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) 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
- oval
- sphere
- circle

(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.
(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.

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

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.................................................................................................................
Penguins

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

KEY

Does the penguin have tufts of feathers on its head?

Yes

Is it shorter than 50 cm?

Yes

Rockhopper penguin

No

Snares Island penguin

No

Does it have white markings on its face?

Yes

Is it taller than 70 cm?

Yes

Yellow-eyed penguin

No

Galapagos penguin

No

Adelie penguin

Use the key to identify the penguin below.

45 cm

This is a ...................................................... penguin.

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

so you can find out what scientific group they are in

so you can compare them with plants

so you can learn about the country they live in

so you can measure how tall they are
(c) Look at the part of the penguins’ food chain below.

![Food Chain Diagram]

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

- movement [ ]
- nutrition [ ]
- growth [ ]
- reproduction [ ]

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

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

......................................................................................................
......................................................................................................

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

Feature: ...................................................

How the feature helps: ..........................
..................................................................
..................................................................
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?

..................................................................................................................

(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.

..................................................................................................................

(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?

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

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.

<table>
<thead>
<tr>
<th>Name of object</th>
<th>Paper-clip</th>
<th>Metal coin</th>
<th>Iron nail</th>
<th>Plastic ruler</th>
<th>Steel spoon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does electricity pass through?</td>
<td>yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

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?

.................................................................................................................
.................................................................................................................

Total out of 6
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
- flexible
- hard
- insulating
- transparent
- waterproof

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

Cup A
Cup B
Cup C
Cup D

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...
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0 mins</td>
</tr>
<tr>
<td>...........</td>
<td>70</td>
</tr>
<tr>
<td>...........</td>
<td>70</td>
</tr>
<tr>
<td>...........</td>
<td>70</td>
</tr>
<tr>
<td>B</td>
<td>70</td>
</tr>
</tbody>
</table>
(c) Look at the pictures of the cups. Cup B cooled the quickest.

Explain why cup B cooled the quickest.

.................................................................................................................................

(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

(ii) Explain why the drink stopped cooling down.

............................................................................................................

............................................................................................................

............................................................................................................
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.

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

What life process do flowers help plants to carry out?

................................................................. 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

......................................................... 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.

........................................................................................................................................ 1 mark
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:

<table>
<thead>
<tr>
<th>Week</th>
<th>Depth of water in school pond (cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>50</td>
</tr>
<tr>
<td>2</td>
<td>50</td>
</tr>
<tr>
<td>3</td>
<td>47</td>
</tr>
<tr>
<td>4</td>
<td>49</td>
</tr>
<tr>
<td>5</td>
<td>44</td>
</tr>
<tr>
<td>6</td>
<td>44</td>
</tr>
<tr>
<td>7</td>
<td>41</td>
</tr>
</tbody>
</table>

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

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

..........................................................................................................

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

.............................................................................................................
(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.

![Graph with depth of water in cm against weeks]

(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

(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.

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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?

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

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

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

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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?

(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.

<table>
<thead>
<tr>
<th>Area of parachute (cm(^2))</th>
<th>Time taken to fall (seconds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>1.7</td>
</tr>
<tr>
<td>16</td>
<td>2.4</td>
</tr>
<tr>
<td>25</td>
<td>3.5</td>
</tr>
<tr>
<td>36</td>
<td>5.3</td>
</tr>
</tbody>
</table>

Describe the relationship between the area of the parachute and the time taken for the parachute to fall to the ground.
(c) James drops a 20 g mass from the same height with no parachute. Aneesa records the time it takes the mass to fall.

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.  
- is more solid.  
- has less upwards force on it.  
- has a bigger downwards force on it.

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

How is the dandelion seed usually dispersed?
END OF TEST

Please check your answers