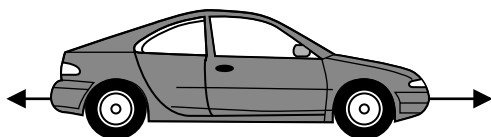
In which diagram is the car speeding up?



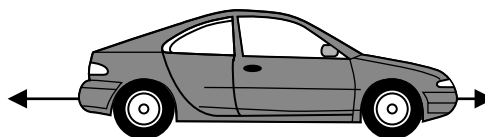
☐ A



☐ B



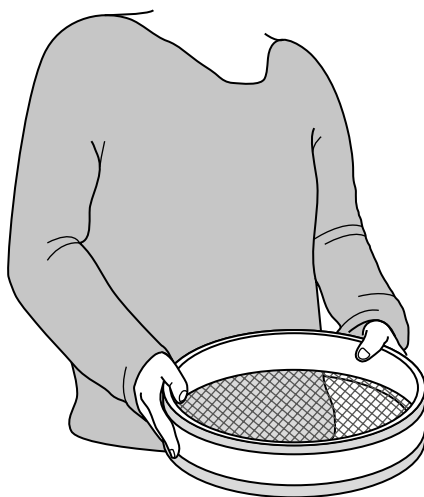
☐ C



☐ D

(Total for Question 9 = 1 mark)

10 The diagram shows a piece of equipment that can be used to separate a mixture.

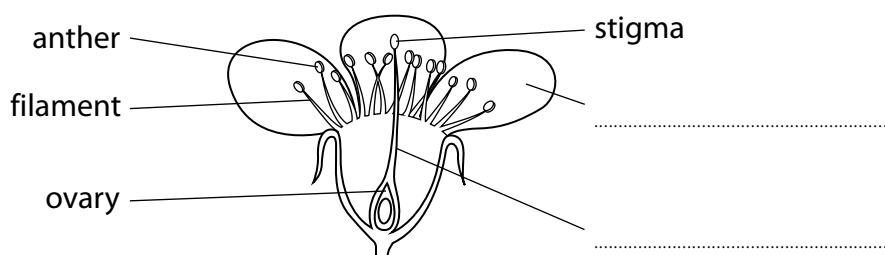


Which of these mixtures will it separate?

- ☐ A flour and sand
- ☐ B sand and water
- ☐ C sand and salt
- ☐ D stones and sand

(Total for Question 10 = 1 mark)

11 The diagram shows a flower from an apple tree.



(a) Complete the **two** missing labels using words from the box.

petal	sepal	stamen	stem	style
-------	-------	--------	------	-------

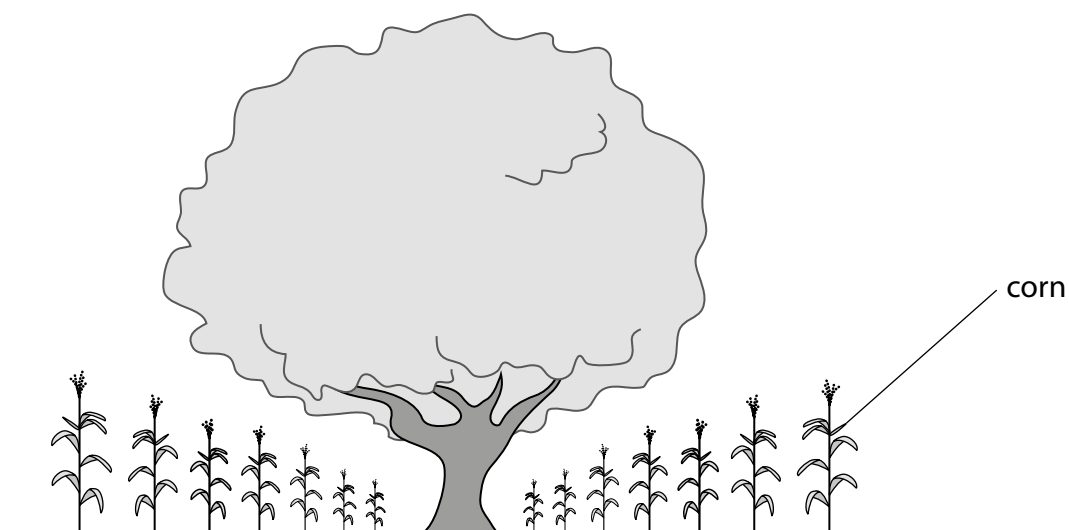
(2)

(b) What is produced in the ovary?

(1)

(Total for Question 11 = 3 marks)

12 The diagram shows a tree growing in a corn field.



The corn does not grow well under the tree.

Explain **one** reason why the corn does not grow well under the tree.

(Total for Question 12 = 2 marks)



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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 ☒.

13 What piece of equipment would a student use to see a bacterium?

☐ A binoculars



☐ B microscope



☐ C mirror

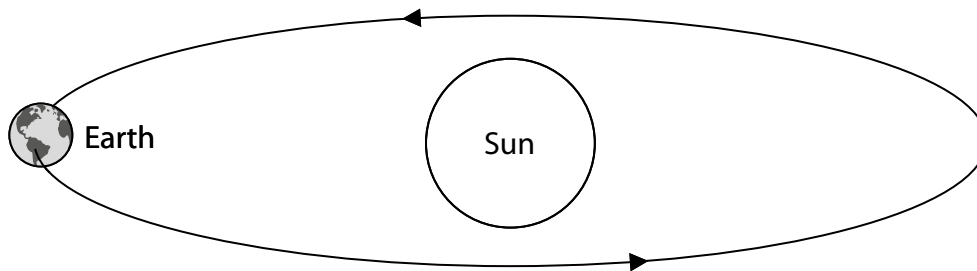


☐ D telescope



(Total for Question 13 = 1 mark)

**14** The diagram shows the orbit of the Earth around the Sun.



How long does it take for the Earth to make one full orbit around the Sun?

- ☐ **A** one day
- ☐ **B** one week
- ☐ **C** one month
- ☐ **D** one year

**(Total for Question 14 = 1 mark)**

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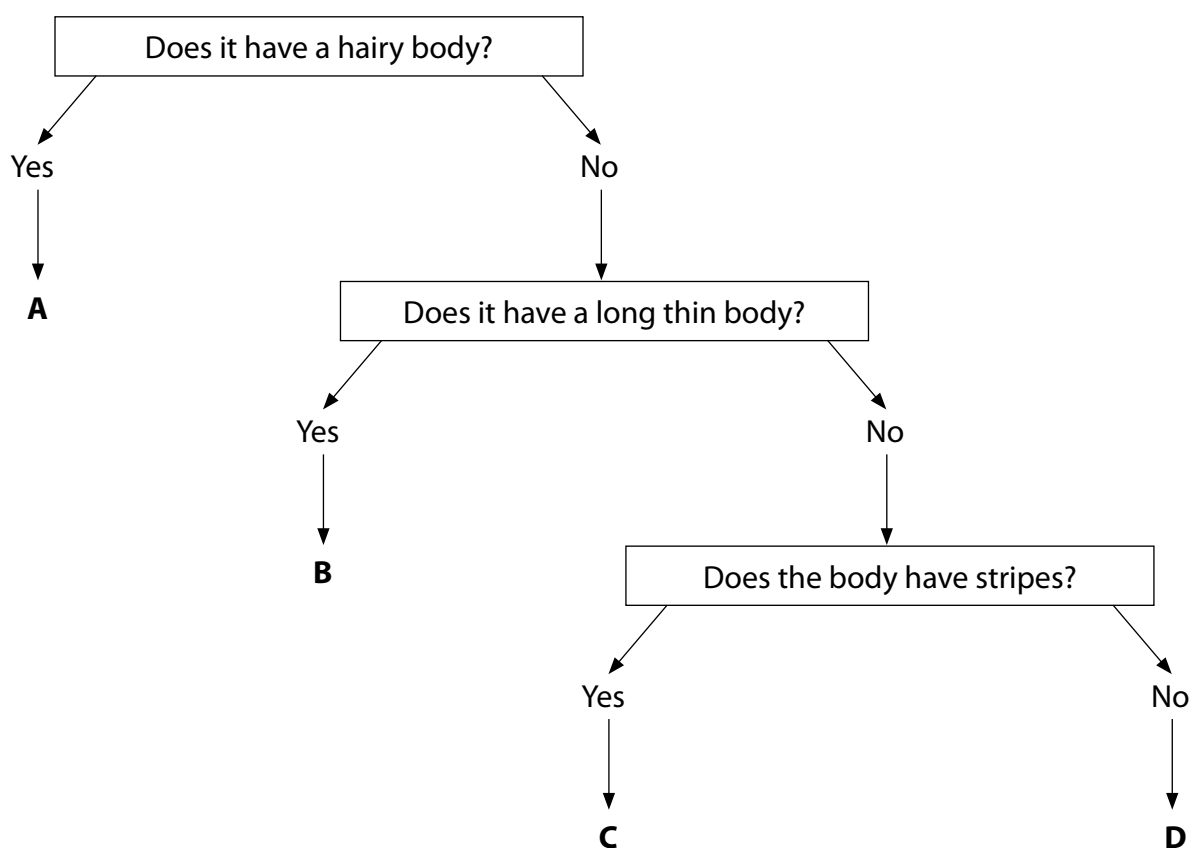
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15 The diagram shows an insect and a key to identify this insect.



© pzAxe / Shutterstock



What is the name of this insect?  
Use the key to identify the answer.

- ☐ **A** Summer Chafer
- ☐ **B** Reed Beetle
- ☐ **C** Colorado Beetle
- ☐ **D** Stag Beetle

(Total for Question 15 = 1 mark)

- 16** The table shows information of how some micro-organisms can be useful and others can be harmful.

Which row of the table correctly shows examples of micro-organisms being useful and being harmful?

Examples of micro-organisms being:		
	useful	harmful
<input type="checkbox"/> <b>A</b>	making bread	compost making
<input type="checkbox"/> <b>B</b>	bread going mouldy	cheese making
<input type="checkbox"/> <b>C</b>	compost making	food poisoning
<input type="checkbox"/> <b>D</b>	food poisoning	bread going mouldy

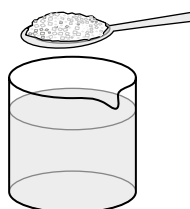
(Total for Question 16 = 1 mark)

17 Which of these shows an **irreversible** change?

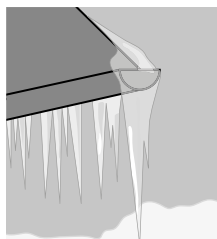
- ☐ A burning wax



- ☐ B dissolving salt



- ☐ C freezing water



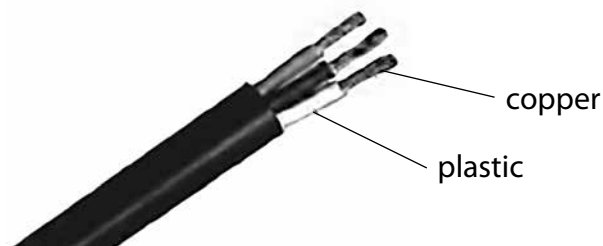
- ☐ D melting chocolate



(Total for Question 17 = 1 mark)

**18** The picture shows an electrical cable.

The cable is made of copper wire surrounded by plastic.

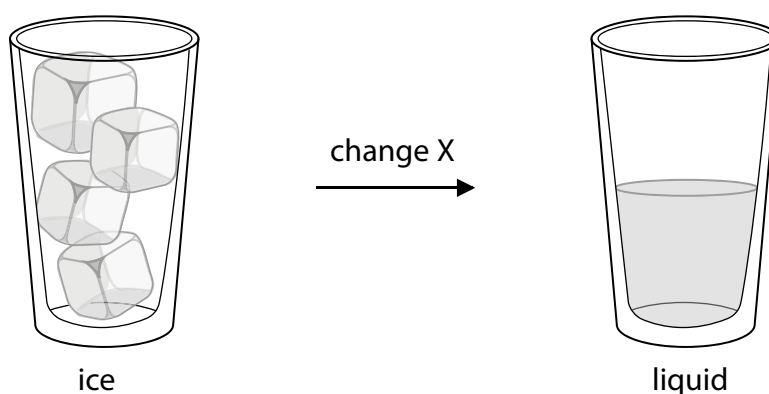


Which statement gives the reason why these two materials are used?

- ☐ **A** Copper and plastic are both electrical insulators.
- ☐ **B** Copper and plastic are both electrical conductors.
- ☐ **C** Copper is an electrical conductor, plastic is an electrical insulator.
- ☐ **D** Plastic is an electrical conductor, copper is an electrical insulator.

**(Total for Question 18 = 1 mark)**

**19** The diagram shows what happens when ice in a glass is left in a warm room.



(a) What is the name of the liquid formed?

(1)

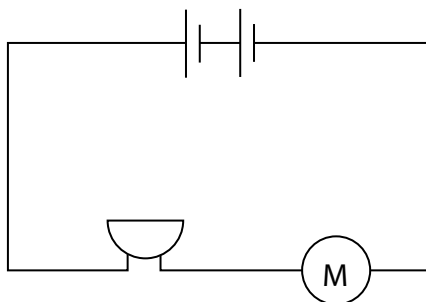
(b) What is the name given to change X?

(1)

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

**20** The diagram shows an electric circuit.

A student wants to make the buzzer in this circuit louder. They cannot change the buzzer but they can add or remove components.



Give **two** changes the student could make to the circuit to make the buzzer louder.

1 .....

2 .....

**(Total for Question 20 = 2 marks)**

21 The picture shows a road surface that has been made rougher to help vehicles slow down.



© 2017 Stone Surfacing

Explain how the rough surface helps vehicles to slow down.

.....

.....

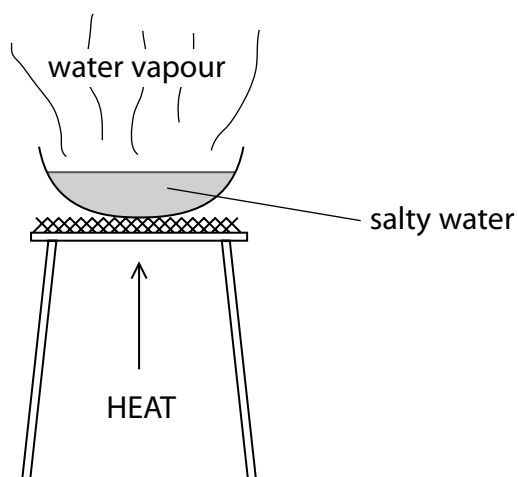
.....

.....

**(Total for Question 21 = 2 marks)**



22 The diagram shows the method a student uses to separate a mixture of salt and water.



- (a) Draw **one** straight line from each substance in the student's experiment to the correct scientific term.

(2)

Substance	Correct scientific term
	<div><div></div>solute</div>
<div>water</div>	<div><div></div>solution</div>
<div>salty water</div>	<div><div></div>solvent</div>

- (b) What name is given to this method of separation?

(1)

(Total for Question 22 = 3 marks)

For questions 23 – 27 put a cross ☐ to indicate your answer.  
If you change your mind, put a line through the box ☒ and then put a cross in another box ☐.

23 Which of these statements about herbivores is true?

- ☐ A all herbivores eat meat
- ☐ B all herbivores are micro-organisms
- ☐ C all herbivores eat plants
- ☐ D all herbivores are predators

(Total for Question 23 = 1 mark)

24 What method can be used to separate a mixture of sand and iron filings?

- ☐ A dissolving
- ☐ B filtration
- ☐ C magnetism
- ☐ D sieving

(Total for Question 24 = 1 mark)

25 What is the boiling point of water?

- ☐ A 0°C
- ☐ B 37°C
- ☐ C 100°C
- ☐ D 150°C

(Total for Question 25 = 1 mark)

26 What do all vertebrates have in common?

- ☐ A they breathe with lungs
- ☐ B they have four legs
- ☐ C they live on land
- ☐ D they have a backbone

(Total for Question 26 = 1 mark)

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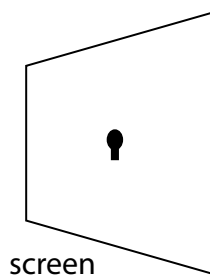
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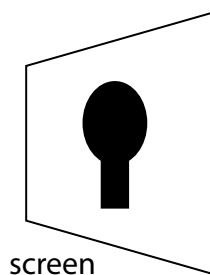
27 A bright light is used to cast a shadow of an object on a screen.

Which diagram shows how the shadow will look on the screen?

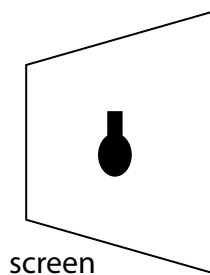
☐ **A**      ●  
bright  
light



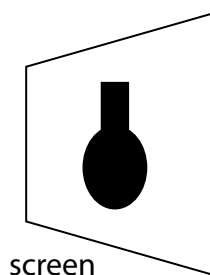
☐ **B**      ●  
bright  
light



☐ **C**      ●  
bright  
light

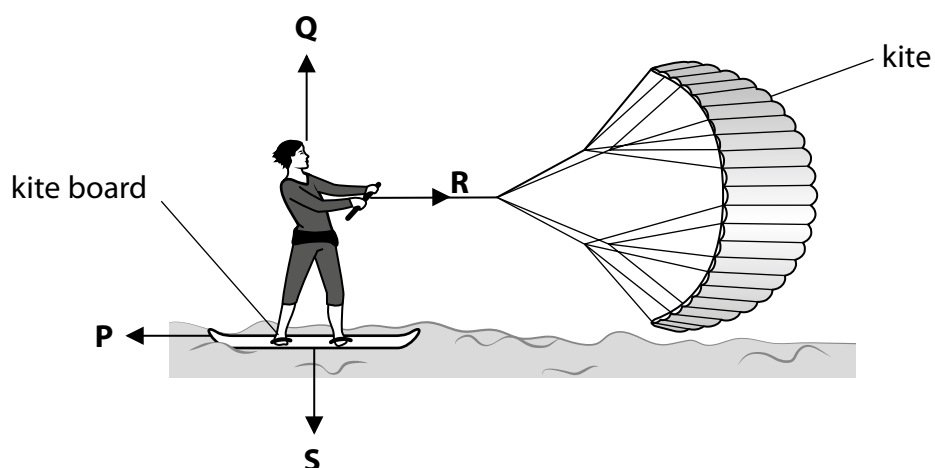


☐ **D**      ●  
bright  
light



(Total for Question 27 = 1 mark)

**28** The diagram shows the direction of four forces as a kitesurfer moves across water.



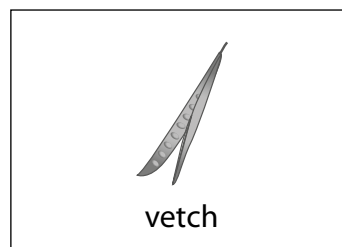
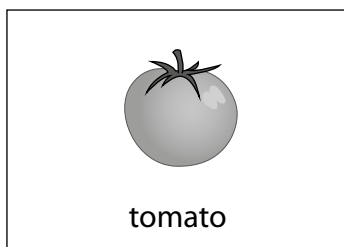
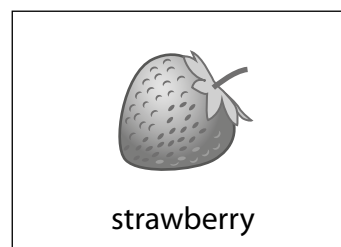
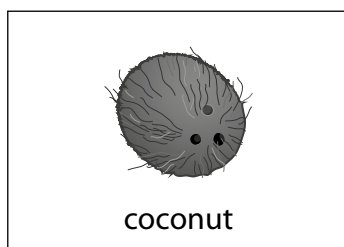
Draw **one** straight line from each force to the letter that shows the direction of the force.

Force	Direction of the force
	<div><div></div>P</div>
the force pulling the kitesurfer along	<div><div></div>Q</div>
the friction between the kite board and the water	<div><div></div>R</div>
	<div><div></div>S</div>

(Total for Question 28 = 2 marks)

**29** Seeds can be dispersed by animal, explosion, water and wind.

The pictures show five types of seed.



Tick (✓) the correct method of dispersal of each seed in the table below.

One has been done for you.

Seed	Method of dispersal			
	animal	explosion	water	wind
coconut				
groundsel				
strawberry				
tomato	✓			
vetch				

(Total for Question 29 = 3 marks)

**30** The lorry in the picture has a wedge on the front roof.

The wedge helps the lorry travel more easily through the air.



Explain how the wedge helps the lorry travel more easily through the air.

.....

.....

.....

.....

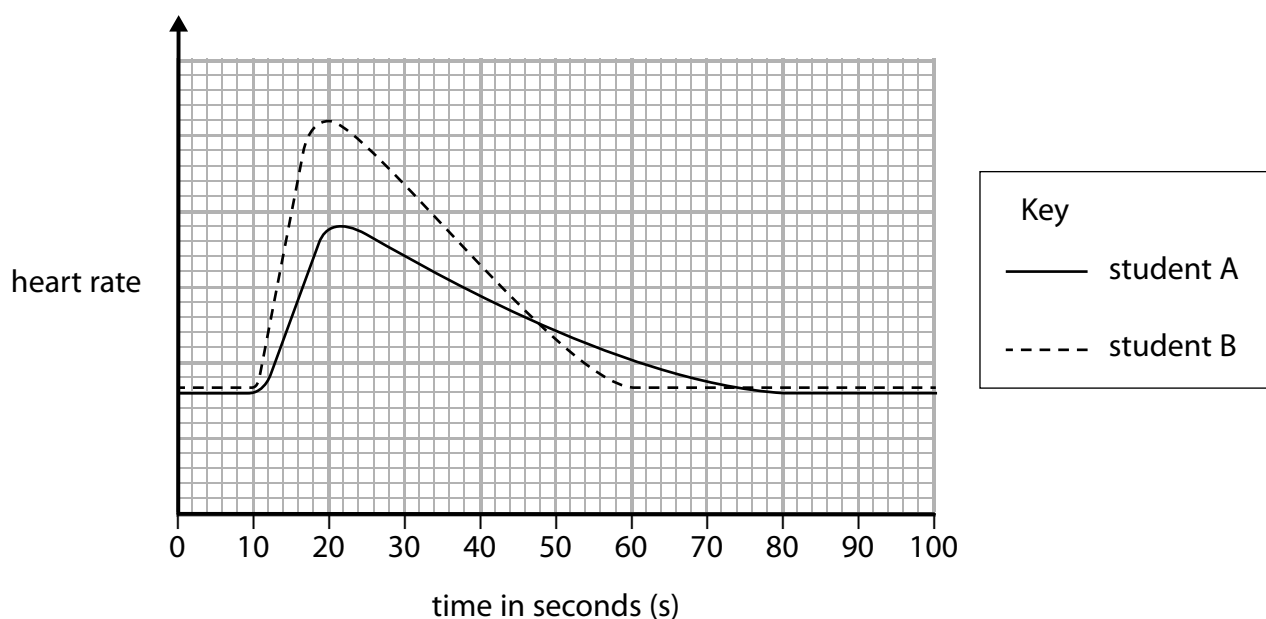
**(Total for Question 30 = 2 marks)**

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DO NOT WRITE IN THIS AREA

31 The graph shows the heart rate of two students taking part in a 50 m race.



Their heart rate was recorded from the time they lined up.

(a) How many seconds passed before they started running?

(1)

..... seconds (s)

Both students crossed the finish line at the same time.

The fitter a person is, the shorter their recovery time.

Recovery time is the time it takes the heart rate to return to normal after exercise.

(b) Explain which of the two students is the fittest.

Use information from the graph to support your answer.

(2)

.....

.....

.....

.....

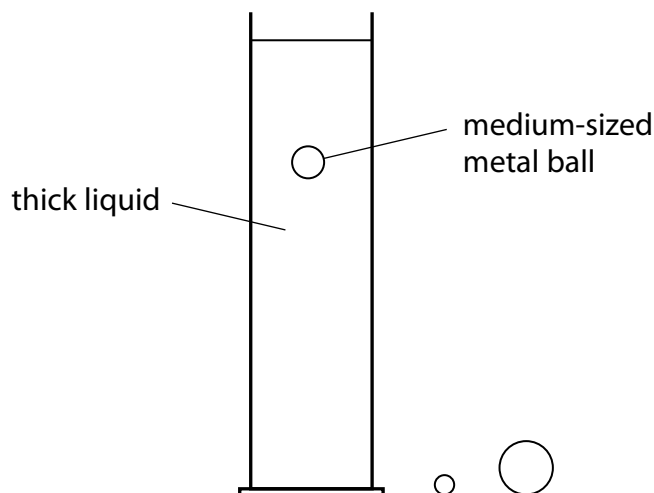
(Total for Question 31 = 3 marks)

TOTAL FOR SECTION A = 45 MARKS

## SECTION B

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

- 32** The diagram shows the equipment a student used to investigate how long it takes three different-sized metal balls to travel through a thick liquid.



- (a) They use the following method.

**Step 1:** pour the thick liquid into a tall container.

**Step 2:** hold the metal ball just above the surface of the liquid.

**Step 3:** release the metal ball and time how long it takes to reach the bottom of the container.

**Step 4:** repeat the experiment with the other two metal balls.

- (i) Name the force that causes the metal ball to fall to the bottom of the container.

(1)

- (ii) Name the piece of equipment needed in Step 3.

(1)



The table shows the student's results.

Size of metal ball	Time to travel to the bottom of the container in seconds (s)
medium	12
small	24
large	6

Before the student started the experiment they were given four predictions.

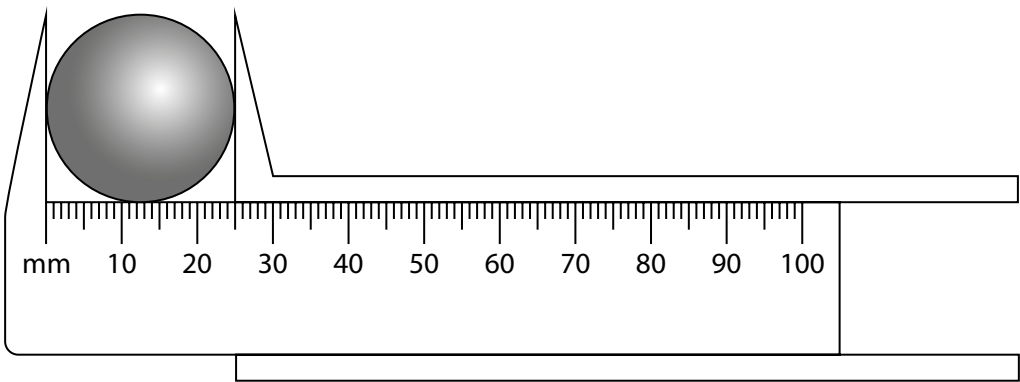
- Prediction 1:** the smallest metal ball will take the least time.
- Prediction 2:** the smallest metal ball will take three-times longer than the largest metal ball.
- Prediction 3:** the medium-sized metal ball will travel slowest.
- Prediction 4:** the largest metal ball will travel the fastest.

(b) Which prediction was correct? (1)

To improve the experiment, the student measured the diameter of the metal balls.

(c) What is the diameter of the metal ball shown in the diagram below? (1)

..... mm



(Total for Question 32 = 4 marks)

**33** A student investigates the effect of water temperature on the solubility of baking powder.

They dissolve baking powder in water, until no more dissolves.

They record the mass of baking powder that dissolves.

They repeat the experiment using the same volume of water each time but at different temperatures.

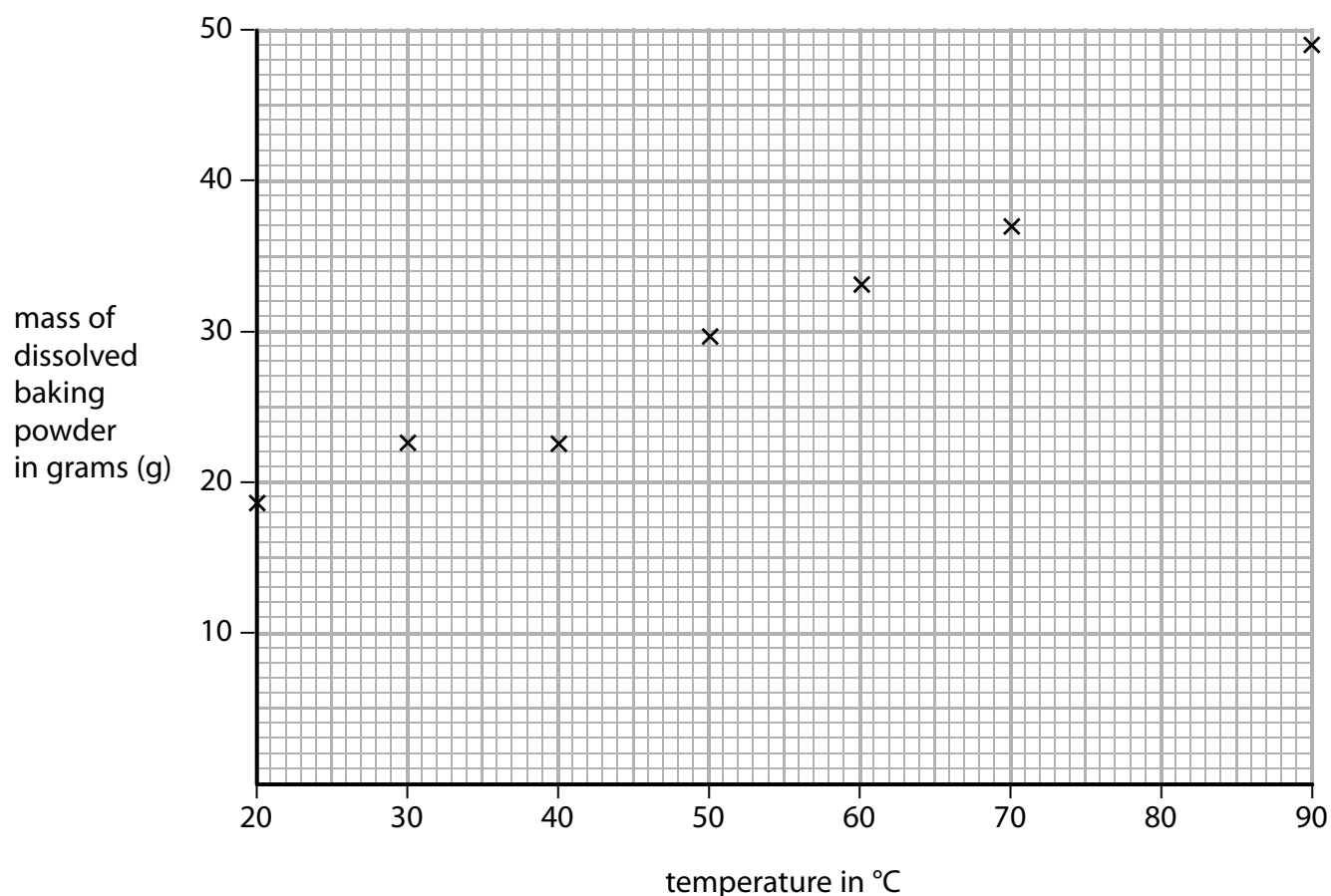
(a) (i) Which variable do they change?

(1)

(ii) Which variable do they control?

(1)

(b) The graph shows their results.



(i) Circle one plotted point on the graph that does not fit the pattern.

(1)

(ii) Use the graph to predict how much baking powder will dissolve at 80 °C.

(1)

..... g

(iii) What conclusion can the student make about the effect of water temperature on the solubility of baking powder from their results?

(2)

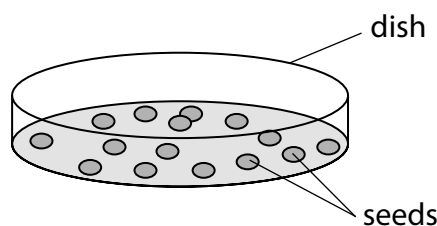
(Total for Question 33 = 6 marks)

**34** A student investigates how temperature affects the germination of seeds. They put some seeds on wet tissue paper in eight different dishes.

They put 15 pepper seeds in each dish.

They add 5 cm<sup>3</sup> of water to each dish every day.

They keep each dish at a different temperature.



(a) State what would happen if water was not added to the tissue paper.

(1)

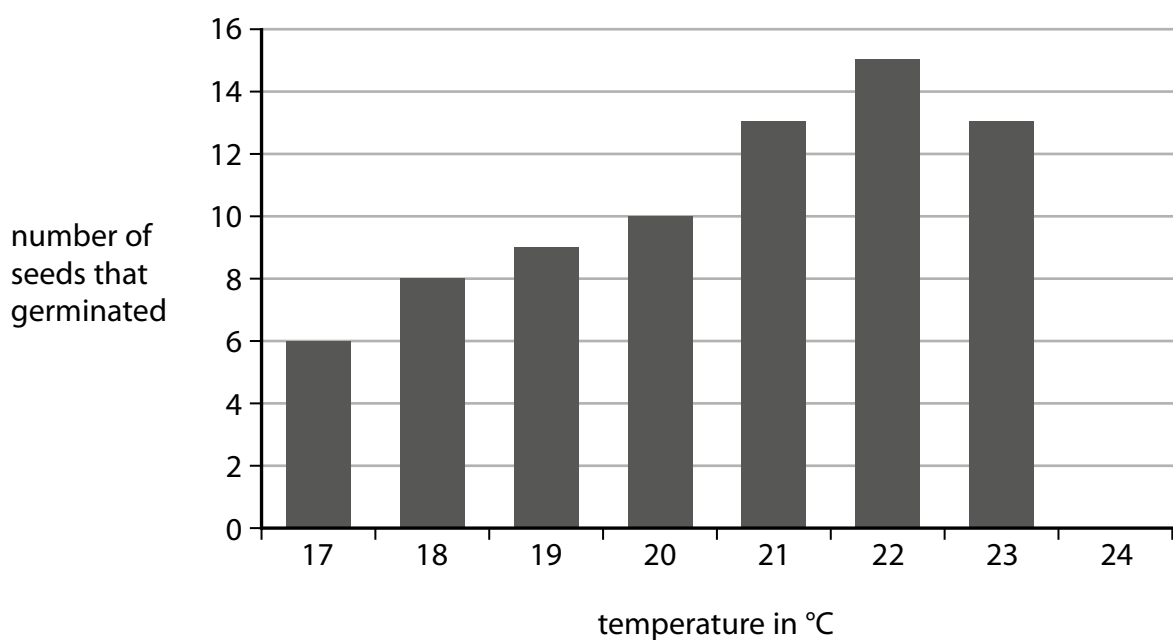
The table shows the student's results.

Temperature of dish in °C	Number of seeds that germinated
17	6
18	8
19	9
20	10
21	13
22	15
23	13
24	7

(b) They plotted a bar chart of the results.

(i) Complete the bar chart by plotting the result obtained for 24°C.

(1)



(ii) Predict how many seeds would germinate at 25°C.

(1)

(iii) State one thing the student did to make their investigation a fair test.

(1)

(iv) Give **one** thing the student could do to improve the reliability of their results.

(1)

**(Total for Question 34 = 5 marks)**

**TOTAL FOR SECTION B = 15 MARKS**

**TOTAL FOR PAPER = 60 MARKS**

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## Mark scheme

Question number	Answer	Mark
1	C roots	(1)

Question number	Answer	Mark
2	A heart	(1)

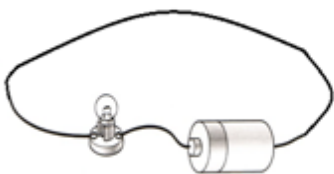
Question number	Answer	Mark
3	B they block light	(1)

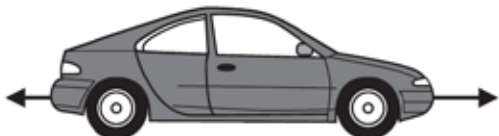
Question number	Answer	Mark
4	D the Sun	(1)

Question number	Answer	Mark
5	A cabbage	(1)

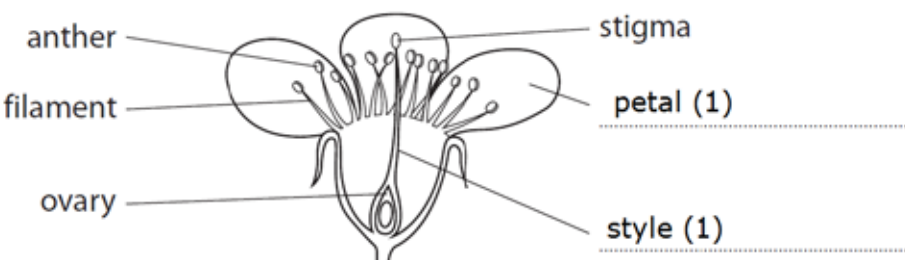
Question number	Answer	Mark
6	C pollination	(1)

Question number	Answer	Mark
7	B sugar dissolves faster in hot water than in cold water	(1)

Question number	Answer	Mark
8	<p>C</p> 	(1)

Question number	Answer	Mark
9	C 	(1)


Question number	Answer	Mark
10	D stones and sand	(1)

Question number	Answer	Mark
11(a)	<p>Award one mark for each of the following:</p> 	(2)

Question number	Answer	Additional guidance	Mark
11(b)	ova/ovules	Accept seeds. Do not accept apples/fruit.	(1)

Question number	Answer	Additional guidance	Mark
12	<p>Award one mark for identification of why the corn does not grow well under the tree and one mark for linked expansion.</p> <p>identification: the tree takes (most of) the nutrients/water/(sun)light (1)</p> <p>expansion: corn needs nutrients/water/(sun)light for growth (1)</p> <p>Accept any other appropriate response.</p>	Accept minerals/nitrates for nutrients.	(2)




Question number	Answer	Mark
13	<div style="display: flex; align-items: center; justify-content: center;"> <div style="margin-right: 20px;">B microscope</div>  </div>	(1)

Question number	Answer	Mark
14	D one year	(1)

Question number	Answer	Mark
15	C Colorado Beetle	(1)

Question number	Answer	Mark			
16	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%; text-align: center; vertical-align: middle;"> <input checked="" type="checkbox"/> C </td> <td style="width: 40%; text-align: center; vertical-align: middle;">compost making</td> <td style="width: 35%; text-align: center; vertical-align: middle;">food poisoning</td> </tr> </table>	<input checked="" type="checkbox"/> C	compost making	food poisoning	(1)
<input checked="" type="checkbox"/> C	compost making	food poisoning			

Question number	Answer	Mark
17	<div style="display: flex; align-items: center; justify-content: center;"> <div style="margin-right: 20px;">A burning wax</div>  </div>	(1)

Question number	Answer	Mark
18	C Copper is an electrical conductor, plastic is an electrical insulator.	(1)

Question number	Answer	Mark
19(a)	water	(1)

Question number	Answer	Mark
19(b)	melting	(1)

Question number	Answer	Additional guidance	Mark
20	Award one mark for each of the following: remove the motor (1) increase number/voltage of cell(s) (1) Accept any other appropriate response.	Accept replace motor with one that has less resistance.	(2)

Question number	Answer	Mark
21	Award one mark for identification of how the rough surface helps vehicles to slow down and one mark for linked expansion. identification: (rough surface) increases friction (1) expansion: therefore increases grip/prevents car skidding (1) Accept any other appropriate response.	(2)

Question number	Answer	Mark
22(a)	<p>Award one mark for each correct line, up to a maximum of two marks.</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p><b>Substance</b></p> <div style="border: 1px solid black; padding: 5px; margin: 10px; width: 150px;">water</div> <div style="border: 1px solid black; padding: 5px; margin: 10px; width: 150px;">salty water</div> </div> <div style="text-align: center;"> <p><b>Correct scientific term</b></p> <div style="border: 1px solid black; padding: 5px; margin: 10px; width: 150px;">solute</div> <div style="border: 1px solid black; padding: 5px; margin: 10px; width: 150px;">solution</div> <div style="border: 1px solid black; padding: 5px; margin: 10px; width: 150px;">solvent</div> </div> </div> <p>Do not award answers with more than one line to and from any of the boxes.</p>	(2)

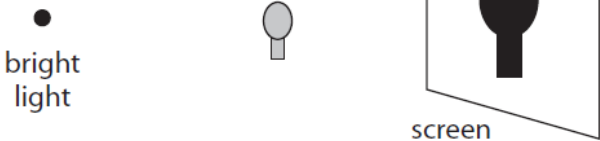
Question number	Answer	Additional guidance	Mark
22(b)	evaporation	Do not accept boiling.	(1)

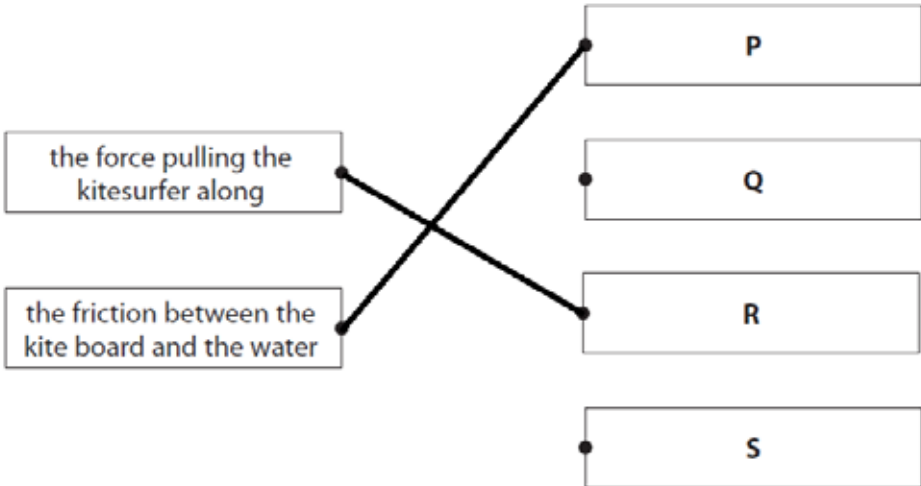
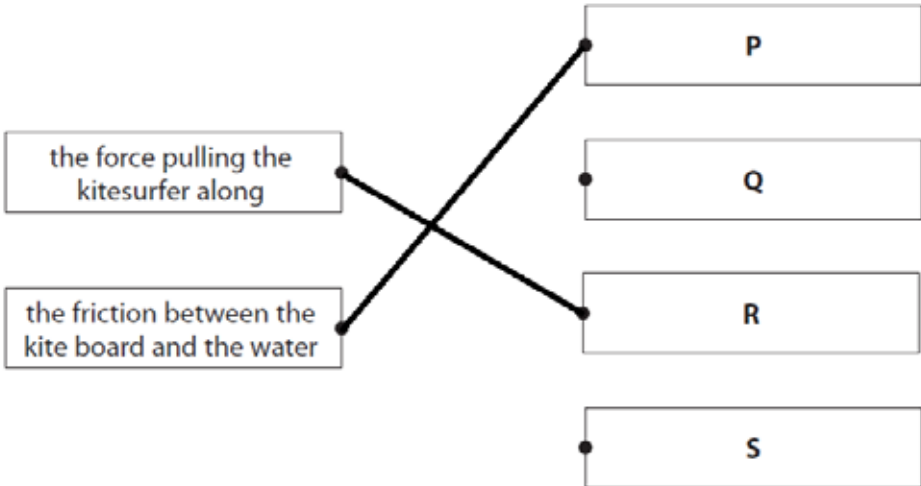
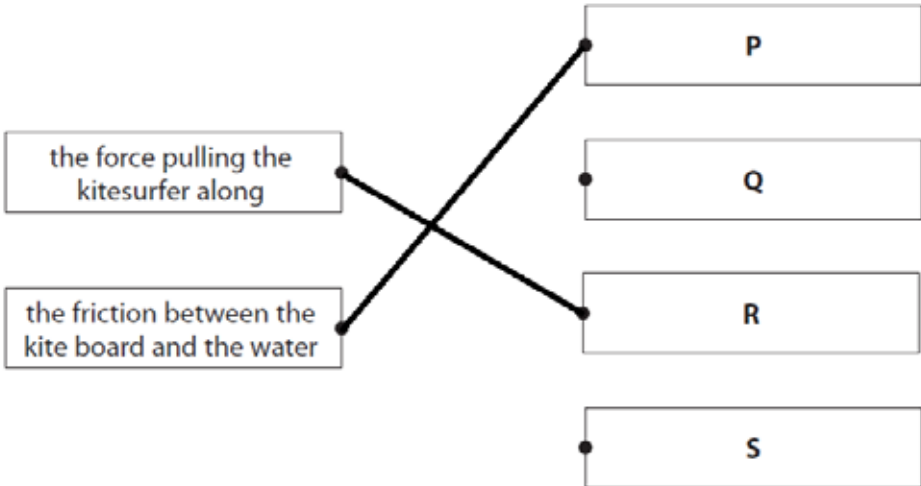
Question number	Answer	Mark
23	C all herbivores eat plants	(1)

Question number	Answer	Mark
24	C magnetism	(1)

Question number	Answer	Mark
25	C 100°C	(1)

Question number	Answer	Mark
26	D they have a backbone	(1)

Question number	Answer	Mark
27	<p>B</p>  <p>The diagram illustrates the formation of a real, inverted image. On the left, a point labeled 'B' is next to a small black dot representing a 'bright light'. A light ray from this point passes through a small circular hole. The ray continues to the right and strikes a vertical rectangular 'screen'. On the screen, the ray forms a dark, inverted image of the light source. The word 'screen' is written below the diagram.</p>	(1)

Question number	Answer	Mark						
28	<p>Award one mark for each correct line, up to a maximum of two marks.</p> <table><thead><tr><th>Force</th><th></th><th>Direction of the force</th></tr></thead><tbody><tr><td></td><td></td><td></td></tr></tbody></table> <p>Do not award answers with more than one line to and from any of the boxes.</p>	Force		Direction of the force				(2)
Force		Direction of the force						
								

Question number	Answer	Mark																																		
29	<table><tr><th rowspan="2">Seed</th><th colspan="4">Method of dispersal</th></tr><tr><th>animal</th><th>explosion</th><th>water</th><th>wind</th></tr><tr><td>coconut</td><td></td><td></td><td>✓</td><td></td></tr><tr><td>groundsel</td><td></td><td></td><td></td><td>✓</td></tr><tr><td>strawberry</td><td>✓</td><td></td><td></td><td></td></tr><tr><td>tomato</td><td>✓</td><td></td><td></td><td></td></tr><tr><td>vetch</td><td></td><td>✓</td><td></td><td></td></tr></table> <p>3 marks for all four correct. 2 marks for three correct. 1 mark for one or two correct.</p>	Seed	Method of dispersal				animal	explosion	water	wind	coconut			✓		groundsel				✓	strawberry	✓				tomato	✓				vetch		✓			(3)
Seed	Method of dispersal																																			
	animal	explosion	water	wind																																
coconut			✓																																	
groundsel				✓																																
strawberry	✓																																			
tomato	✓																																			
vetch		✓																																		

Question number	Answer	Mark
30	<p>Award one mark for identification of how the wedge helps the lorry travel more easily through the air and one mark for linked expansion.</p> <p>identification: reduces friction/air resistance (1)</p> <p>expansion: because (the wedge makes the lorry) more streamlined (1)</p> <p>Accept any other appropriate response.</p>	(2)

Question number	Answer	Mark
31(a)	10±2 (seconds)	(1)

Question number	Answer	Mark
31(b)	<p>Award one mark for identification of the student with the shortest recovery time and one mark for linked expansion.</p> <p>identification: B has a shorter recovery time, so B is fitter (1)</p> <p>expansion: A's recovery time is 60 seconds and B's recovery time is 40 seconds (1)</p> <p>Accept any other appropriate response.</p>	(2)

Question number	Answer	Mark
32(a)(i)	gravity/weight	(1)

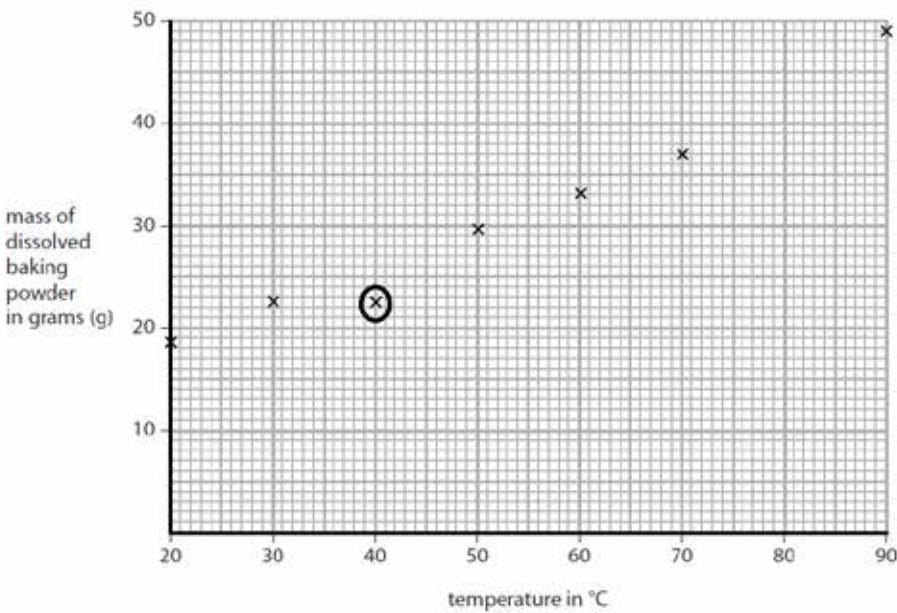
Question number	Answer	Mark
32(a)(ii)	stopwatch/stopclock	(1)

Question number	Answer	Mark
32(b)	Prediction 4: the largest metal ball will travel the fastest	(1)

Question number	Answer	Additional guidance	Mark
32(c)	25 (mm)	Do not accept 2.5/2 ½	(1)

Question number	Answer	Mark
33(a)(i)	(changes) temperature	(1)

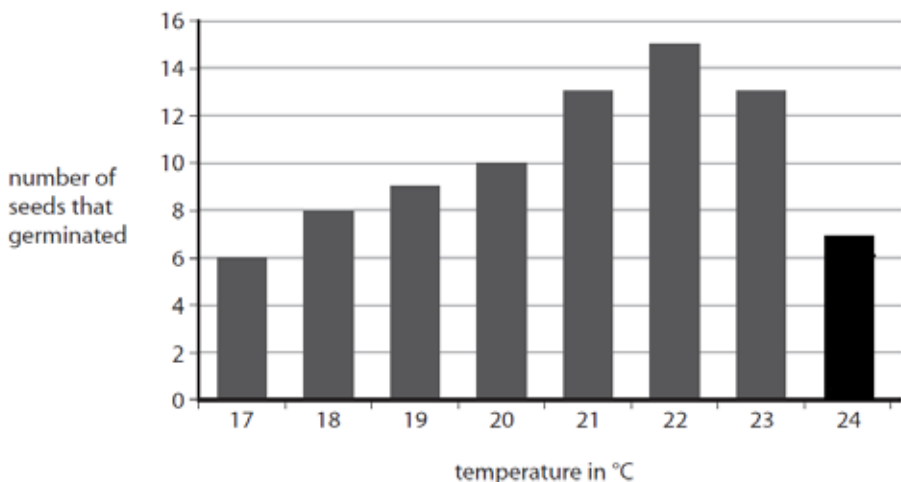
Question number	Answer	Mark
33(a)(ii)	(controls) quantity/amount/volume of water	(1)

Question number	Answer	Mark
33(b)(i)	 <p>(The value at 40°C)</p>	(1)

Question number	Answer	Mark
33(b)(ii)	40±1 (g)	(1)

Question number	Answer	Additional guidance	Mark
33(b)(iii)	<p>Award one mark for each of the following.</p> <p>as the temperature of the water rises, (1) more baking powder dissolves/its solubility increases (1)</p> <p>Accept any other appropriate response.</p>	Accept the reverse – temperature of the water decreases, solubility goes down.	(2)

Question number	Answer	Mark
34(a)	<p>the seeds would not germinate</p> <p>Accept any other appropriate response.</p>	(1)

Question number	Answer	Mark
34(b)(i)	 <p>number of seeds that germinated</p> <p>temperature in °C</p> <p>Ignore the width of the bar</p>	(1)

Question number	Answer	Mark
34(b)(ii)	any value of 6 or less	(1)

Question number	Answer	Mark
34(b)(iii)	<p>Award one mark for any one of the following:</p> <ul style="list-style-type: none"> <li>used same number of (15 pepper) seeds each time</li> <li>used the same amount (5cm<sup>3</sup>) of water each time</li> <li>grown them on the same material</li> <li>same type of (pepper) seeds.</li> </ul> <p>Accept any other appropriate response.</p>	(1)

Question number	Answer	Mark
34(b)(iv)	<p>Award one mark for any one of the following:</p> <ul style="list-style-type: none"> <li>use more seeds per dish/temperature</li> <li>do repeat investigations.</li> </ul> <p>Accept any other appropriate response.</p>	(1)

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