



--	--	--	--	--

--	--	--	--

8291/12

May/June 2013

1 hour 30 minutes

Additional Materials: Answer Booklet/Paper

Write your Centre number, candidate number and name on all the work you hand in.
Write in dark blue or black pen.
You may use a soft pencil for any diagrams, graphs, tables or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid.
DO NOT WRITE IN ANY BARCODES.
Electronic calculators may be used.

Answer **all** questions.
Write your answers in the spaces provided on the question paper.

Answer **one** question from this section.
Answer the question on the separate answer paper provided.

1. fasten all separate answer paper securely to the question paper;
2. enter the question number from Section B in the grid opposite.

For Examiner's Use	
Section A	
1	
2	
Section B	
Total	

This document consists of **12** printed pages.

Section A

Answer **all** questions in this section.

For
Examiner's
Use

- 1 (a) Fig. 1.1 shows the structure of the Earth's crust at an oceanic to continental plate boundary.

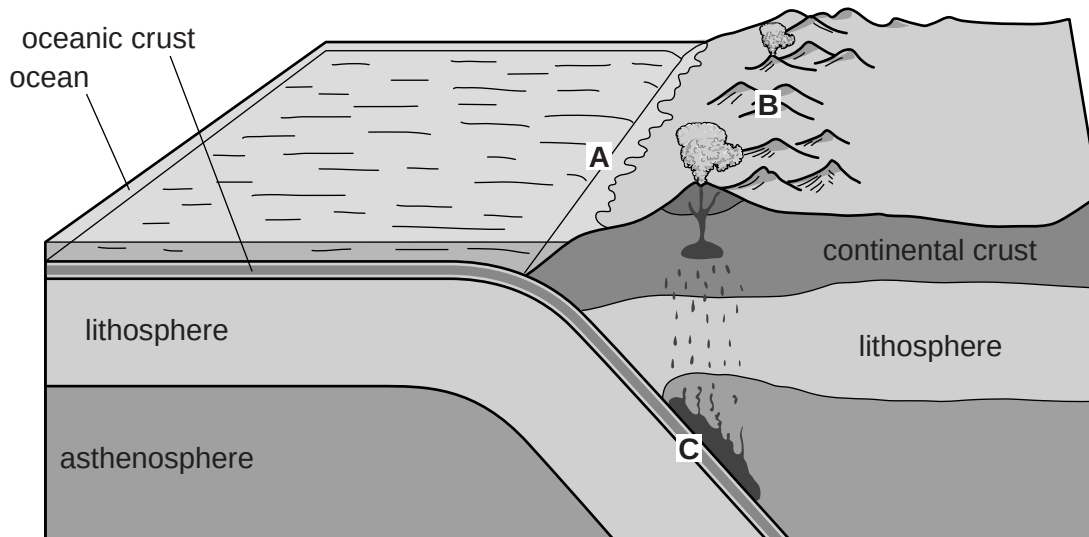


Fig. 1.1

- (i) Name the features that occur at **A** and **B**, and the process that occurs at **C**.

Feature **A**

Feature **B**

Process **C**[3]

- (ii) Put **two** arrows onto Fig. 1.1 to show the direction of plate movement each side of the boundary. [2]

[5]

volcano

extent of ash cloud

Iceland

Norway

Sweden

United Kingdom

Russia

Volcanic activity can affect localities close to an eruption as well as those more distant. The Eyjafjallajökull volcanic eruption has not only caused a major disruption to European travellers trying to get home, but also has had a knock on effect on the supermarket shelves as well.

Assess the environmental management issues and effects on people's lives, both local and distant, that would be associated with this volcanic eruption.

This image shows a full page of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page, providing a template for handwriting practice or general writing. There are no margins, text, or other markings on the page.

.....

.....

.....

.....

.....

..... [10]

[Total: 20]

- 2 (a) Fig. 2.1 is a grid that can be used to illustrate some aspects of the structure of the Earth's atmosphere.

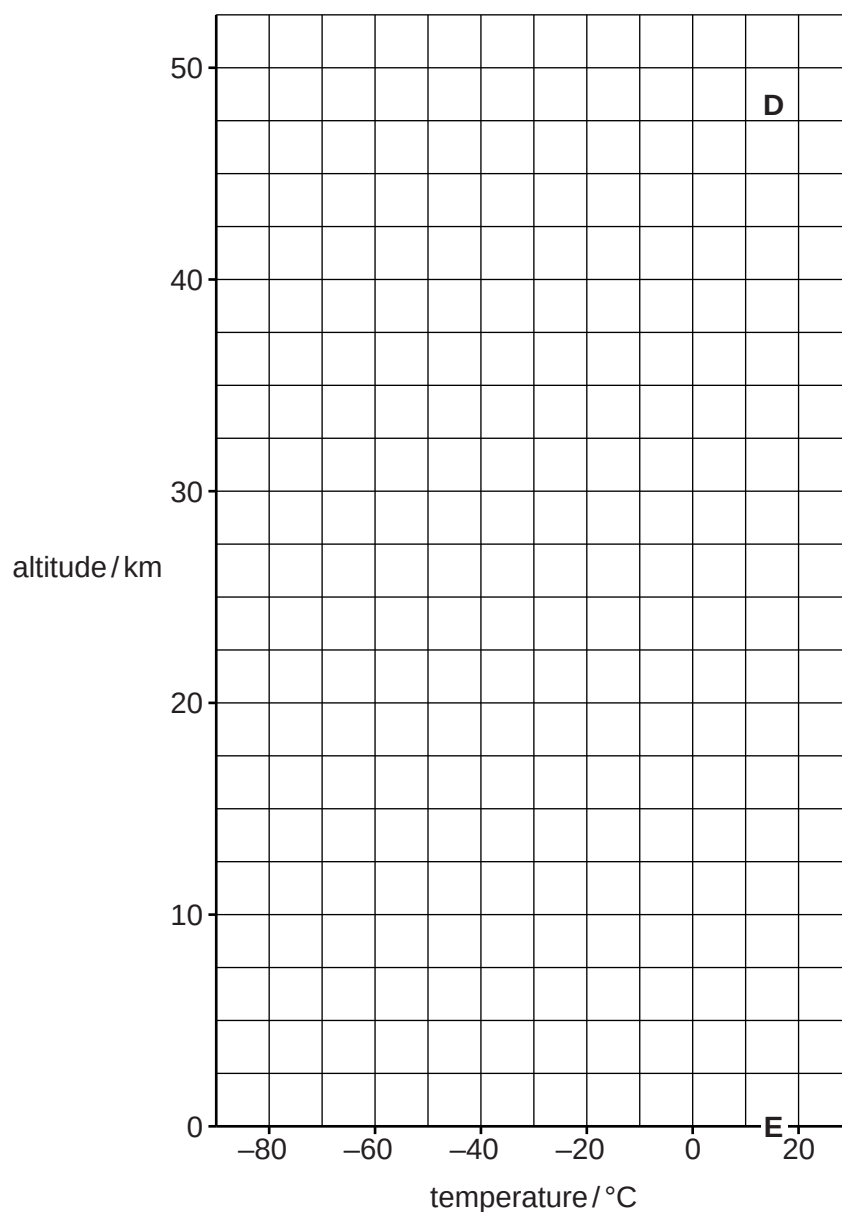


Fig. 2.1

- (i) Draw a line to show the changes in temperature with altitude from 0 to 50 km between points **D** and **E** on Fig. 2.1. [4]
- (ii) Write the terms **troposphere** and **stratosphere** onto Fig. 2.1 at appropriate altitudes. Write your answers on Fig. 2.1. [1]
- (iii) In which level of the atmosphere does:
- ozone depletion occur
 - global warming occur? [2]

- (iv) Outline **two** functions of the helium-filled weather-research balloons that usually ascend to about 10 000 m.

For
Examiner's
Use

.....

.....

.....

.....

.....

.....

.....

.....

..... [4]

-
- The diagram illustrates a convection cell. On the left, a large grey cloud is shown with a vertical arrow pointing upwards from the ground, labeled 'Y'. Below the cloud, the text '50° North' is written. On the right, a vertical arrow points downwards from the upper atmosphere to the ground, labeled 'X'. Below this arrow, the text '30° North' is written. A curved arrow at the top points from the right towards the left, labeled 'direction of air movement'. A curved arrow at the bottom points from the right towards the left, indicating the return flow of air at the surface.

(i) Explain why area X in Fig. 2.2 is invariably hot and dry, and is frequently an area in which severe drought occurs.

.....[5]

- (ii) Explain why rainfall is frequent in area Y in Fig. 2.2.

For
Examiner's
Use

.....

.....

.....

.....

.....

.....

.....

.....

..... [4]

[Total: 20]

Section B

Select **one** question from this section.

- 3 (a) Fig. 3.1 shows how soils underlain by limestone change from the top of a hill to a valley floor.

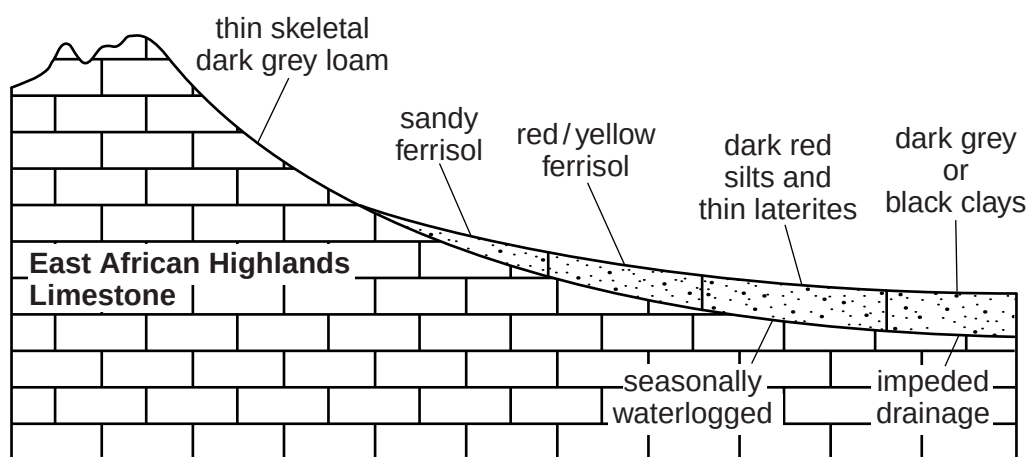


Fig. 3.1

Briefly explain how slope and drainage affect the development of the soils shown in Fig. 3.1. [10]

- (b) With reference to an area you have studied, assess the extent to which soil degradation is as much a product of natural causes as it is of human activity. For the area you have selected, assess one method that has been used to sustain soil quality. [30]

[Total: 40]

- 4 (a) Table 4.1 contains data on the level of importance people give to some environmental problems found in urban areas. The percentages are derived from a representative survey of the population in a LEDC urban area. Respondents were asked to state whether each of the environmental problems was: a major problem, a minor problem or not a problem.

Table 4.1

environmental problem	major problem	minor problem	not a problem
air pollution	80%	17%	3%
hazardous waste	74%	13%	13%
solid waste	70%	22%	8%
contamination of drinking water	69%	17%	14%
industrial pollution	68%	28%	4%
sewage disposal	65%	25%	10%
traffic jams	64%	34%	2%
inefficient use of energy	48%	42%	10%
noise pollution	38%	52%	10%

Briefly explain why the data given in Table 4.1 is more likely to be characteristic of people in a LEDC than of people in a MEDC. [10]

- (b) With reference to examples with which you are familiar, assess how effectively atmospheric pollution in urban areas can be kept to an acceptable healthy minimum. [30]

[Total: 40]

- 5 (a) Fig. 5.1 shows a 6 day weather forecast for the city of New York.

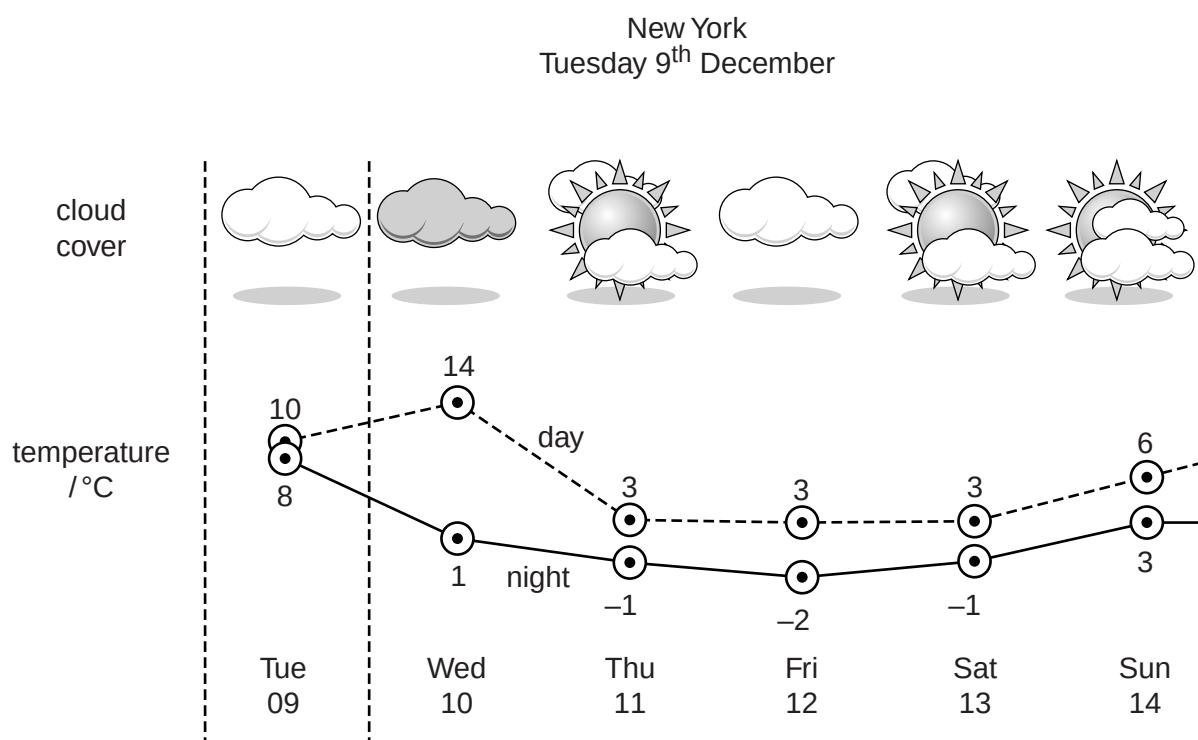


Fig. 5.1

Briefly describe the techniques that are used to make such weather forecasts. [10]

- (b) Describe and explain **two** ways in which human activity adversely affects weather on **either** a local **or** a regional scale. Assess the success of the measures that have been used to counter each of the adverse effects you have selected. [30]

[Total: 40]

Copyright Acknowledgements:

Question 1a Figure 1.1 © www.platetectonics.com/book/page_5.asp.

Question 1b Figure 1.2 Photograph © Associated Press / Brynjar Gauti.

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

University of Cambridge International Examinations is part of the Cambridge Assessment Group. Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.