

Sc

Science test

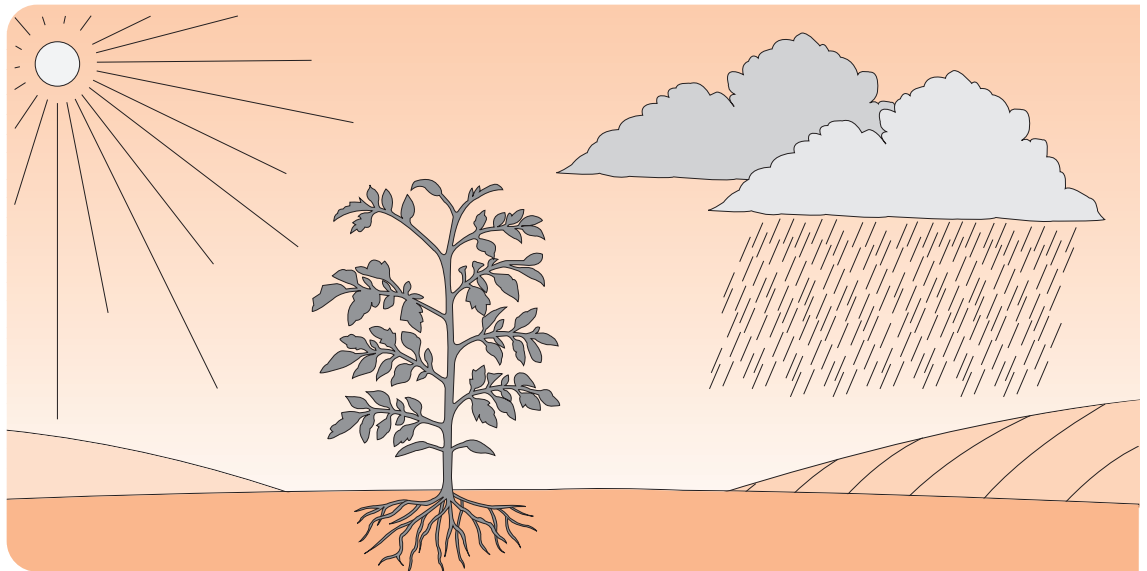
KEY STAGE
2LEVELS
3–5

Test B

First name _____

Last name _____

School _____



2008

For marker's use only

Page	Marks
5	
7	
9	
11	
13	
15	
17	
19	
TOTAL	

INSTRUCTIONS

Read this carefully.

You have **45 minutes** for this test.

Answers



This pencil shows where you will need to put your answer.

For some questions you may need to draw an answer instead of writing one.

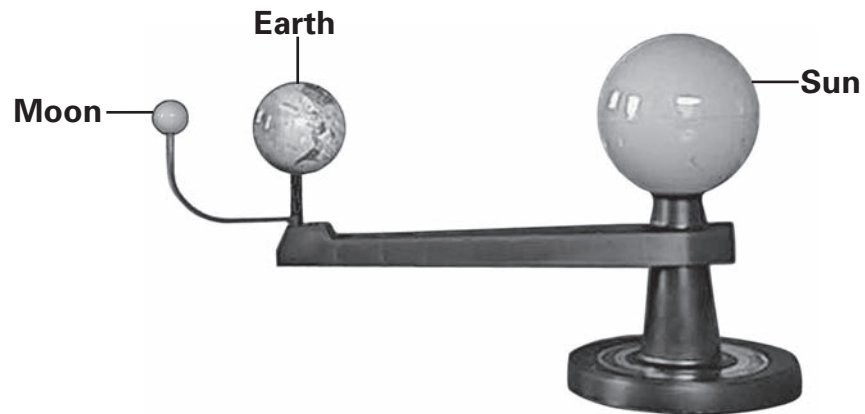
Some questions may have a box like this for you to write down your thoughts and ideas.

A large, empty rounded rectangular box intended for students to write their thoughts and ideas.

1

The Earth, Moon and Sun

- (a) The picture below shows a model of the Earth, Moon and Sun.



Tick **ONE** box to show the shape of the Earth, Moon and Sun in space.



cylinder

sphere

oval

circle

 1a
1 mark

- (b) Complete the sentences below by writing **Earth, Moon** or **Sun**.



The is a source of light.

The orbits the Sun.

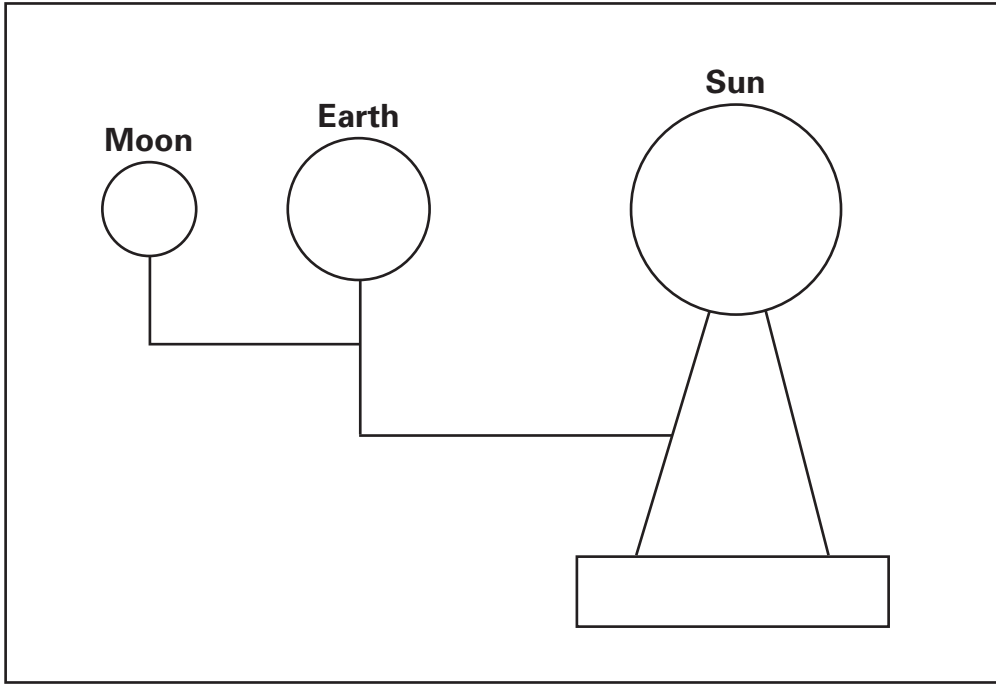
The has an orbit of 28 days.

 1bi
1 mark

 1bii
1 mark

(c) The diagram below shows the model of the Earth, Moon and Sun.

On the diagram, shade in the part of the **Earth** where it is night.



1c
1 mark

(d) Describe how the Earth moves to cause day and night.



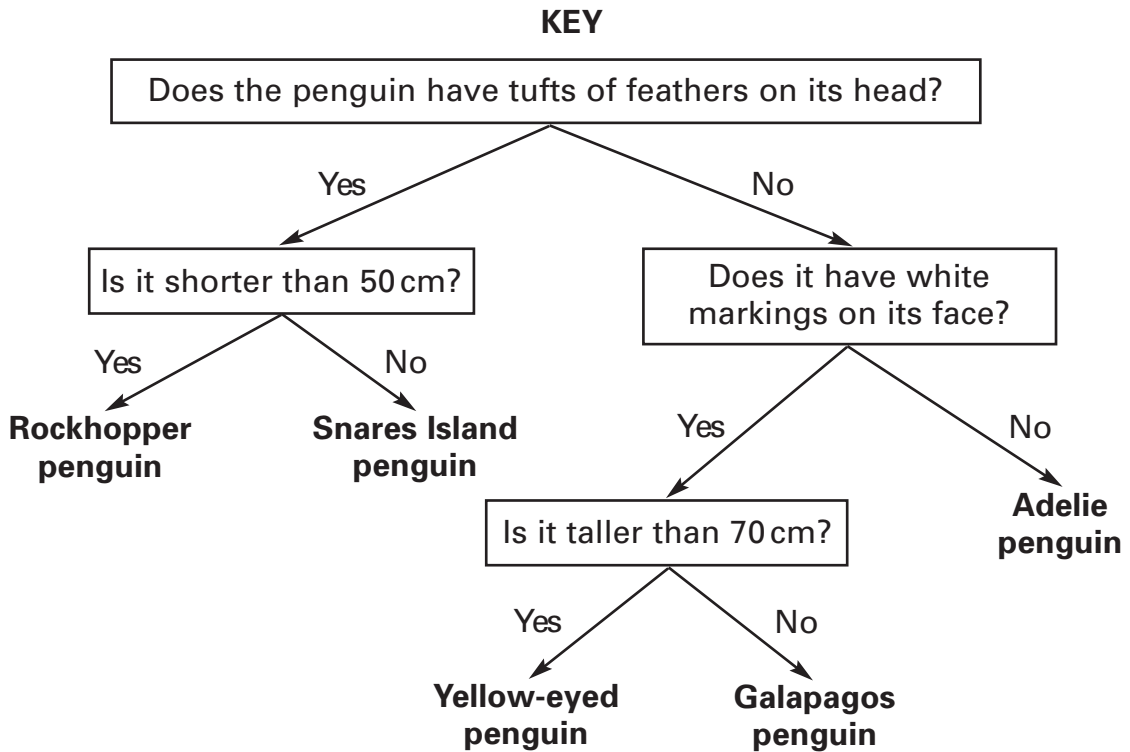
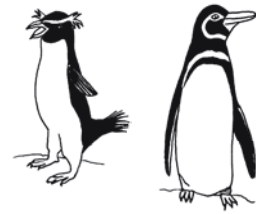
.....
.....

1d
1 mark

2

Penguins

(a) The key below can be used to identify penguins.



Use the key to identify the penguin below.

1 mark 2a

45 cm

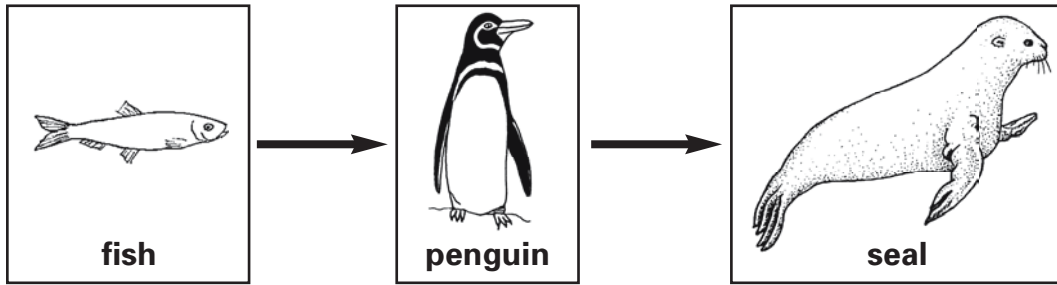
This is a penguin.

(b) Tick **ONE** box to show the best reason for identifying animals.

1 mark 2b

- | | | | |
|---|--------------------------|--------------------------------------|--------------------------|
| so you can find out what scientific group they are in | <input type="checkbox"/> | so you can compare them with plants | <input type="checkbox"/> |
| so you can learn about the country they live in | <input type="checkbox"/> | so you can measure how tall they are | <input type="checkbox"/> |

(c) Look at the part of the penguins' food chain below.



(i) Tick **ONE** box to show which life process the food chain shows.



movement

nutrition

growth

reproduction

2ci

1 mark

(ii) A fish is **not** a producer.

Explain why a fish **cannot** be a producer.



.....

.....

2cii

1 mark

(d) Give **ONE** feature of a penguin and describe how it helps a penguin to live in its environment.



Feature:

How the feature helps:

.....



2d

1 mark

3

Electricity

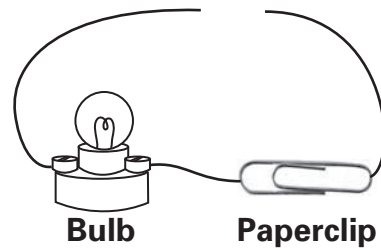
- (a) Peter is making a circuit with a bulb. He wants to use the circuit to find out if a metal paperclip allows electricity to pass through.

What name is given to the property of metals that allows electricity to pass through?

3a
1 mark



- (b) This is Peter's circuit:



Name the **ONE** piece of equipment Peter **must** add to his circuit to see if the paperclip allows electricity to pass through.


3b
1 mark



- (c) Peter can tell from his circuit that the paperclip allows electricity to pass through.

What happens in Peter's circuit to show him that the paperclip allows electricity to pass through?

3c
1 mark



(d) Peter tests four more objects in his circuit.



Metal coin



Iron nail



Plastic ruler



Steel spoon

Only **one** object does **not** allow electricity to pass through.
He puts his results in a table.

Write **yes** or **no** in each box of the table to show if electricity passes through each object.



Name of object	Paper-clip	Metal coin	Iron nail	Plastic ruler	Steel spoon
Does electricity pass through?	yes				

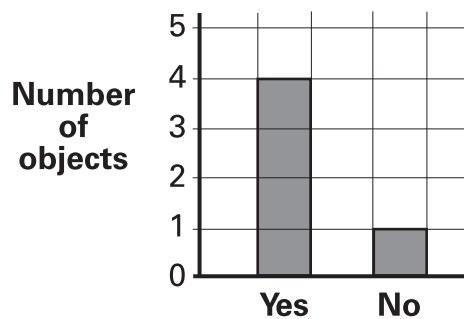
3di

1 mark

3dii

1 mark

(e) Peter draws a bar chart to show his results.



Does electricity pass through?

Peter says 'The table is better than the bar chart to show my results. It gives me extra information.'

Look carefully at the table and bar chart.

What extra information does the table give?



.....

.....

3e

1 mark

4

Hot drinks

(a) Class 6H want to find the best cup to keep drinks hot.

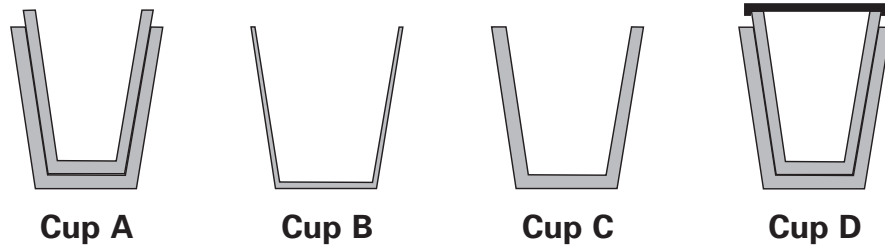
Tick **ONE** box to show which property is most important when choosing the best cup to keep a drink **hot**.



strong <input type="checkbox"/>	flexible <input type="checkbox"/>	transparent <input type="checkbox"/>
hard <input type="checkbox"/>	insulating <input type="checkbox"/>	waterproof <input type="checkbox"/>

4a
1 mark

(b) The class use the cups shown below. The cups are all made from the same material.



Write **A**, **C** or **D** in each row of the table below to show which cup gave each set of results.

Cup B has been done for you.



Cup	Temperature (°C) at...		
	0 mins	15 mins	30 mins
.....	70	64	60
.....	70	59	54
.....	70	53	46
B	70	49	40

4b
1 mark

(c) Look at the pictures of the cups. Cup B cooled the quickest.

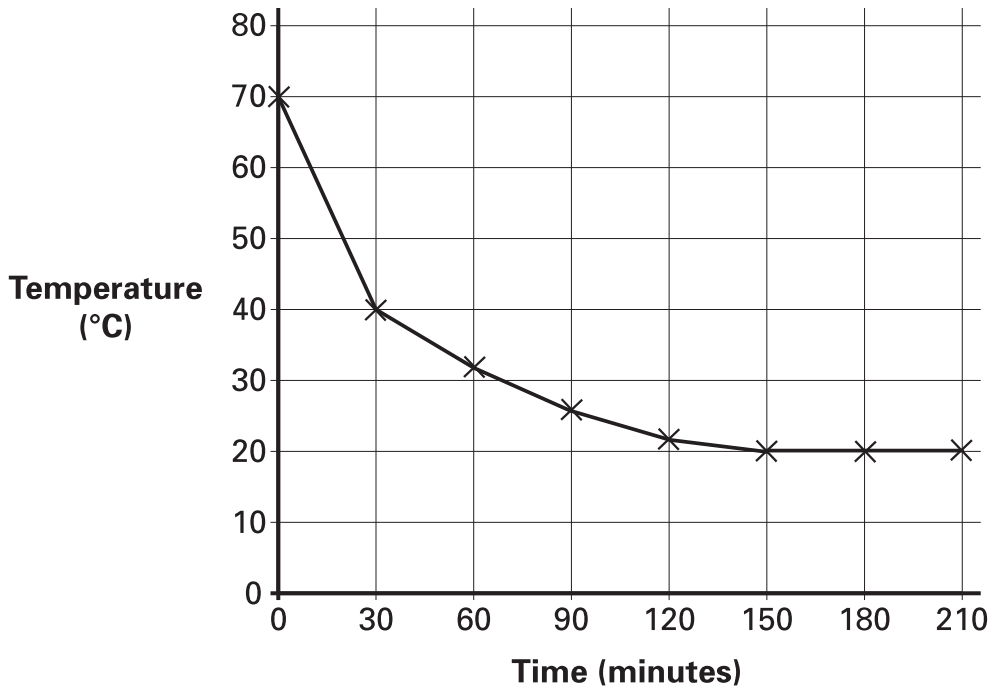
Explain why cup B cooled the quickest.



.....

4c
1 mark

(d) The class measure the temperature of the drink in one of the cups for a longer time. The graph below shows their results.



Look at the graph.

(i) After how many minutes did the drink stop cooling down?



..... minutes

4di
1 mark

(ii) Explain why the drink stopped cooling down.



.....
.....

4dii
1 mark

5

Flowering plants

(a) The pictures below show different types of flowering plant.

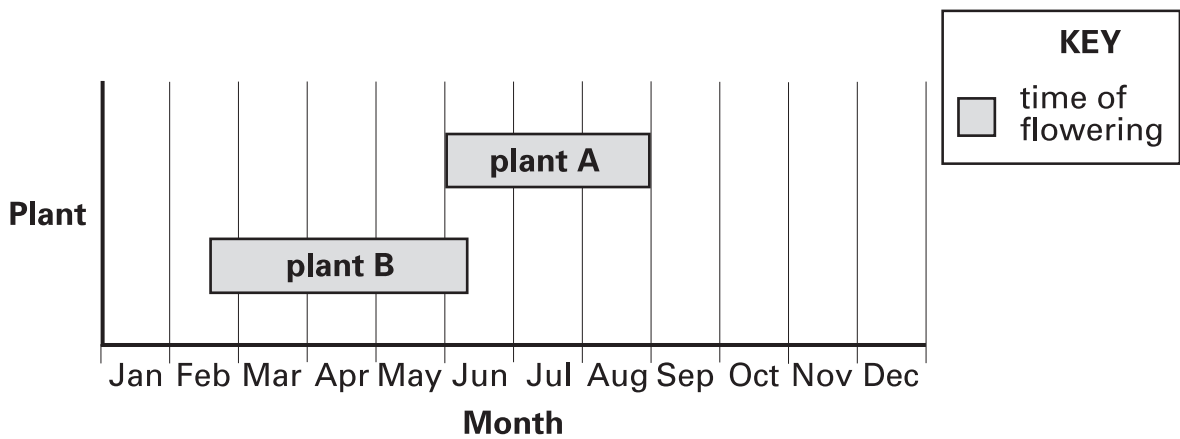
Write the **THREE** missing labels to show the names of the plant parts.

5a

1 mark

The diagram shows two plants. Plant A is a tall plant with long, narrow leaves and a central stalk with small flowers. Plant B is a shorter, bushier plant with heart-shaped leaves and several larger flowers. Lines connect the plants to four boxes in the center. The top box is labeled 'flower'. The other three boxes are empty and have a dotted line at the bottom. A pencil icon is in the top left corner of the diagram area.

(b) Different plants flower at different times of the year. The chart below shows the time of year plant A and plant B flower.



In which month are **both** plant A and plant B flowering?

5b

1 mark

.....

(c) Flowers help plants to carry out a life process.


What life process do flowers help plants to carry out?



5c
1 mark

(d) The flowers of plant A and plant B produce pollen.


Tick **ONE** box to show which part of the flower produces pollen.

 ovary petal
stigma stamen

5d
1 mark

(e) Look at the pictures of plant A and plant B.
They are pollinated in different ways.

(i) Tick **ONE** box to show which plant is most likely to be pollinated by insects.

 plant A plant B

(ii) Explain why the plant you chose is most likely to be pollinated by insects.


.....

5e
1 mark

6

School pond

- (a) Class 6G are investigating the effect of the water cycle on the depth of the school pond.
They measure the depth of the pond every Friday for seven weeks.

Here is the table of their results:

Week	Depth of water in school pond (cm)
1	50
2	50
3	47
4	49
5	44
6	44
7	41

- (i) What type of weather could make the pond water deeper?

6ai
1 mark



- (ii) In which week did the class record in the table that the pond water got deeper?

6aii
1 mark

 week

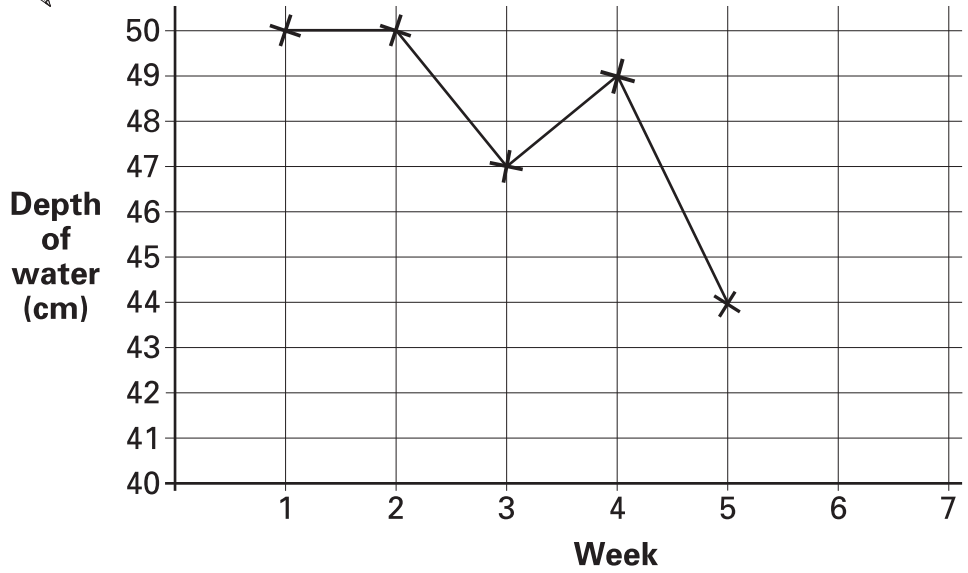
- (b) Which scientific process caused the depth of the pond water to decrease?

6b
1 mark



(c) Class 6G plot their results on a graph.

Complete the graph by plotting the results for weeks 6 and 7.
Use the table to help you.



6c
1 mark

(d) The water depth decreased most when the weather was hottest.

Tick **ONE** box to show between which weeks the weather was hottest.



weeks 2 and 3

weeks 3 and 4

weeks 4 and 5

weeks 6 and 7

6d
1 mark

(e) The pond investigation only showed what happens to water in part of the water cycle.

Name the process that forms clouds from water vapour in the sky.



.....

6e
1 mark

7

Shoes

Emma needs to buy some new shoes for the winter.

You must help Emma find out which are best for walking to school.



Emma could find out:

- how **waterproof** the shoes are
- OR**
- how good the shoes are at **gripping**.

Plan an investigation to help Emma find out more about her shoes.

Write **ONE** question you could investigate to find the best shoes for walking to school in winter.



(a) What **ONE** factor should you change as you do your investigation?



.....

7a
1 mark

(b) What factor would you observe or measure in your investigation?



.....

.....

7b
1 mark

(c) What is **ONE** factor you should keep the same to make your test fair?



.....

7c
1 mark

(d) Explain why the factor you chose to observe or measure is **important** for deciding the best shoes to wear in winter.



.....

.....

7d
1 mark

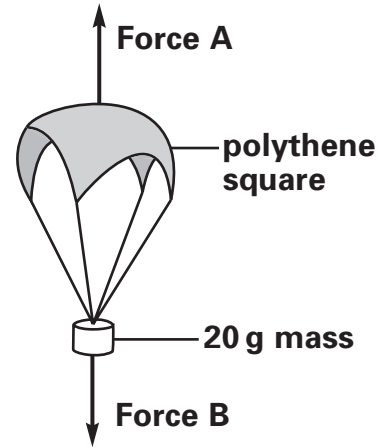
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8

Parachutes

- (a) James makes a parachute out of a square piece of polythene. He attaches it to a 20 g mass.

He drops the parachute. The main forces acting on the parachute are shown in this diagram.



What is the name of force A?

8a
1 mark

.....

- (b) James and Aneesa make three more parachutes using different sizes of polythene squares. They attach a 20 g mass to each parachute. They drop all four parachutes from the same height. They record the time taken for each parachute to fall to the ground.

Area of parachute (cm ²)	Time taken to fall (seconds)
9	1.7
16	2.4
25	3.5
36	5.3

Describe the relationship between the **area of the parachute** and the **time taken** for the parachute to fall to the ground.

8b
1 mark

.....
.....

- (c) James drops a 20 g mass from the same height with no parachute. Aneesa records the time it takes the mass to fall.



Aneesa

The mass with no parachute fell faster than a mass with a parachute.

Tick **ONE** box to show why the mass with no parachute fell fastest.



The mass with no parachute...

is heavier.

has less upwards force on it.

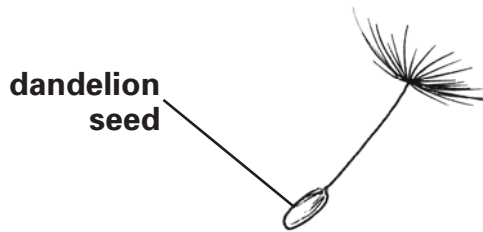
is more solid.

has a bigger downwards force on it.

8c

1 mark

- (d) In nature, a dandelion seed has a parachute-like structure attached to it.



How is the dandelion seed usually dispersed?



.....

8d

1 mark

END OF TEST

Please check your answers