

Write your name here

Surname

Other names

**Edexcel International
Primary Curriculum**

Centre Number

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Candidate Number

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Science

Year 6 Achievement Test

Tuesday 4 June 2013 – Morning
Time: 1 hour

Paper Reference

JSC01/01

You do not need any other materials.

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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PEARSON

SECTION A





Answer ALL questions.

For questions 1 – 9 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 picture shows 4 varieties of flower.

1	
2	
3	
4	

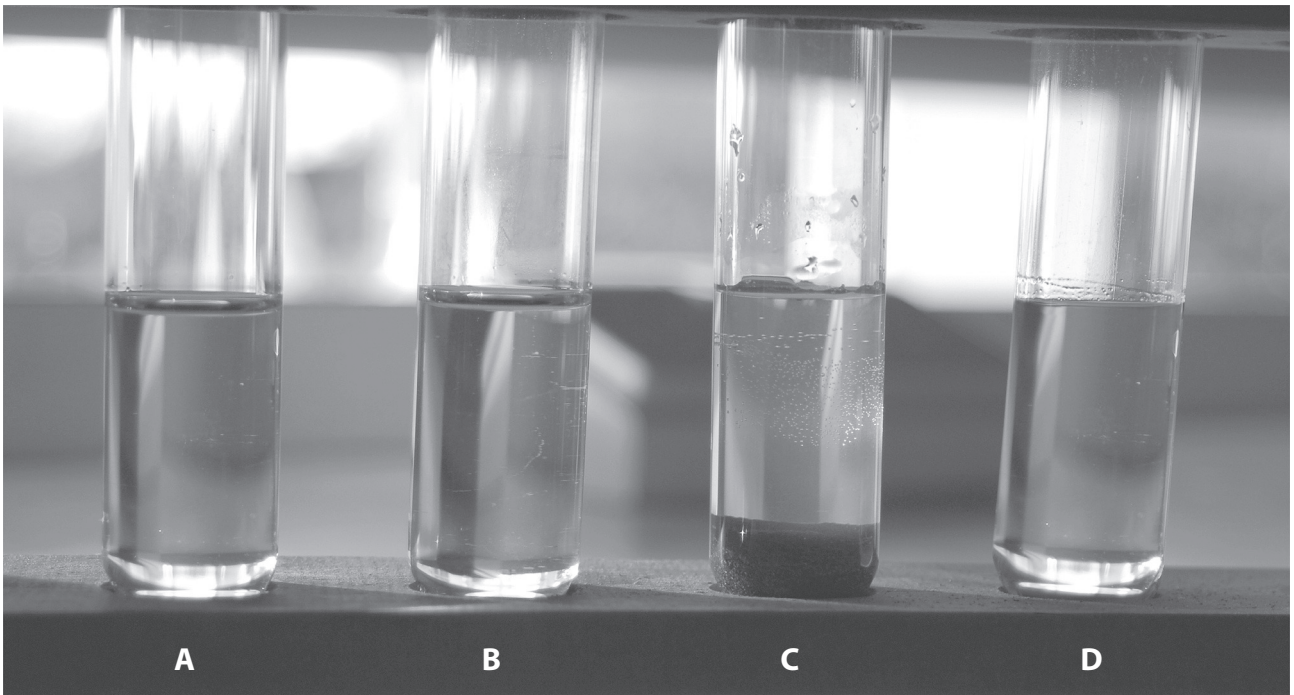
Which two are the most similar?

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

(Total for Question 1 = 1 mark)



2 Connor was testing some solid powders to see if they dissolved. Here are his results.



Which solid did not dissolve?

- A
- B
- C
- D

(Total for Question 2 = 1 mark)

3 The unit of force can be represented by

- A f
- B g
- C J
- D N

(Total for Question 3 = 1 mark)



4 Sharna is looking at bacteria. Which piece of equipment should she use?

<input type="checkbox"/> A hand lens	
<input type="checkbox"/> B binoculars	
<input type="checkbox"/> C microscope	
<input type="checkbox"/> D telescope	

(Total for Question 4 = 1 mark)



5 John is making a clay pot.



Which stage in the process is an example of an irreversible change?

- A cutting the clay
- B wetting the clay
- C shaping the clay
- D baking the clay

(Total for Question 5 = 1 mark)

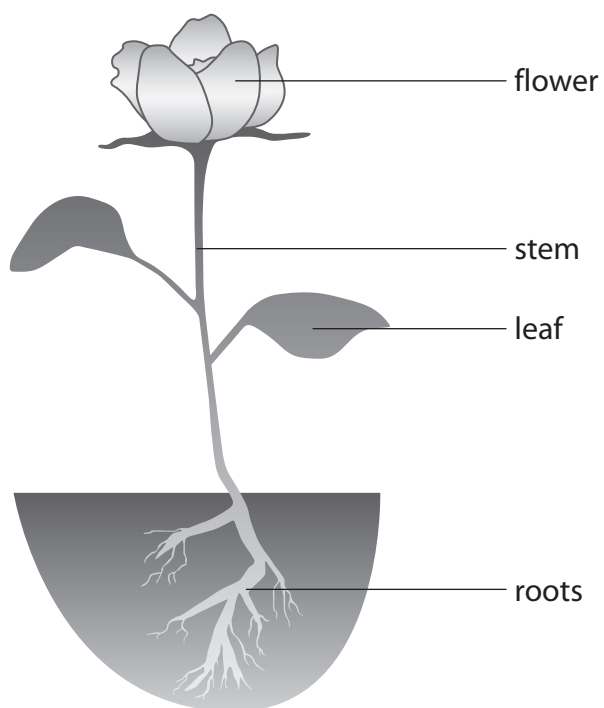
6 Some objects form shadows because they do not allow light to pass through.
We describe these objects as

- A dark.
- B opaque.
- C shiny.
- D transparent.

(Total for Question 6 = 1 mark)



7 Which part of the plant absorbs water?

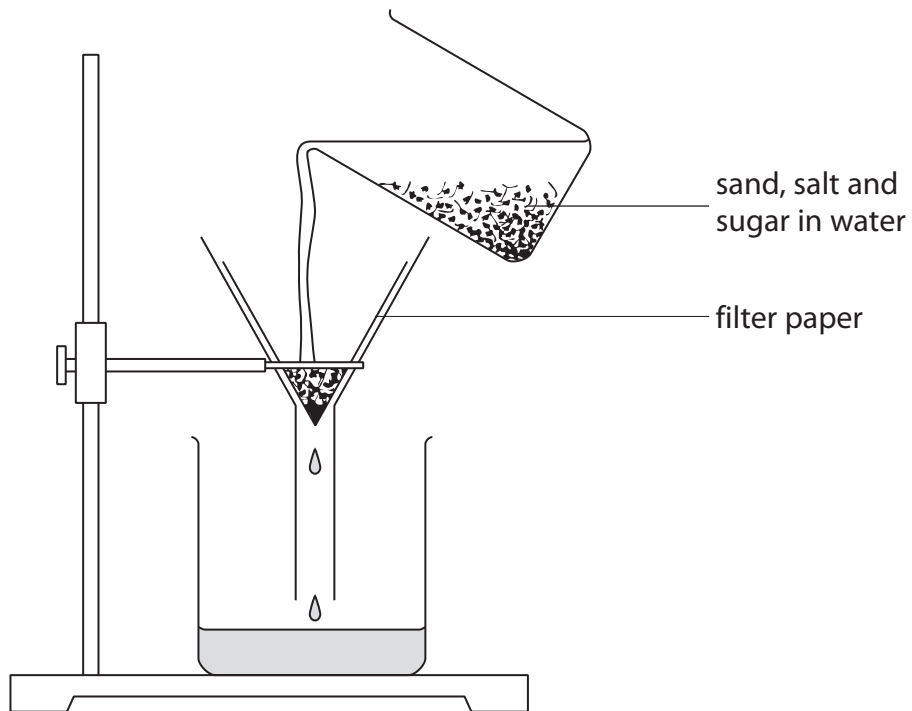


- A flower
- B leaf
- C roots
- D stem

(Total for Question 7 = 1 mark)



- 8 Milo separates a mixture of sand, salt and sugar. He puts the solids into some water and stirs. Then he pours the mixture through filter paper.



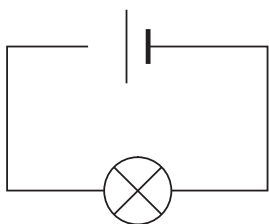
What would he find in the filter paper?

- A sand and salt
- B sugar and salt
- C sand only
- D sugar only

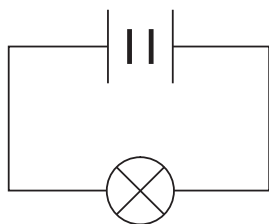
(Total for Question 8 = 1 mark)



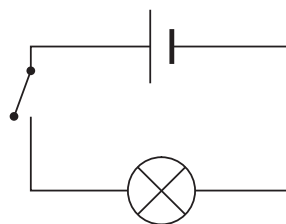
9 In which circuit will the bulb light up?



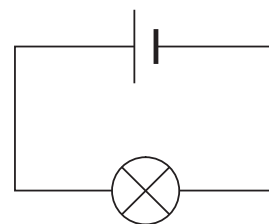
A



B



C



D

- A
- B
- C
- D

(Total for Question 9 = 1 mark)

10 James has a mixture of three solids: sand, sugar and iron filings.

(a) Sand, sugar and iron filings have different properties.

Write "Yes" or "No" in each box to show the correct properties of sand, sugar and iron filings.

(3)

Solid	Properties	
	Dissolves in water	Magnetic
Sand		
Sugar		
Iron filings		

(b) James is now given a solution of salty water.

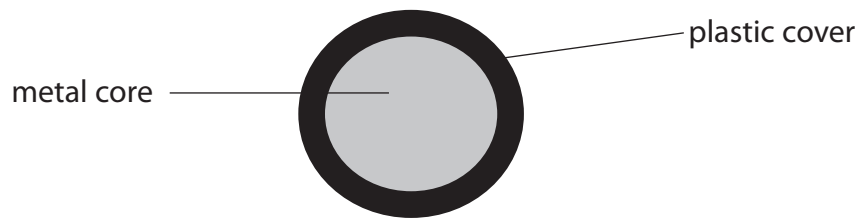
What separation method could James use to get solid salt from the solution?

(1)

(Total for Question 10 = 4 marks)



11 The picture shows a slice through an electrical wire used in a mains circuit.



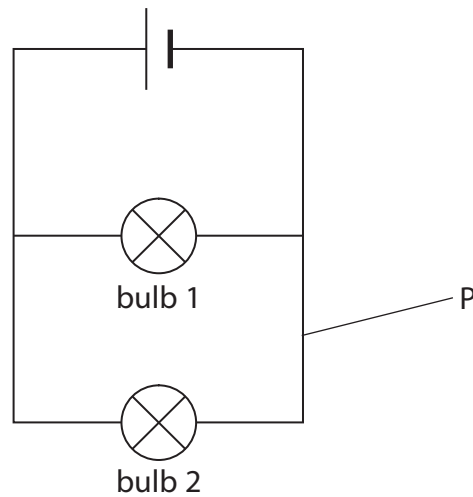
(a) Why does an electrical wire have a metal core?

(1)

(b) Tick the correct box to show what could happen if the wire did not have a plastic cover. (1)

- No electricity would pass through the wire.
- Someone touching the wire might get an electric shock.
- The wire would break.

(c) The electrical wire is then used in the circuit below.



The wire is cut at point P. What will happen to bulb 2?

(1)

(Total for Question 11 = 3 marks)



For questions 12 – 20 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.

12 Which of the following does **not** involve micro-organisms?

- A breathing
- B food production
- C leaf decay
- D spreading disease

(Total for Question 12 = 1 mark)

13 David is making some jelly.



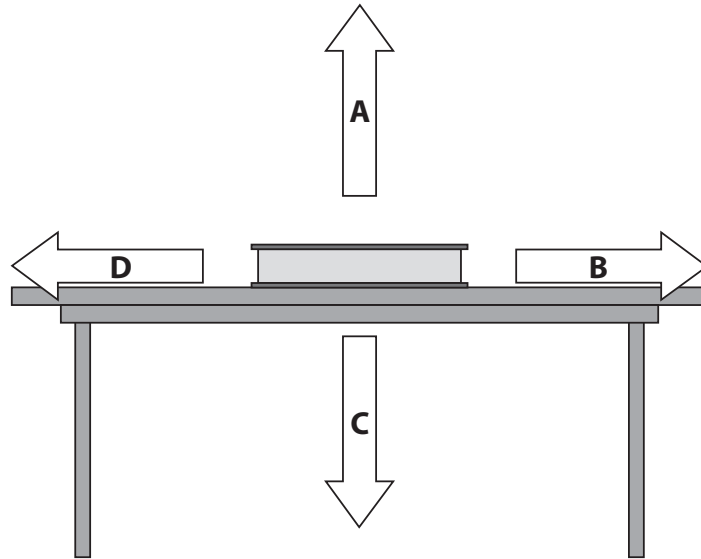
Which would **slow down** the speed of dissolving?

- A Stirring the jelly faster.
- B Using jelly cubes instead of jelly crystals.
- C Using hotter water.
- D Using very fine jelly crystals.

(Total for Question 13 = 1 mark)



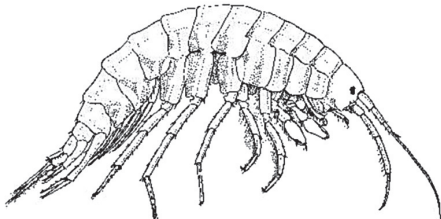
14 Which arrow shows the weight of the book?



- A
- B
- C
- D

(Total for Question 14 = 1 mark)

15 A student is given a fact card and a picture of an unknown animal.



- This animal eats tiny fish.
- It likes to burrow in sand or hide in dark places.
- It likes still or slow moving water that is not salty.

Which habitat would be most suitable for this animal?

- A fast flowing river
- B ocean
- C pond
- D rockpool by the sea

(Total for Question 15 = 1 mark)

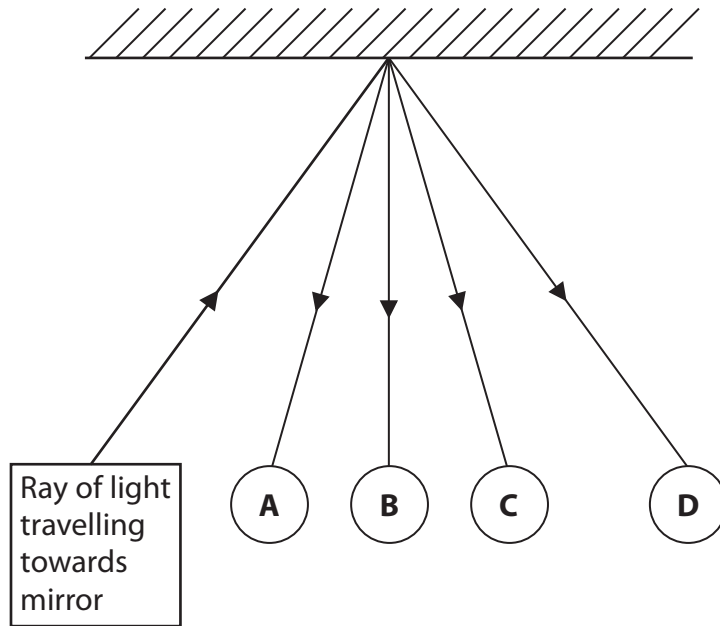


16 Which cooking process is an example of a reversible change?

- A baking a cake
- B boiling an egg
- C frying a sausage
- D melting some butter

(Total for Question 16 = 1 mark)

17 Which ray of light shows the correct reflection from the mirror?

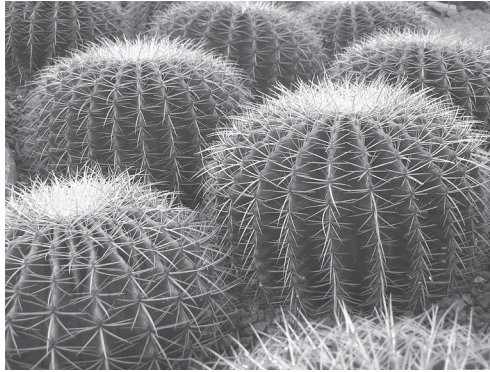


- A
- B
- C
- D

(Total for Question 17 = 1 mark)



18 A cactus has tiny spikes instead of leaves and a very thick stem to store water.



What kind of habitat would a cactus be found in?

- A** desert
- B** grassland
- C** swampland
- D** woodland

(Total for Question 18 = 1 mark)

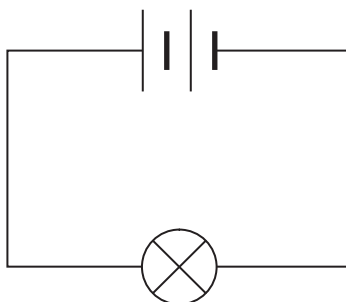
19 Flour and water can be separated by

- A** filtering.
- B** freezing.
- C** magnetism.
- D** sieving.

(Total for Question 19 = 1 mark)



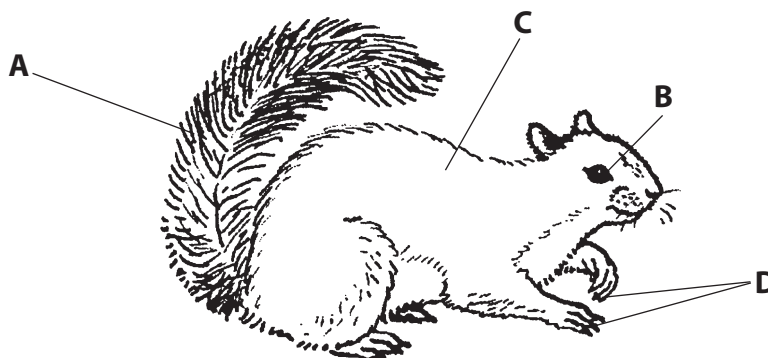
20 Which change in the circuit will make the bulb brighter?



- A increasing the number of bulbs
- B increasing the number of cells
- C reducing the thickness of the wire
- D reducing the number of cells

(Total for Question 20 = 1 mark)

21 Some features of a squirrel are labelled in the diagram.



Use the letters **A**, **B**, **C** or **D** to answer each question.

(a) Which feature allows the squirrel to hold tightly on to the tree bark? (1)

(b) Which feature helps the squirrel to balance as it runs along branches? (1)

(c) Which feature allows the squirrel to look for food such as nuts and seeds? (1)

(Total for Question 21 = 3 marks)



22 This question is about electricity.

Write the word from the box which is being described in each sentence.

(3)

voltmeter	ammeter	current	voltage	buzzer	cell
-----------	---------	---------	---------	--------	------

This piece of equipment provides the energy in an electrical circuit.

This describes the flow of electricity in a circuit.

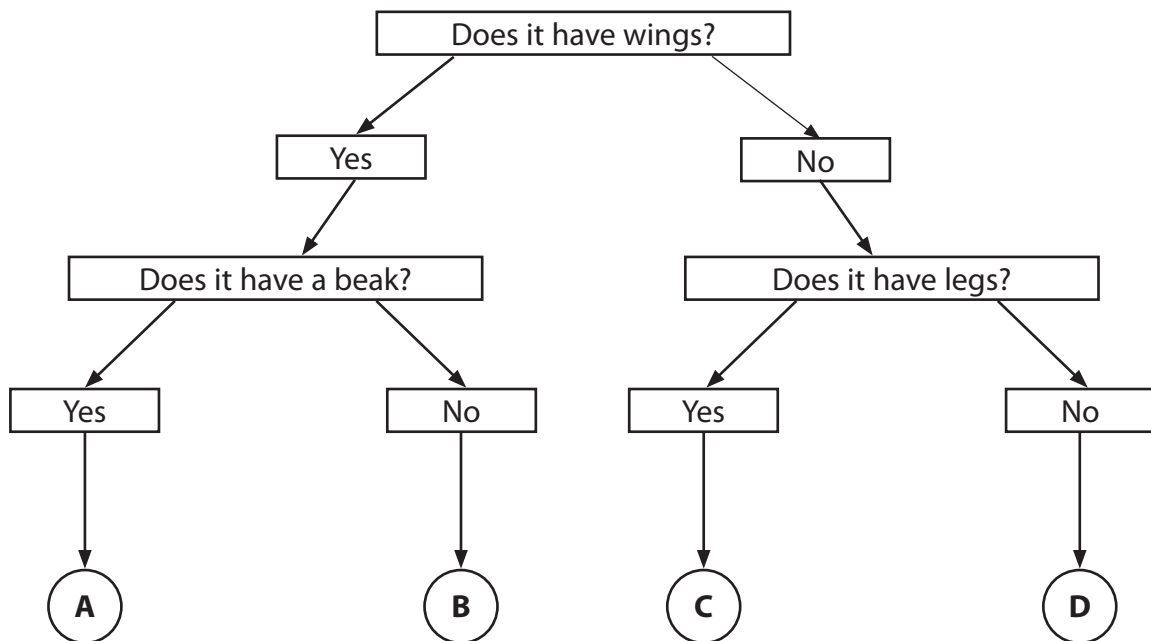
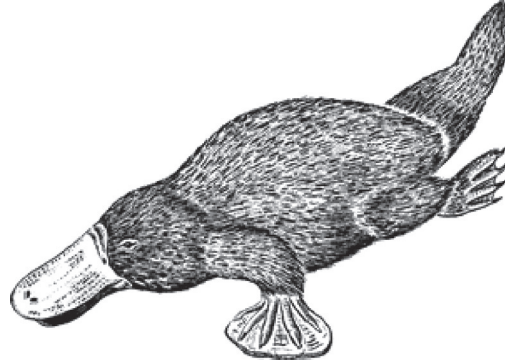
This piece of equipment is used to measure current.

(Total for Question 22 = 3 marks)



For questions 23 – 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.

23 A student uses an animal identification key to identify the animal in the picture.



Which animal is shown in the picture?

- A
- B
- C
- D

(Total for Question 23 = 1 mark)



24 The picture shows a food chain.



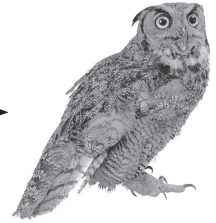
plant



insect



mouse



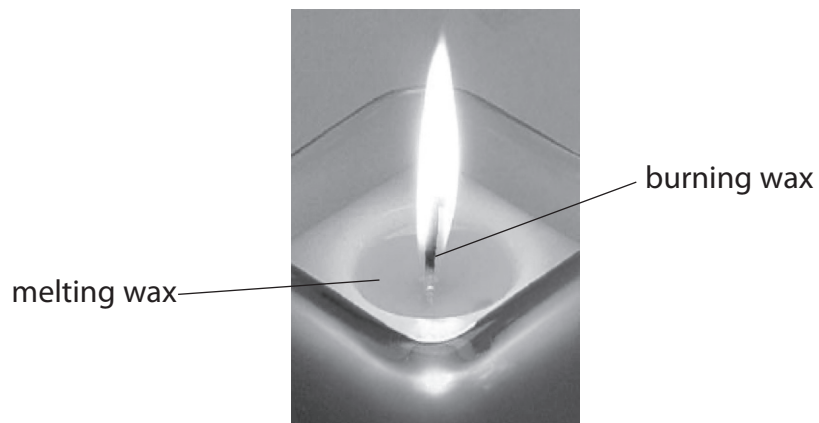
owl

Which is the correct list of all the consumers in the chain?

- A plant, insect and owl
- B insect and mouse
- C mouse and owl
- D insect, mouse and owl

(Total for Question 24 = 1 mark)

25 Which row in the table correctly describes the changes that happen when a candle burns?



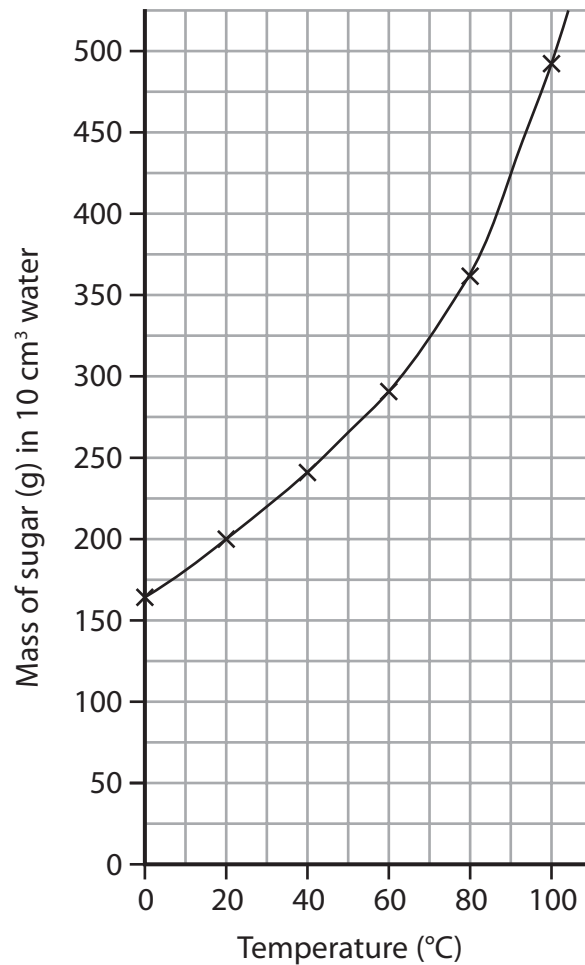
	Burning wax	Melting wax
<input type="checkbox"/> A	a reversible change	an irreversible change
<input type="checkbox"/> B	a reversible change	a reversible change
<input type="checkbox"/> C	an irreversible change	an irreversible change
<input type="checkbox"/> D	an irreversible change	a reversible change

(Total for Question 25 = 1 mark)



26 Ahmed investigated the solubility of sugar in water at different temperatures.

He plotted a graph of his results.



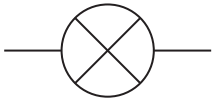

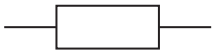
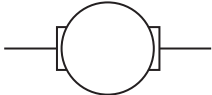
How much sugar dissolved at 70 °C?

- A 300 g
- B 325 g
- C 350 g
- D 375 g

(Total for Question 26 = 1 mark)



27 Which picture shows the circuit symbol for a buzzer?

<input checked="" type="checkbox"/> A	
<input checked="" type="checkbox"/> B	
<input checked="" type="checkbox"/> C	
<input checked="" type="checkbox"/> D	

(Total for Question 27 = 1 mark)

28 The Sun shines on the beach. Which statement is true?



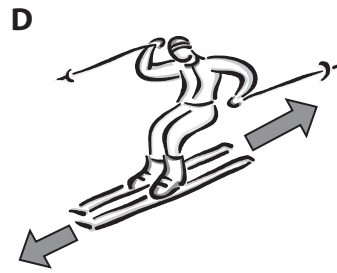
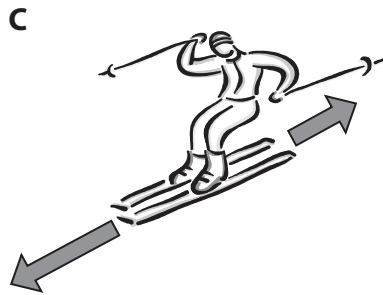
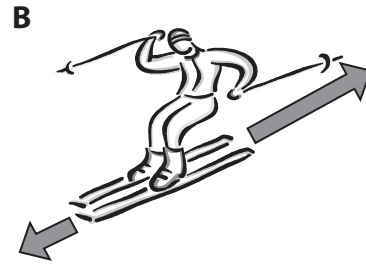
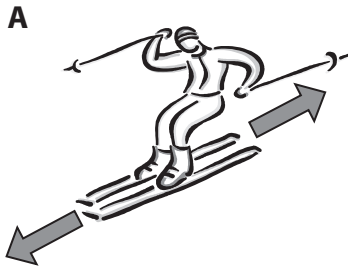
- A The Sun reflects light.
- B The beach produces light.
- C The beach reflects light.
- D The Sun absorbs light.

(Total for Question 28 = 1 mark)



29 A skier is travelling down a slope.

Which picture shows that the forces on the skier are balanced?

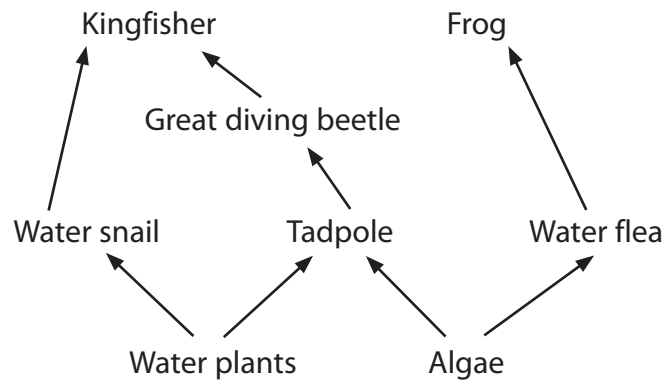


- A
- B
- C
- D

(Total for Question 29 = 1 mark)



30 (a) The picture shows a food web for a pond habitat.



(i) Name one animal which is a herbivore.

(1)

(ii) Name one animal which is a carnivore.

(1)

(b) One type of water plant is a water lily. Water lilies grow best in the middle of a pond away from overhanging trees and other plants. What could be the reason for this?

(1)

(c) Nitrates are taken in through the roots of a plant.

Suggest what effect increasing the level of nitrates in the pond water will have on the water lily.

(1)

(Total for Question 30 = 4 marks)



31 The picture shows a bottle of salad dressing.



(a) Salad dressing is a mixture. Explain what a mixture is.

(2)

A mixture is.....
.....
.....

(b) What type of mixture is salad dressing an example of?

(1)

.....

(Total for Question 31 = 3 marks)

TOTAL FOR SECTION A = 45 MARKS



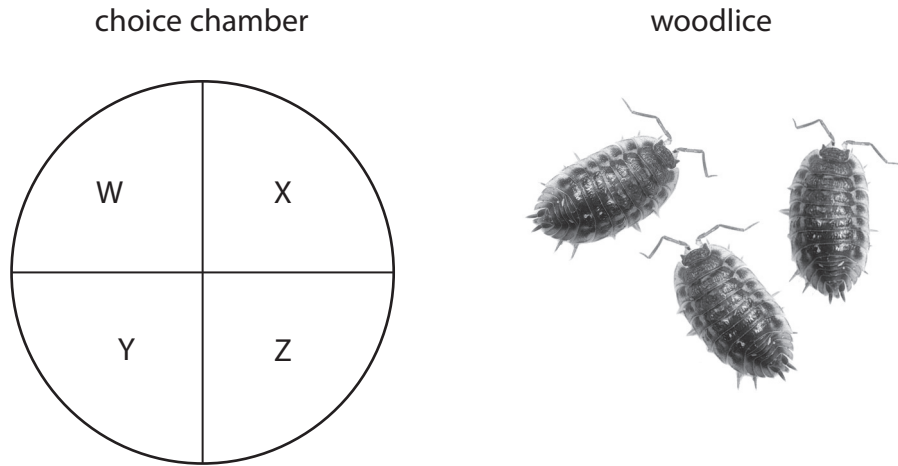
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SECTION B

Answer ALL questions.

- 32 Some pupils set up a choice chamber to act as a habitat for woodlice. The choice chamber has four sections W, X, Y, Z. Each section represents a different habitat.



W = dry and light	X = damp and light
Y = dry and dark	Z = damp and dark

- (a) What **two** variables are being investigated in the choice chamber?

(2)

- 1
- 2

- (b) The pupils released 30 woodlice into the choice chamber. After five minutes they counted how many woodlice were in each section. Here are their results.

We found 2 woodlice in section W. Section X had 6 woodlice and section Y had 3 woodlice. The most woodlice were in section Z where there were 19.



Draw a table to show the pupils' results.

(2)

--

(c) What conclusion could the pupils make from their results?

(1)

.....

.....

.....

.....

(d) Suggest one way in which the pupils could make sure they have more reliable results.

(1)

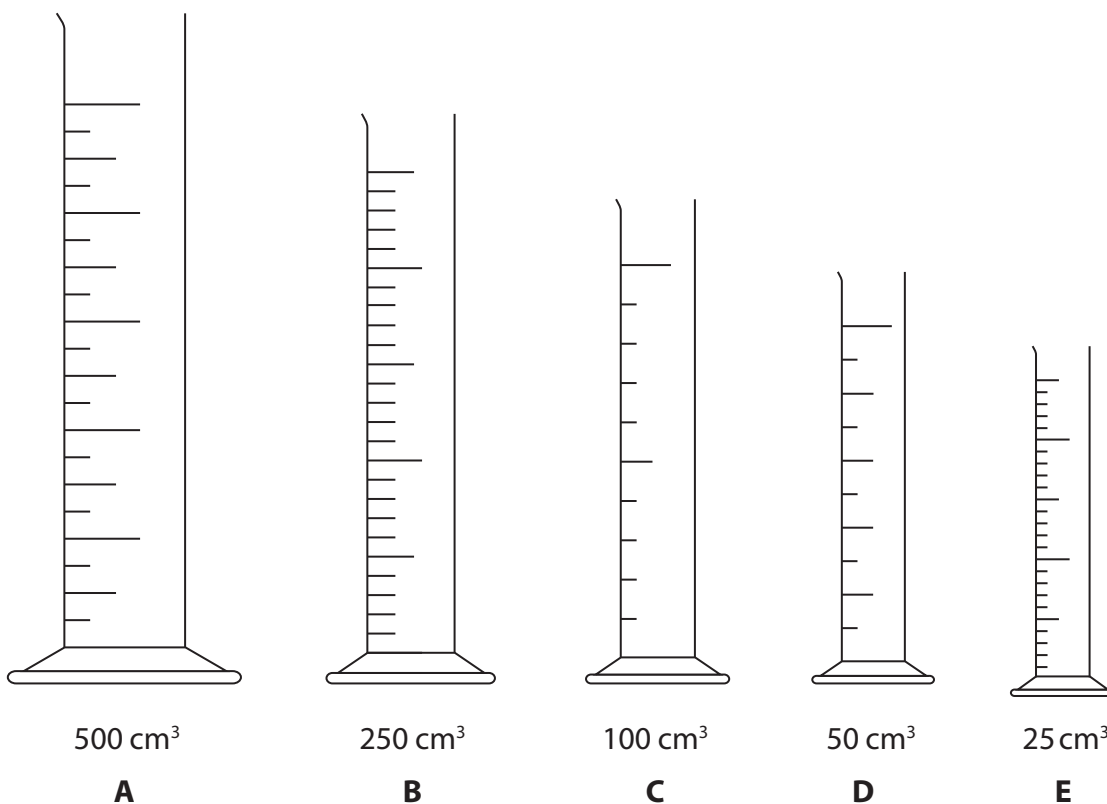
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(Total for Question 32 = 6 marks)



33 Charlotte dissolves some salt in 70 cm³ of water in a beaker.

(a) Which measuring cylinder should Charlotte use to measure the water?



Measuring cylinder

(1)

(b) During her experiment Charlotte makes several weighings and records them in a table.

Mass of empty beaker	50 g
Mass of 70 cm ³ of water	70 g
Mass of water, salt and beaker	121 g
Mass of salt

Calculate the mass of salt. Write your answer in the table.

(1)



(c) Suggest **two** ways in which Charlotte could have made the salt dissolve faster in the water.

(2)

1

.....

2

.....

(Total for Question 33 = 4 marks)



P 4 3 7 1 2 A 0 2 7 3 2

34 Some pupils are investigating the materials that are used to make fabric shopping bags. Each pupil writes a question about the bags.

These are the questions from four of the pupils.

Annie writes
"Which is the heaviest material?"



Sam writes
"How waterproof is the material?"



Faris writes
"How strong is the material?"



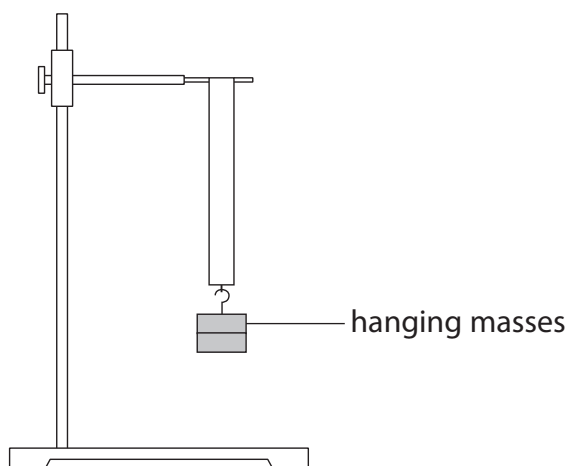
Carla writes
"Which is the best material?"



(a) Which pupil has written a question that **cannot** be tested scientifically?

(1)

The pupils cut each material into strips. They test which material is strongest by hanging masses on each strip.



They write down the mass that caused each strip of material to break.



(b) Write down **two** variables that need to be kept the same to make it a fair test.

(2)

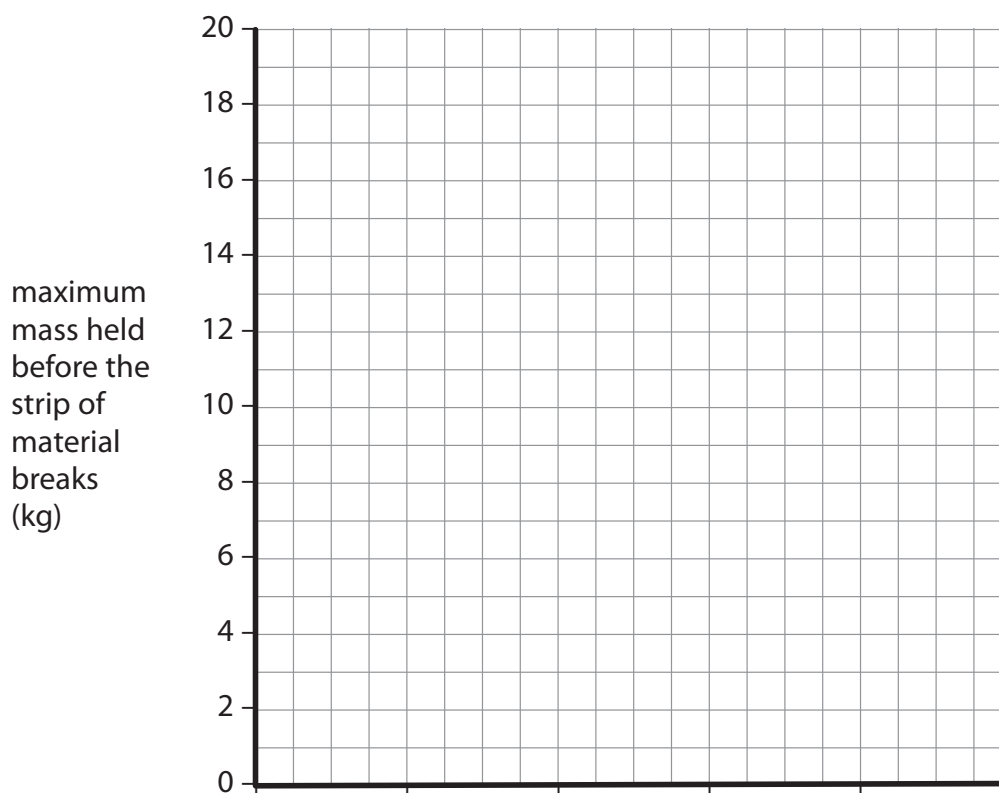
1

2

This table shows their results.

Type of fabric	Maximum mass held (kg)
Hessian	17
Calico	14
Cotton	12
Polyester	16

(c) Draw a bar chart of these results.



(2)

(Total for Question 34 = 5 marks)

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



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