



Cambridge O Level

CANDIDATE
NAME



CENTRE
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ENVIRONMENTAL MANAGEMENT

5014/12

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.

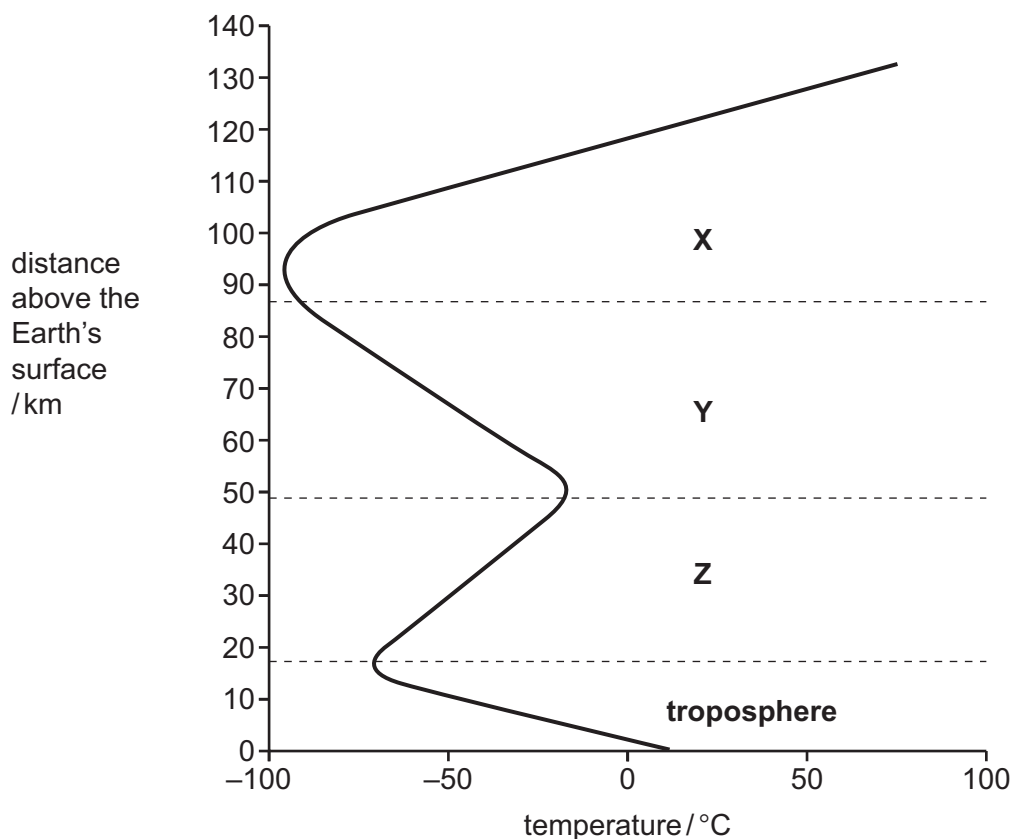
INFORMATION

- 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.

Section A

- 1 (a) The diagram shows the structure of the atmosphere.



Name the layers of the atmosphere labelled **X**, **Y** and **Z**.

X

Y

Z

[3]

- (b) Ozone is a gas found in the atmosphere.

Describe how ozone depletion affects people and vegetation.

people

.....

vegetation

.....

[2]

[Total: 5]



- 2 (a) The oceans provide fish and other resources.

State **three** other resources that oceans can provide.

1

2

3

[3]

- (b) Explain why large numbers of fish are found on continental shelves.

.....

.....

.....

.....

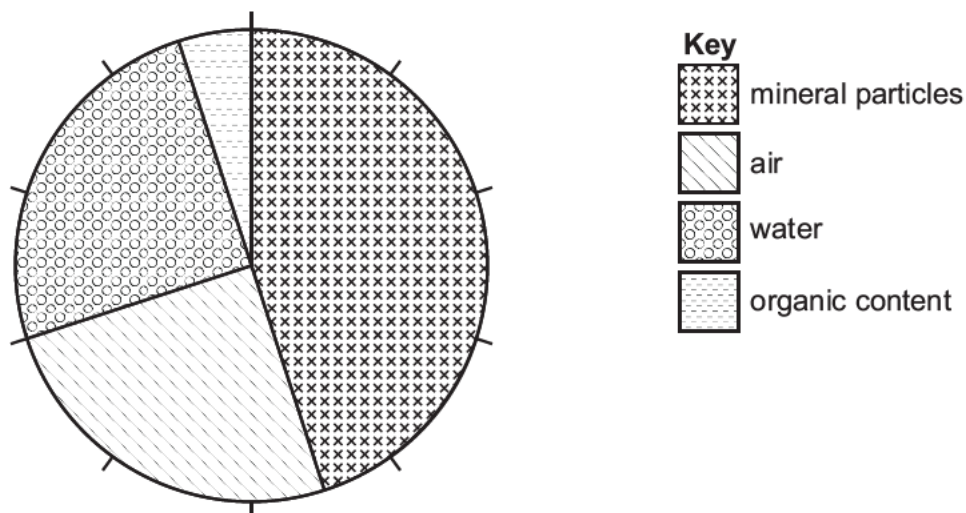
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..... [3]

[Total: 6]



3 (a) The pie chart shows the components of a soil.



(i) Determine the percentages of each of the components of the soil.

mineral particles%

air%

water%

organic content%

[2]

(ii) State **three** components of the organic content in soil.

1

2

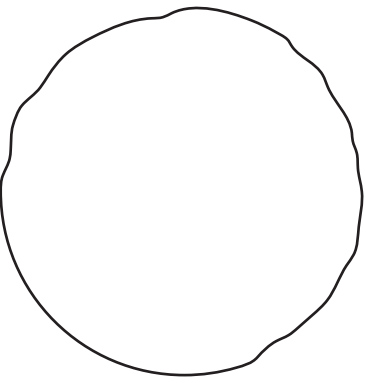
3

[3]



- (b) (i) The diagram shows the sizes of three mineral particles, clay, sand and silt in soil.

Draw **one** straight line from each soil name to the correct size of mineral particle.

soil name	size of mineral particle
clay	 $<0.002 \text{ mm}$
sand	 $0.002 - 0.049 \text{ mm}$
silt	 $0.05 - 2.00 \text{ mm}$

[1]

- (ii) State the source of the mineral particles in soil.

..... [1]

- (iii) Size of mineral particles is one difference between a sandy soil and a clay soil.

Describe **two** other ways a sandy soil is different from a clay soil.

1

.....

2

.....

[2]

[Total: 9]



Section B

- 4 (a) The map shows the location of national parks in Nepal.

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The table shows information about the national parks in 2022.

national park	area / km ²	tiger population
A	305	36
B	225	0
C	106	0
D	3555	0
E	968	125
F	550	25
G	953	128
H	627	41
I	159	0
J	1710	0
K	1148	0
L	1500	0





(i) Use the information to complete the sentences.

- There are national parks in Nepal.
- The largest national park is
- There are no tigers in of the national parks.
- It is predicted that tigers in national park **A** go over the international boundary into to hunt.

[4]

(ii) Calculate the mean area per tiger for the national parks where tigers are found.

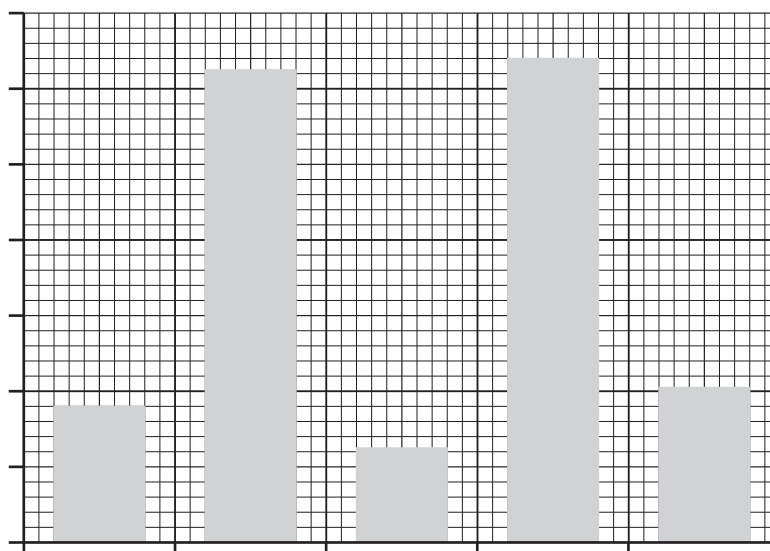
State the unit.

mean area per tiger =unit [2]

(iii) The bar chart shows the tiger population in Nepal's national parks in 2022.

Use the table in **4(a)** to complete the bar chart.

- Label the axes.
- Label the bars on the horizontal axis.
- Insert a suitable scale on the vertical axis.



[2]



- (b) The fact sheet shows information about tigers in Nepal.

Tigers saved from extinction in Nepal



Tigers are large predators, about 1 m in height.

In 2010 there were 121 tigers in Nepal. In 2022 there were 355.

People collect fruit, mushrooms and wood in the national parks. They also take livestock into the national parks to graze. People are not allowed to build homes in the national parks.

Tigers are sometimes seen in farmland and villages near the national parks.

The government spends money protecting the tigers.

- (i) Calculate the percentage increase in the number of tigers in Nepal between 2010 and 2022.

.....% [2]

- (ii) Suggest **three** reasons why some people in Nepal have stopped supporting the conservation of tigers.

1

.....

2

.....

3

.....

[3]

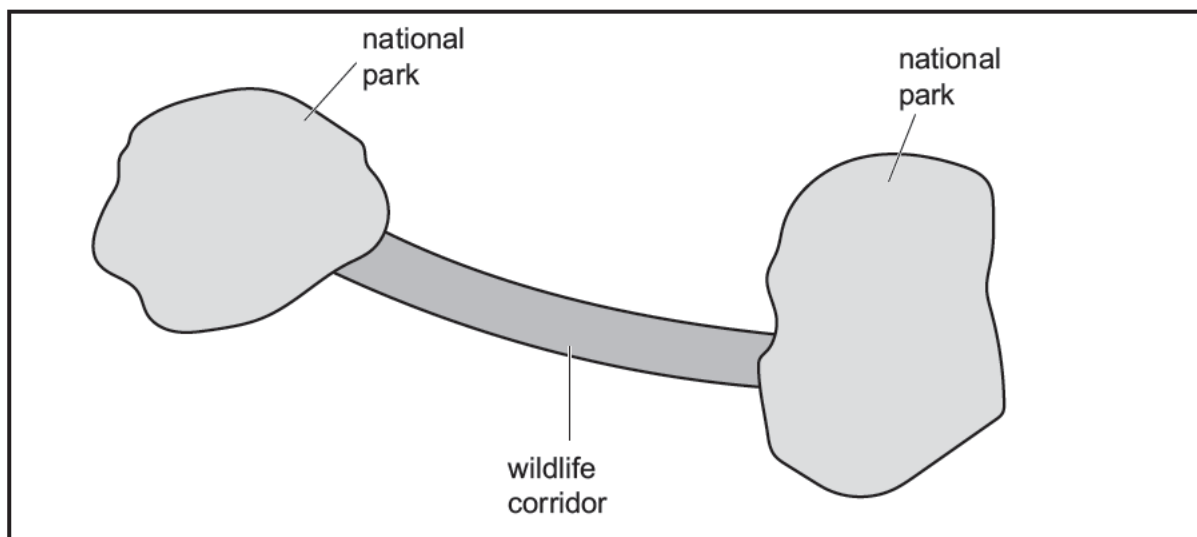


(iii) A report stated that the carrying capacity for tigers in Nepal is 400.

State the meaning of carrying capacity.

.....
 [1]

(c) The diagram shows a wildlife corridor.



Explain how wildlife corridors benefit endangered species such as tigers.

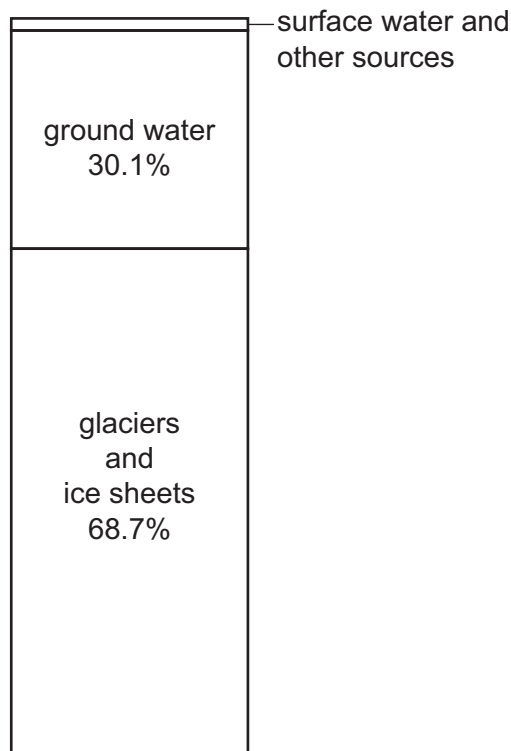
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 [3]

[Total: 17]



- 5 (a) The diagram shows global sources of fresh water.



- (i) Calculate the percentage of fresh water that is surface water and other sources.

.....% [1]

- (ii) Name **one** of the 'other sources' of fresh water.

..... [1]

- (iii) Explain why water from rivers and lakes may **not** be safe to drink.

.....

 [3]

- (iv) State **two** ways water is made safe to drink.

1

2

[2]



- (b) The diagrams show information about the volume of water used by two families in an urban area and a rural area in a less economically developed country (LEDC).

Key



washing



flushing the toilet



cooking and drinking



washing dishes and cleaning

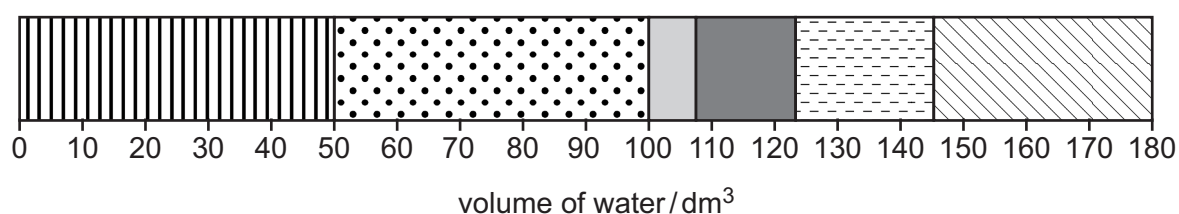


washing clothes

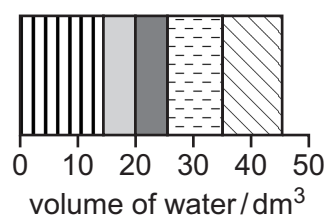


other uses

water use by a family in an urban area



water use by a family in a rural area



State **two** differences in water use between the family in the urban area and the family in the rural area.

1

.....

2

.....

[2]



- (c) The table shows the percentage of families using different sources of water in five villages P–T in the rural area.

	village				
source of water	P	Q	R	S	T
water pipe	50				
lake		5	25	5	20
stored rainwater		100	80	10	80
river		40	40		
well	50		20	100	25

- (i) State the village where families use the greatest number of sources of water.
 [1]
- (ii) State the village where all the families use water from wells.
 [1]
- (iii) Suggest **three** reasons why families in village **P** use different water sources than families in village **Q**.
 1

 2

 3
 [3]
- (iv) Suggest **one** reason why access to safe drinking water is important.

 [1]



- (v) Suggest **three** reasons why there is greater access to safe drinking water in urban areas than in rural areas in LEDCs.

1

.....

2

.....

3

.....

[3]

- (d) In some rural areas dams are built across rivers to increase the supply of fresh water.

State **three** environmental impacts of dams.

1

.....

2

.....

3

.....

[3]

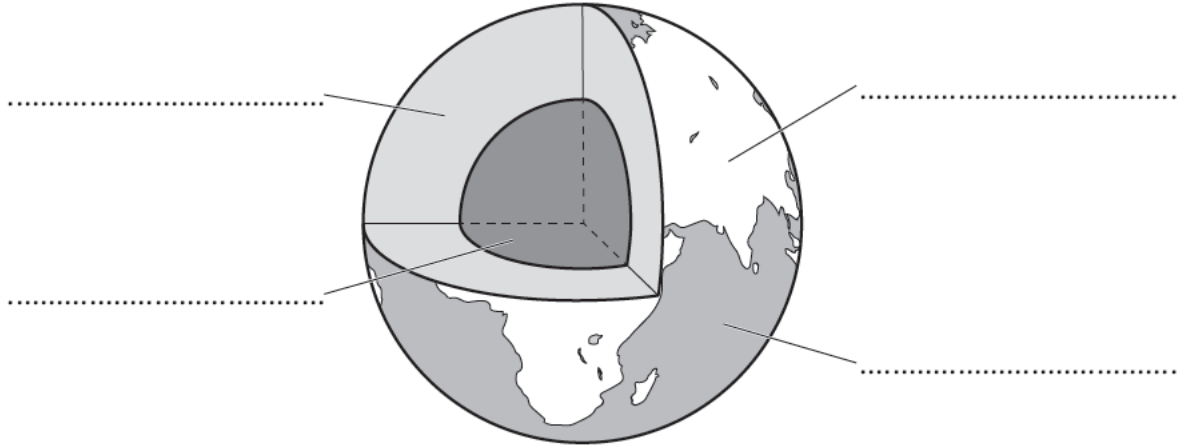
[Total: 21]



6 The diagram shows the structure of the Earth.

(a) Complete the diagram using words from the box.

continental crust	core	mantle	oceanic crust
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[2]

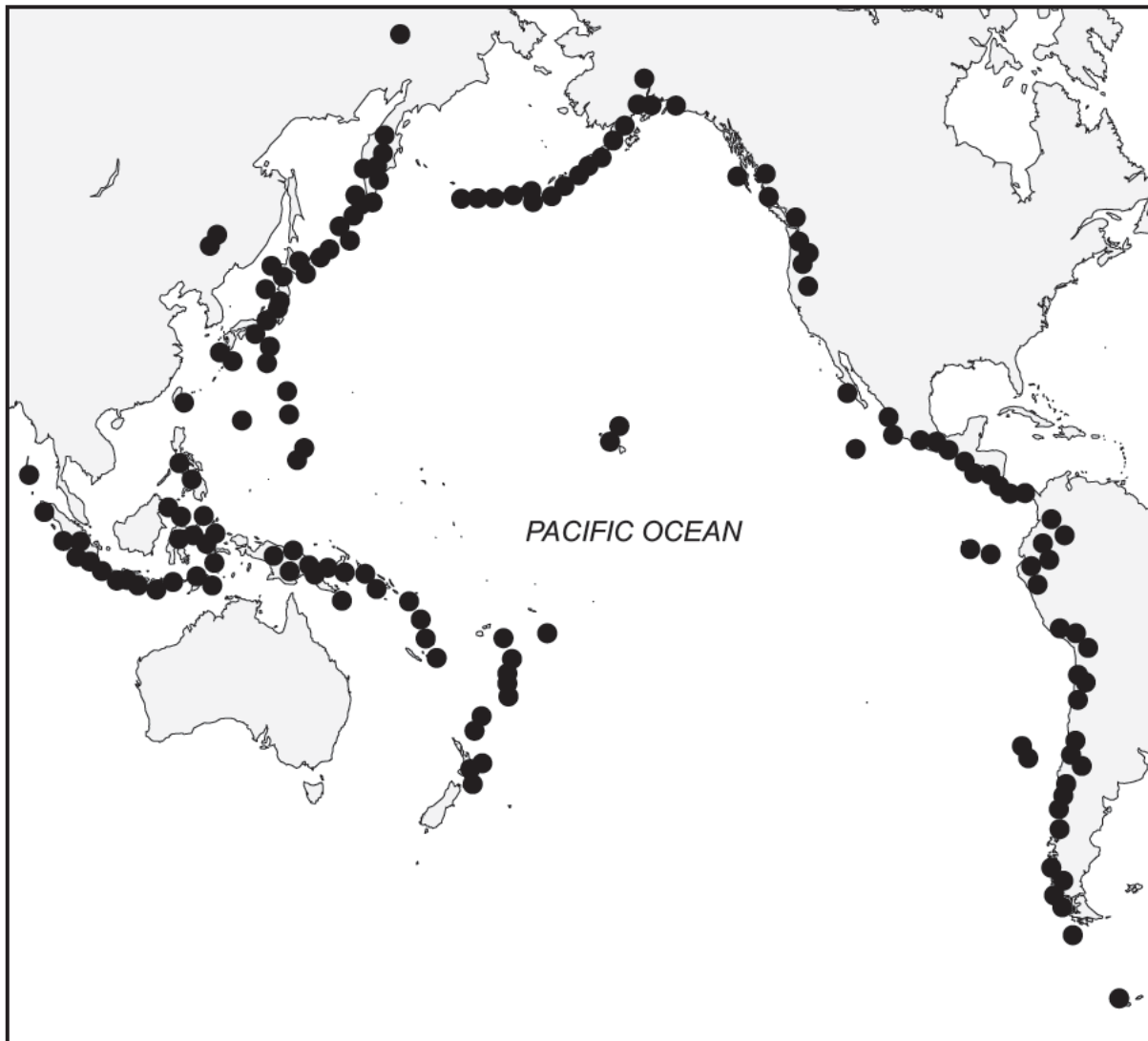




(b) The map shows the location of some volcanoes.

Key

● volcano



Describe the distribution of the volcanoes shown on the map.

.....

.....

.....

.....

.....

.....

[3]



(c) Suggest why earthquakes and volcanoes are often located in the same parts of the world.

.....

.....

.....

.....

.....

.....

..... [3]

(d) Describe strategies to manage the impact of an earthquake before the event.

.....

.....

.....

.....

.....

.....

.....

.....

.....

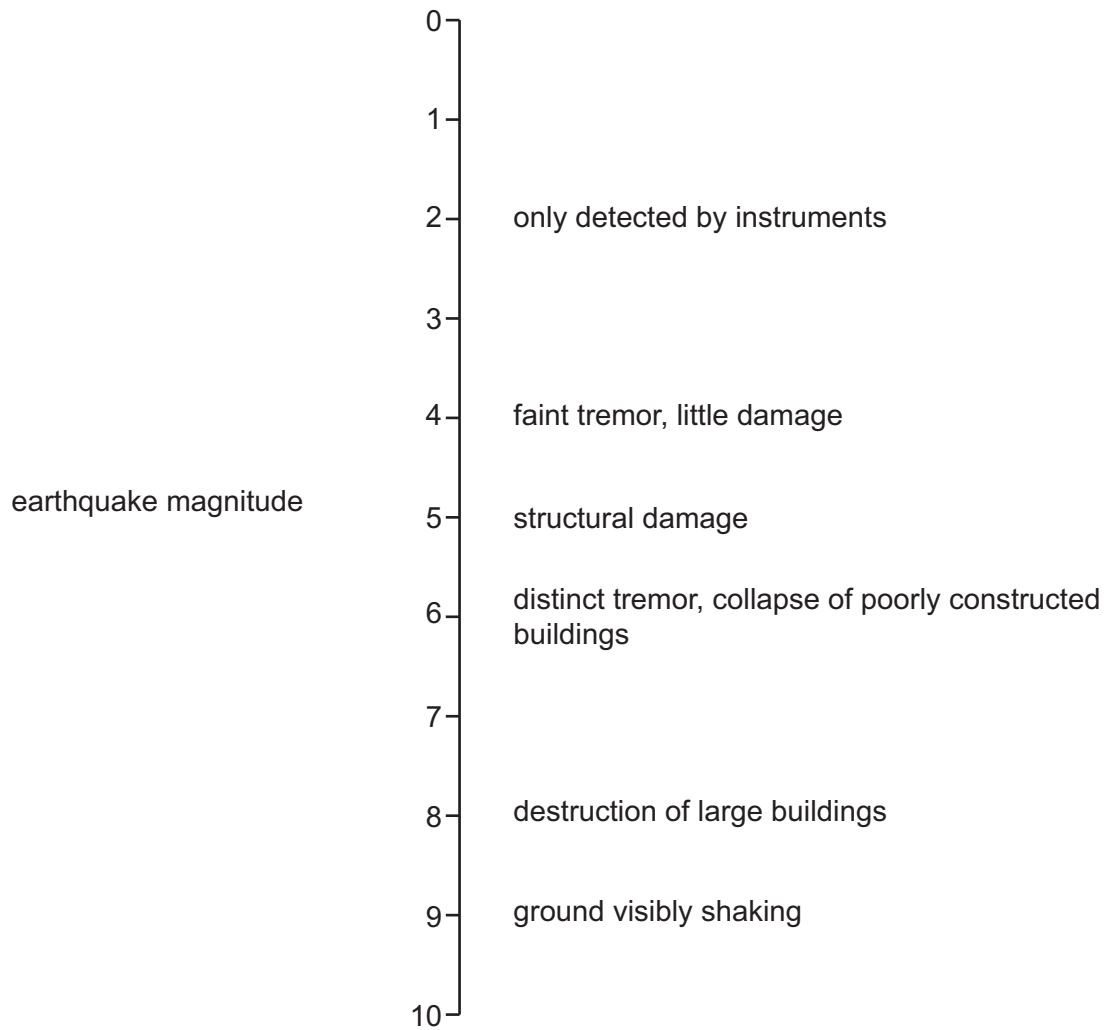
.....

..... [5]





(e) The diagram shows the Richter scale.



Complete the sentences using the information on the diagram.

The Richter scale measures the magnitude of an earthquake on a scale.

People feel faint tremors at magnitude

At magnitude large buildings are destroyed.

[3]





(f) A student says:

The benefits of volcanoes are greater than the negative impacts.

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

[6]

[Total: 22]





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