1.8 Climate Change: 10-minute Pack

AQA 8035 · Calculator allowed · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 This question is about the basics of climate change.

(a) State what is meant by climate change. **(1)**

(b) State what is meant by the greenhouse effect. **(1)**

(Total for Question 1 is 2 marks)

2 Explain TWO adaptation strategies that can help people cope with the effects of climate change.

(Total for Question 2 is 4 marks)

3 Explain how the natural greenhouse effect works.

(Total for Question 3 is 4 marks)

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Mark scheme · 1.8 Climate Change: 10-minute Pack

Question 1

(a) a long-term shift in global or regional weather patterns and average temperatures, oe **B1**

(a) Answer: A long-term shift in global or regional weather patterns and average temperatures.

(b) the natural process by which greenhouse gases trap heat in the atmosphere, keeping the Earth warm enough to support life, oe **B1**

(b) Answer: The natural process by which greenhouse gases trap heat in the atmosphere, keeping the Earth warm enough to support life.

Question 2

strategy 1, e.g. changing agricultural systems, such as growing more drought-resistant crop varieties, oe **B1**

linked detail, e.g. this helps maintain food production even as rainfall patterns become less reliable, oe **B1**

strategy 2, e.g. improving coastal flood defences, oe **B1**

linked detail, e.g. this reduces the risk to people and property from rising sea levels and storm surges, oe **B1**

Answer: For example: changing agricultural systems, such as growing more drought-resistant crop varieties, to maintain food production as rainfall becomes less reliable; and improving coastal flood defences, to reduce the risk to people and property from rising sea levels and storm surges.

Question 3

short-wave radiation from the Sun passes through the atmosphere and warms the Earth's surface, oe **B1**

the warmed surface re-radiates energy as long-wave (infrared) radiation, oe **B1**

greenhouse gases (e.g. carbon dioxide, methane, water vapour) in the atmosphere absorb this long-wave radiation and re-emit it in all directions, oe **B1**

some of this re-emitted energy is directed back towards the Earth's surface, warming it further and keeping average temperatures high enough to support life, oe **B1**

Answer: Short-wave radiation from the Sun warms the Earth's surface, which re-radiates energy as long-wave (infrared) radiation; greenhouse gases in the atmosphere absorb this radiation and re-emit some of it back towards the surface, warming it further and keeping the Earth warm enough to support life.

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