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3760610091

ENVIRONMENTAL MANAGEMENT **0680/13**

Paper 1 Theory **October/November 2025**

1 hour 45 minutes

You must answer on the question paper.

No additional materials are needed.

INSTRUCTIONS

- Answer **all** questions.
- Use a black or dark blue pen. You may use an HB pencil for any diagrams or graphs.
- Write your name, centre number and candidate number in the boxes at the top of the page.
- Write your answer to each question in the space provided.
- Do **not** use an erasable pen or correction fluid.
- Do **not** write on any bar codes.
- You may use a calculator.
- You should show all your working and use appropriate units.

INFORMATION

- The total mark for this paper is 80.
- The number of marks for each question or part question is shown in brackets [ ].

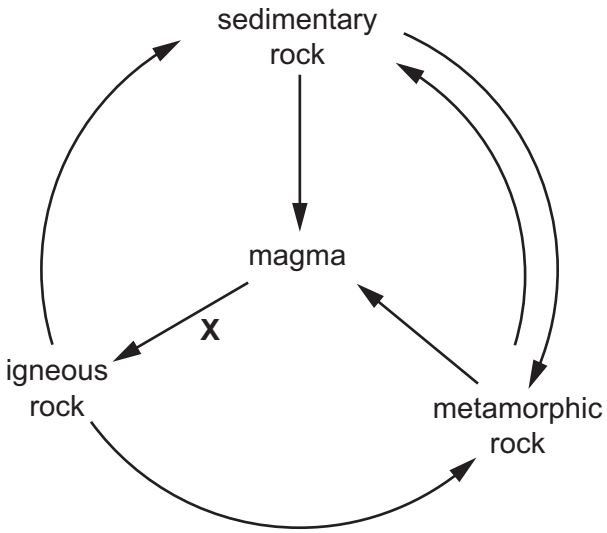
This document has **20** pages. Any blank pages are indicated.

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Section A

1 The diagram shows part of the rock cycle.



(a) Name process **X**.

..... [1]

(b) Complete the table using **one** example of each rock type from this list.

basalt **granite** **limestone** **marble** **shale** **slate**

rock type	example of rock
igneous	.....
sedimentary	.....

[2]

(c) Describe the formation of a metamorphic rock.

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..... [2]

[Total: 5]

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2 The photograph shows bunds in a field damaged by heavy rainfall.



(a) Describe **one** way the field in the photograph has been damaged by heavy rainfall.

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..... [1]

(b) The bunds help to make agriculture sustainable in this field.

Describe **three** other strategies for sustainable agriculture.

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2 .....

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3 .....

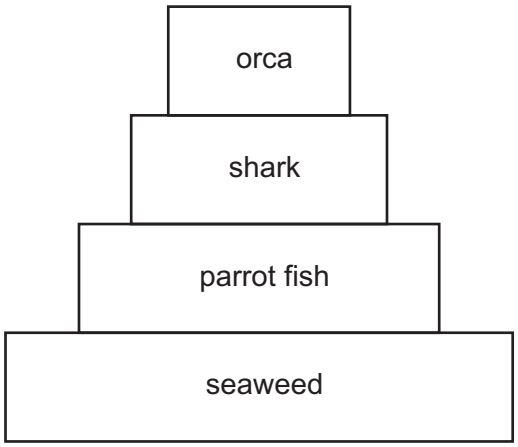
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3 The pyramid of energy diagram shows the transfer of energy in an ocean.



(a) (i) Name the process in seaweed that captures light energy.

..... [1]

(ii) Name the tertiary consumer in this diagram.

..... [1]

(iii) State the term used to describe each level in this diagram.

..... [1]

(b) Explain why only a small number of animals are at the top of this pyramid of energy.

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..... [2]

(c) Describe how an oil spill can impact this pyramid of energy.

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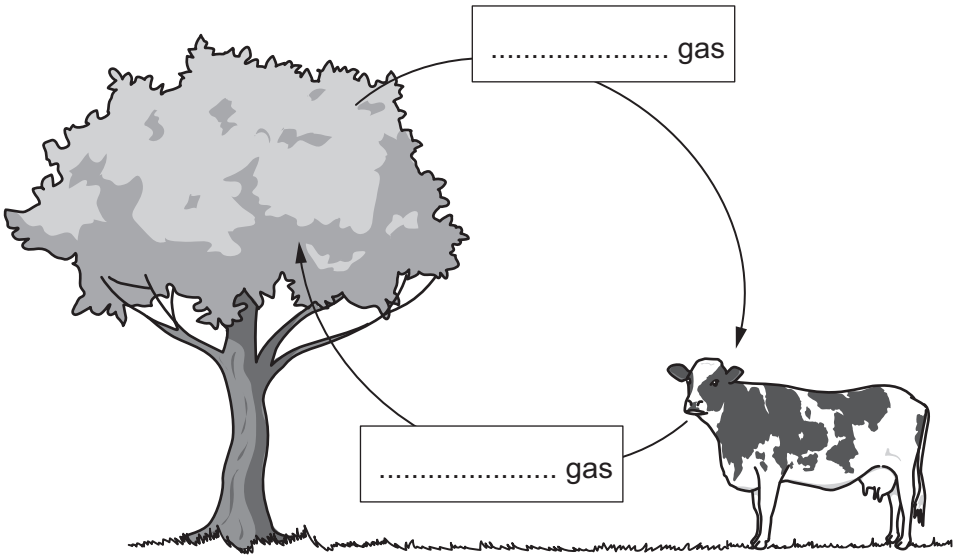
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4 The diagram shows the movement of gases between plants and animals.



(a) Complete the diagram with the name of each gas. [2]

(b) Living organisms respire.

Name the substance that breaks down during respiration in living organisms.

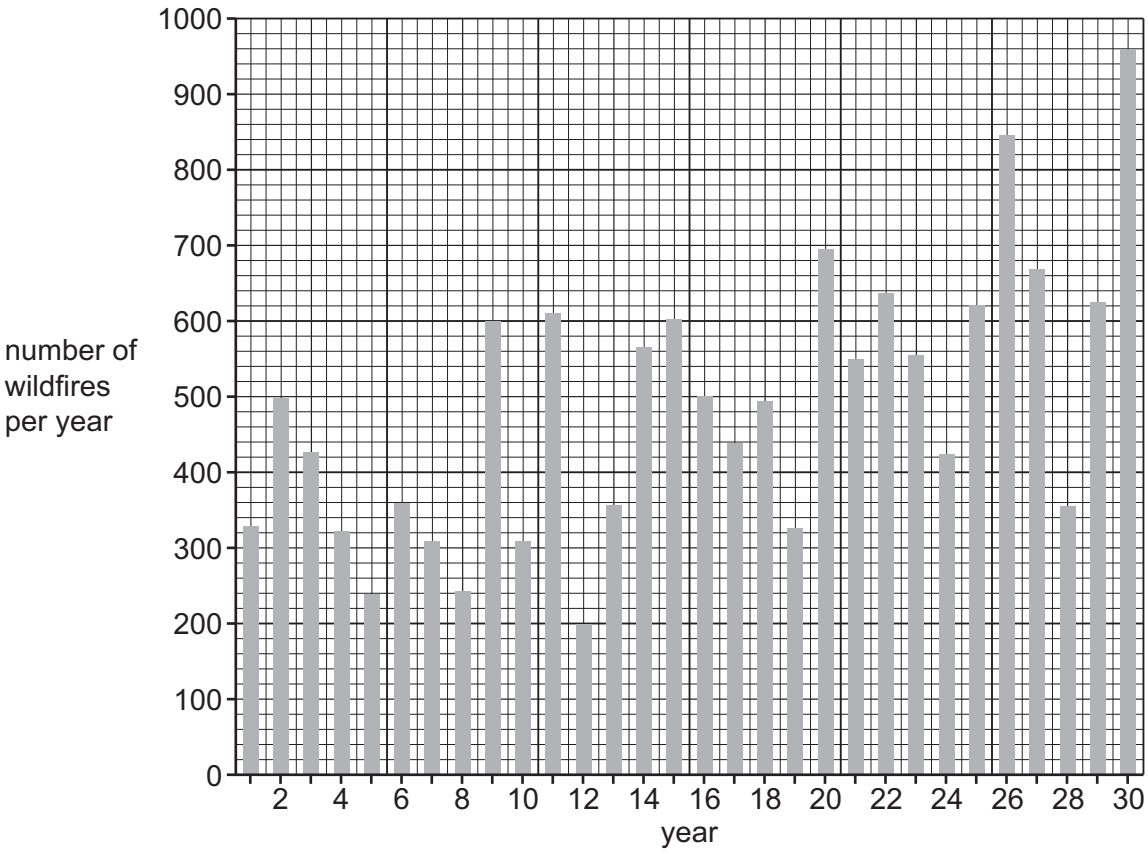
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Section B

5 **(a)** The bar chart shows the number of wildfires over a thirty-year period in one country.



(i) Describe the **overall** trend in the data.

.....

..... [1]

(ii) Calculate the range in the number of wildfires shown in the bar chart.

..... [1]

(iii) The calculated range in the number of wildfires over 30 years in a different country is 600.

The mean for the number of wildfires over thirty years in this country is 450.

Suggest why the calculated range is greater than the mean.

.....

..... [1]

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(b) Explain how greenhouse gases cause an increase in mean global temperature.

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..... [5]

(c) Climate change and wildfires will increase the number of people forced to migrate in the future.

Suggest **three** reasons why people are forced to migrate due to climate change, other than wildfires.

1 .....

.....

2 .....

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3 .....

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[3]

(d) Many countries plant trees to reduce the impacts of climate change.

State **three** other strategies to reduce the impacts of climate change.

1 .....

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2 .....

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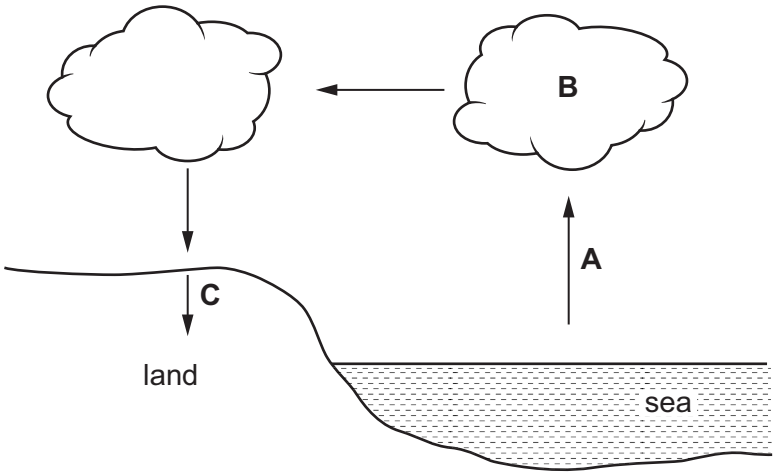
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6 The diagram shows some processes in the water cycle.



(a) Name processes **A**, **B** and **C**.

A .....

B .....

C .....

[3]

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(b) The photograph shows a person collecting water from a well in a rural area.



(i) Suggest **two** ways this water supply could be contaminated.

1 .....

2 .....

[2]

(ii) State **two** reasons why people living in urban areas are more likely to have access to safe drinking water than people living in rural areas.

1 .....

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2 .....

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[2]

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(c) The poster is a warning to people living in a tropical climate.



(i) State the name of organism **X**.

..... [1]

(ii) Explain why organism **X** is a danger to the person shown in the poster.

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..... [2]

(iii) Suggest how the instruction shown in the poster helps people to control the spread of malaria.

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..... [1]

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(iv) State **three** other ways the person in the poster could help to control the spread of malaria.

1 .....

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2 .....

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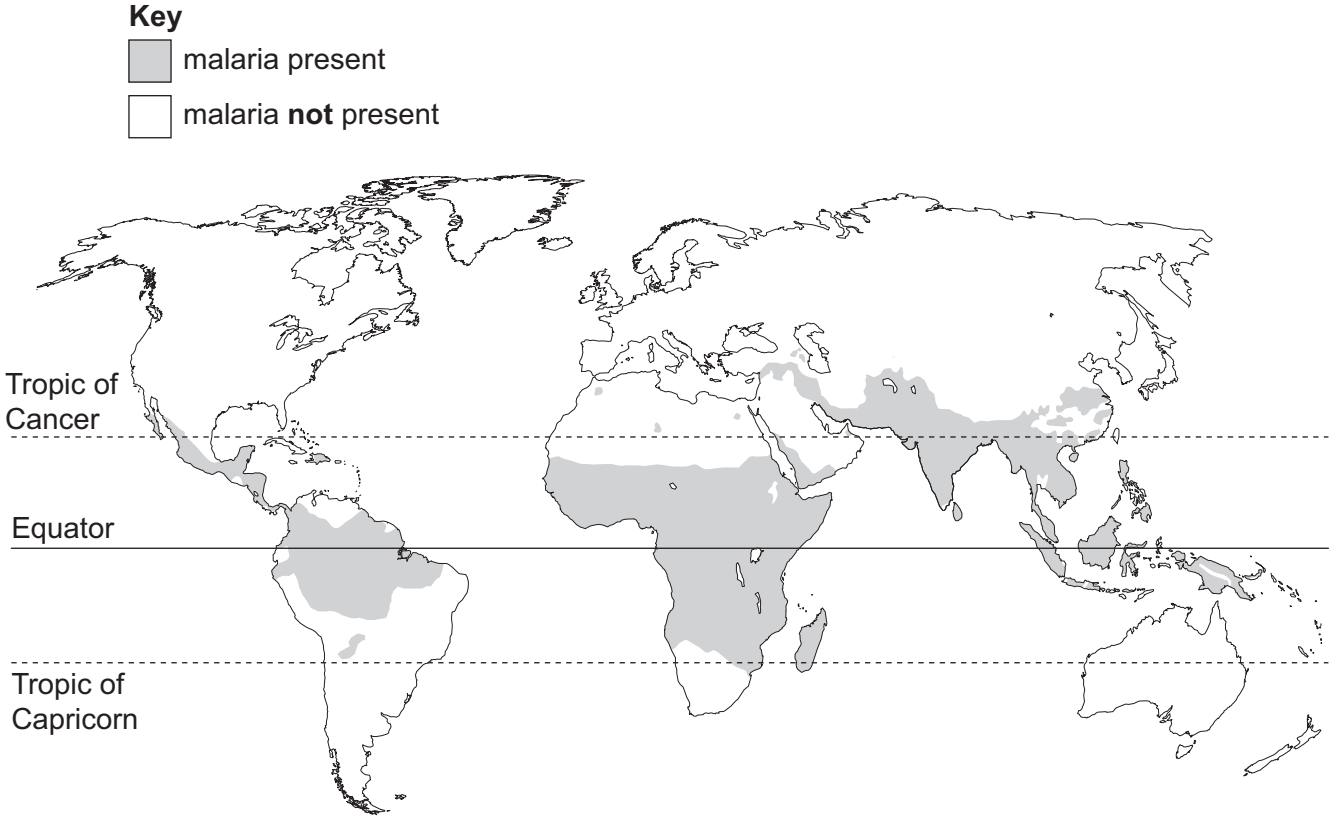
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(d) The map shows the distribution of malaria.



(i) Describe the distribution of malaria shown on the map.

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..... [3]

(ii) Suggest how the distribution of malaria is likely to change over the next 50 years.

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..... [1]

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7 **(a)** The photograph shows a city covered in smog.



(i) Name **one** substance that forms smog.

..... [1]

(ii) Explain why smog from this city forms a layer close to roads and buildings.

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..... [3]

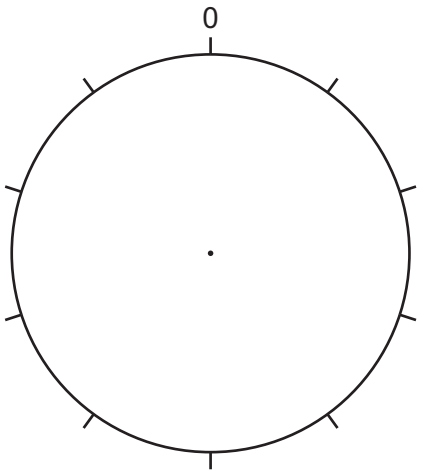
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(b) The air pollution in a town surrounded by farmland was recorded for one year.

The table shows the results.

source of air pollution	percentage
burning domestic waste	24
burning crop residue	30
industry	14
transport	32

(i) Complete the pie chart using information from the table.
Complete the key.



Key

☐ .....

☐ .....

☐ .....

☐ .....

[4]

(ii) The authorities want to control air pollution in this area by reducing burning domestic waste.

Suggest **one** way burning domestic waste can be reduced.

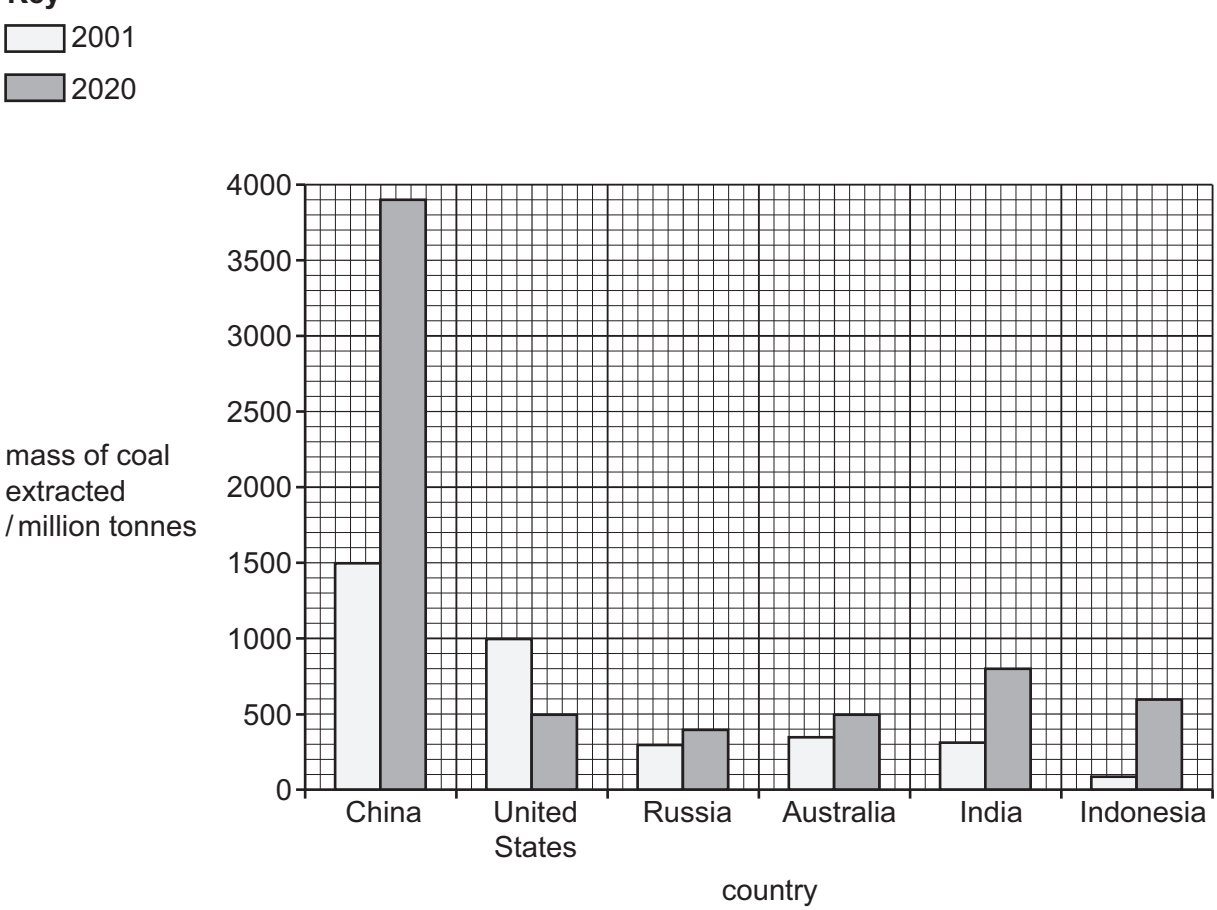
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8 The bar chart shows the mass of coal extracted from 6 countries in 2001 and 2020.



(a) (i) Complete the sentences using information in the bar chart.

The country with the largest mass of coal extracted in 2020 is ..... .

The only country to decrease the mass of coal extracted between 2001 and 2020 is ..... .

[2]

(ii) The global mass of coal extracted in 2020 was 7800 million tonnes.

Determine the ratio of the global mass of coal extracted to the mass of coal extracted in India in 2020.

Give your answer as the simplest whole number ratio.

global : India = ... : ..... . [1]

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(iii) Suggest **two** reasons why most countries increased the mass of coal extracted between 2001 and 2020.

1 .....

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2 .....

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[2]

(b) Describe the formation of coal.

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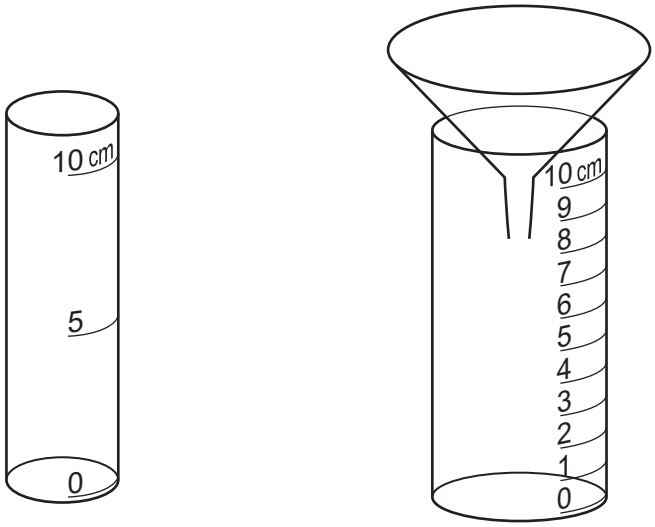
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(c) A student investigates acid rain.

The diagram shows two different apparatus for collecting rainwater.

apparatus 1 apparatus 2



Suggest **two** reasons why apparatus 2 is better than apparatus 1 for measuring rainfall.

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2 .....

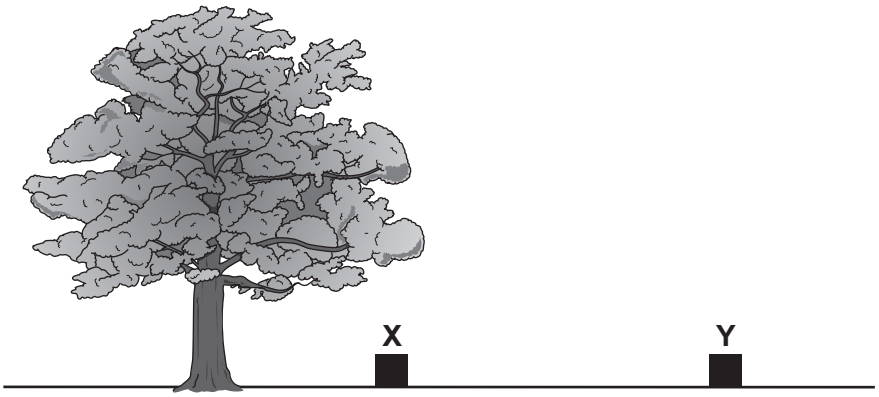
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[2]

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(d) The student uses apparatus 2 to measure rainfall.

The diagram shows two locations, **X** and **Y**, to measure rainfall.



(i) Suggest **two** reasons why the student puts the apparatus at position **Y** and **not** at position **X**.

1 .....

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2 .....

.....

[2]

(ii) The student measures the pH of the collected rainfall at location **Y** for seven days.

The table shows the results.

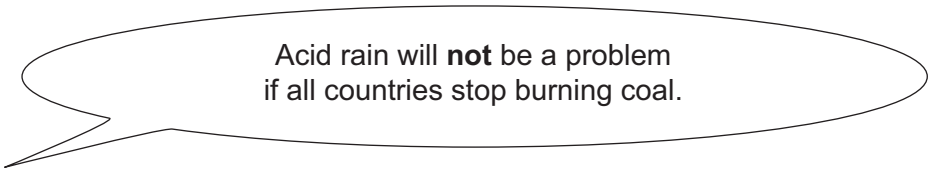
day	pH of collected rainwater
1	4.8
2	8.7
3	5.8
4	4.4
5	6.5
6	5.6
7	4.8

Identify the anomalous result.

..... [1]

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(e) A student says:



To what extent do you agree with this statement? Give reasons for your answer.

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..... [6]

[Total: 19]

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