

Sample Assessment Materials

Edexcel GCSE in Geography B (2GB01)

Inside this Sample Assessment Materials pack you'll find:

- Accessible papers to help you and your students prepare for the assessment
- Clear and concise mark schemes to let you know what the examiners are looking for
- Supported controlled assessment information including sample tasks and assessment criteria with students.



Welcome to the GCSE 2009 Geography B Sample Assessment Materials

The sample assessment materials have been developed to give you and your students a flavour of the actual exam papers and mark schemes so they can experience what they will encounter in their live assessments. They feature:

- **Accessible papers** using a mixture of question styles. We've worked hard to ensure the papers are easy to follow with an encouraging tone so that the full range of students can show what they know.
- **Clear and concise mark schemes** for each paper outlining what examiners will be looking for in the assessments, so you can use the sample papers with students to help them prepare for the real thing.
- **Supported controlled assessment**, including sample controlled assessment materials to show you the sort of activity students will undertake. Used in conjunction with the guidance in the Teacher's Guide, these samples will help you manage the controlled assessment in your centre and help students achieve their best.

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General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.
- Mark schemes will indicate within the table where, and which strands of QWC, are being assessed. The strands are as follows:

i) ensure that text is legible and that spelling, punctuation and grammar are accurate so that meaning is clear

ii) select and use a form and style of writing appropriate to purpose and to complex subject matter

iii) organise information clearly and coherently, using specialist vocabulary when appropriate.

Write your name here

Surname

Other names

Centre Number

Candidate Number

Edexcel GCSE

Geography B

Unit 1: Dynamic Planet

Foundation Tier

Sample Assessment Material

Time: 1 hour

Paper Reference

5GB1F/01

You do not need any other materials.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** the questions in Section A. Answer **one** question from Section B and **one** question from Section C.
- Answer the questions in the spaces provided
– *there may be more space than you need.*

Information

- The total mark for this paper is 50.
- The marks for **each** question are shown in brackets
– *use this as a guide as to how much time to spend on each question.*
- Questions labelled with an **asterisk** (*) are ones where the quality of your written communication will be assessed
– *you should take particular care with your spelling, punctuation and grammar, as well as the clarity of expression, on these questions.*

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ►

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SECTION A – INTRODUCTION TO THE DYNAMIC PLANET

Answer ALL questions in this section.

Topic 1: Restless Earth

- 1 Figure 1 shows damage to a school caused by the Kashmir earthquake in Pakistan in 2005.



(Source: Professor David Petley (University of Durham))

Figure 1

(a) Study Figure 1.

- (i) State **one** material that the damaged school was built from. (1)

- (ii) Give **one** reason why a tent has been put up, next to the damaged school. (1)

(b) Kashmir is in a **developing** country.

Give **two** reasons why developing countries are very vulnerable to earthquake damage.

(2)

1

.....

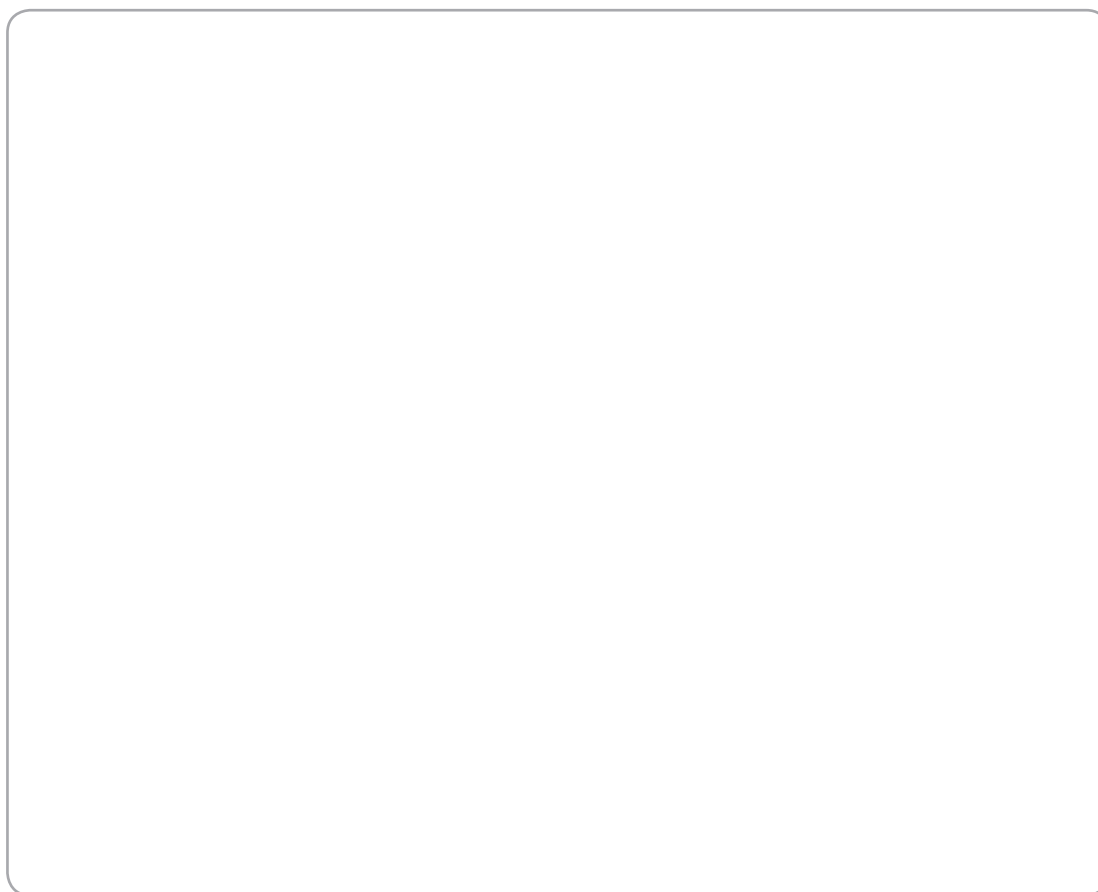
2

.....

(c) The 2005 Kashmir earthquake happened on a **destructive** plate margin.

Draw an accurate, labelled diagram of a destructive plate margin.

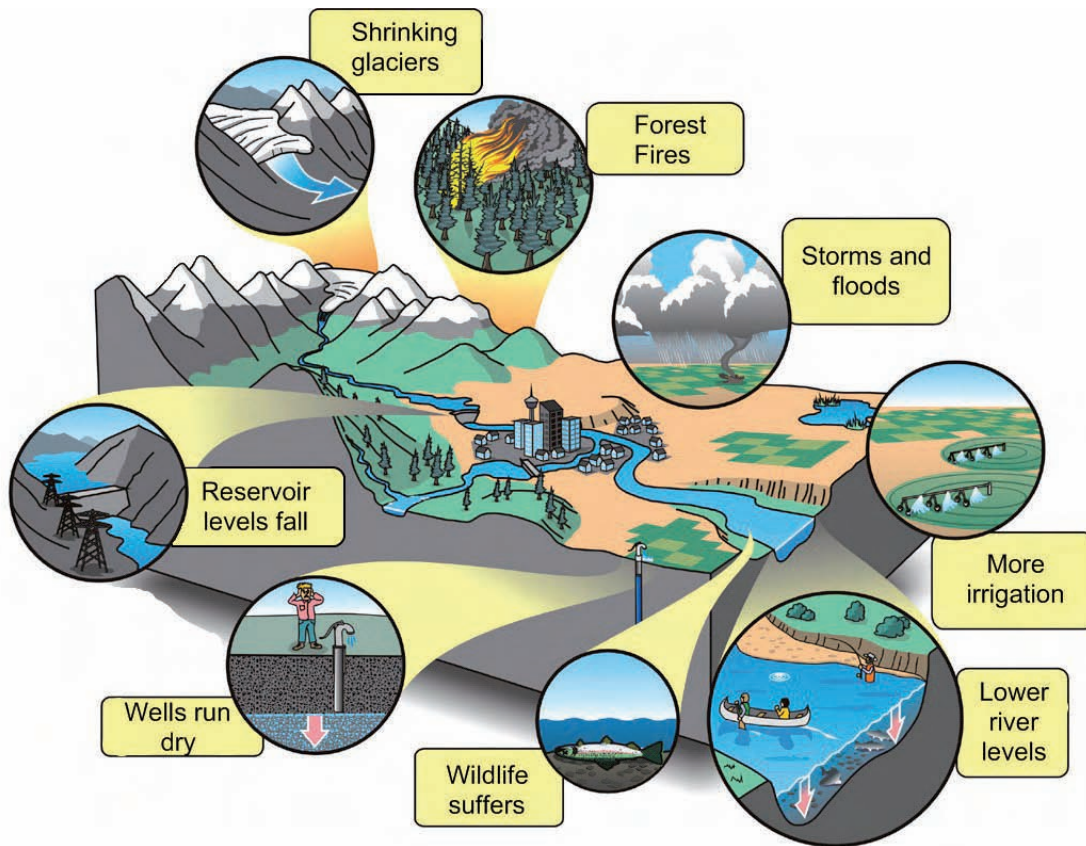
(4)



(Total for Question 1 = 8 marks)

Topic 2: Climate and Change

2 Figure 2 shows how climate change might affect the water cycle in Canada.



(Source: adapted from Natural Resources Canada website (<http://www.nrcan-rncan.gc.ca/com/>))

Figure 2

(a) Study Figure 2.

State how climate change is expected to affect precipitation levels in Canada.

(1)

(b) Name one **greenhouse gas** that is thought to be causing global warming. (1)

.....

.....

(c) Climate change might make some people in Canada poorer.
Suggest **two** ways in which this might happen. (2)

1

.....

2

.....

(d) Describe **two** ways in which climate change in Canada may put people's lives at risk. (4)

1

.....

2

.....

(Total for Question 2 = 8 marks)

Topic 3: Battle for the Biosphere

3 Figure 3 shows the location of areas of tropical forest.

It also shows changes in the area covered by forest between the year 2000 and 2005.

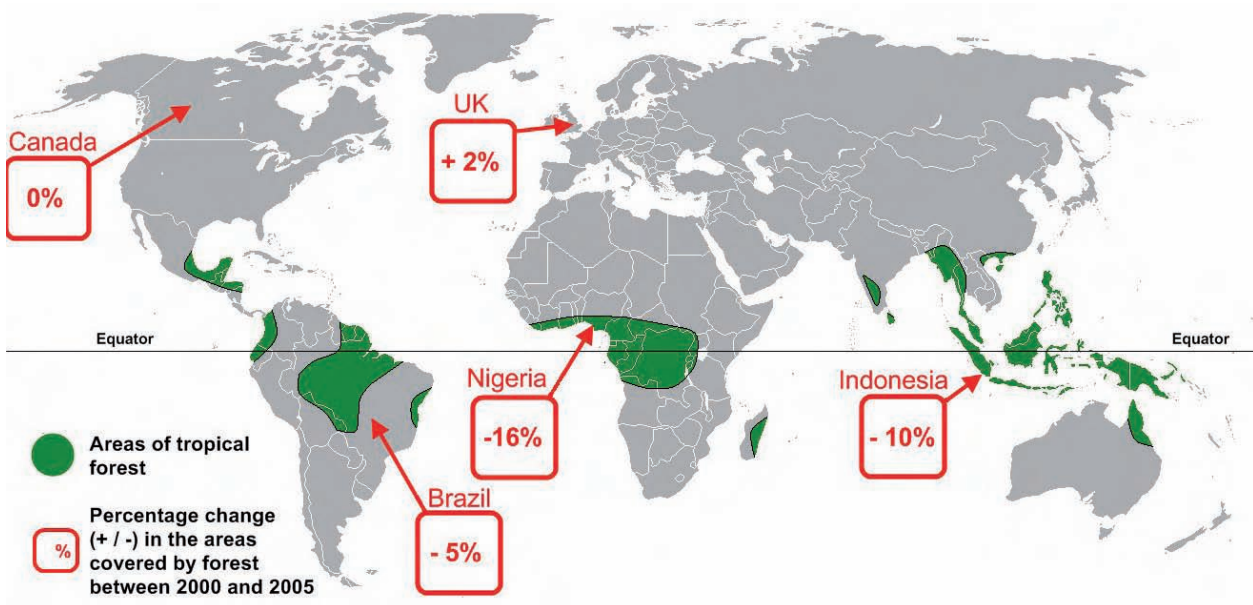


Figure 3

(a) Study Figure 3.

Where are tropical forests mainly found?

(1)

(b) Which country lost the largest percentage of forest?

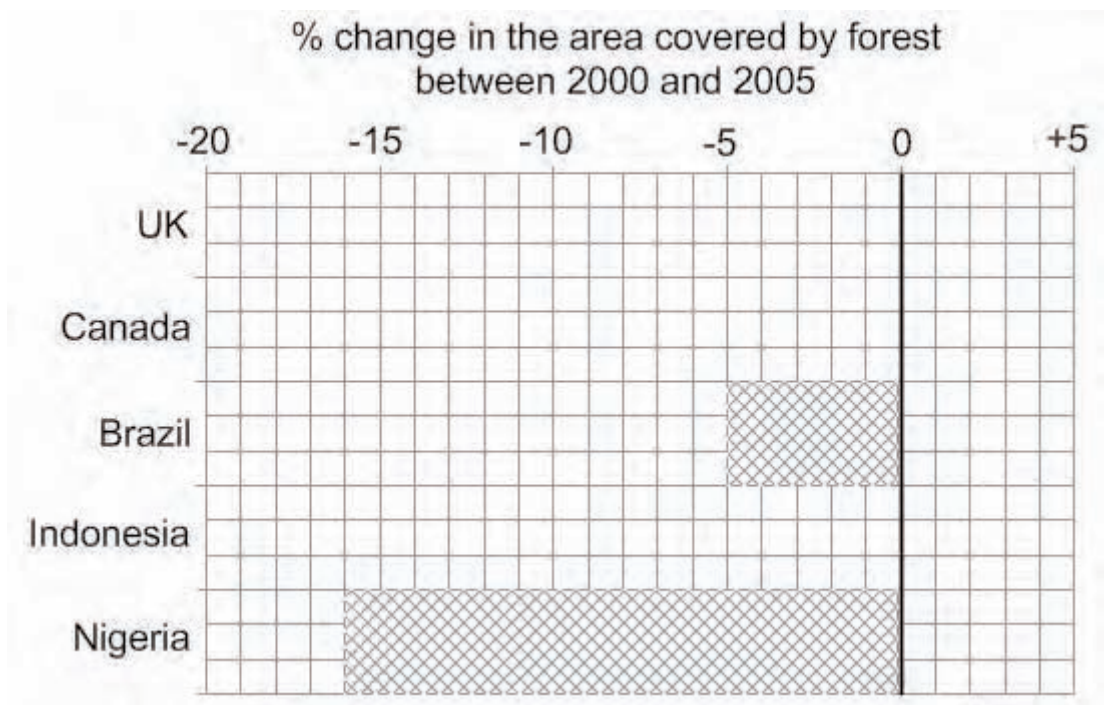
(1)

(c) Forests are ecosystems. Suggest **two** ways in which humans could protect ecosystems. (2)

1

2

(d) (i) Complete the graph below using data on the **UK** and **Indonesia** from **Figure 3**. Some of the graph has been completed to help you. (2)



(ii) Suggest **two** reasons for the large loss of forest in some countries. (2)

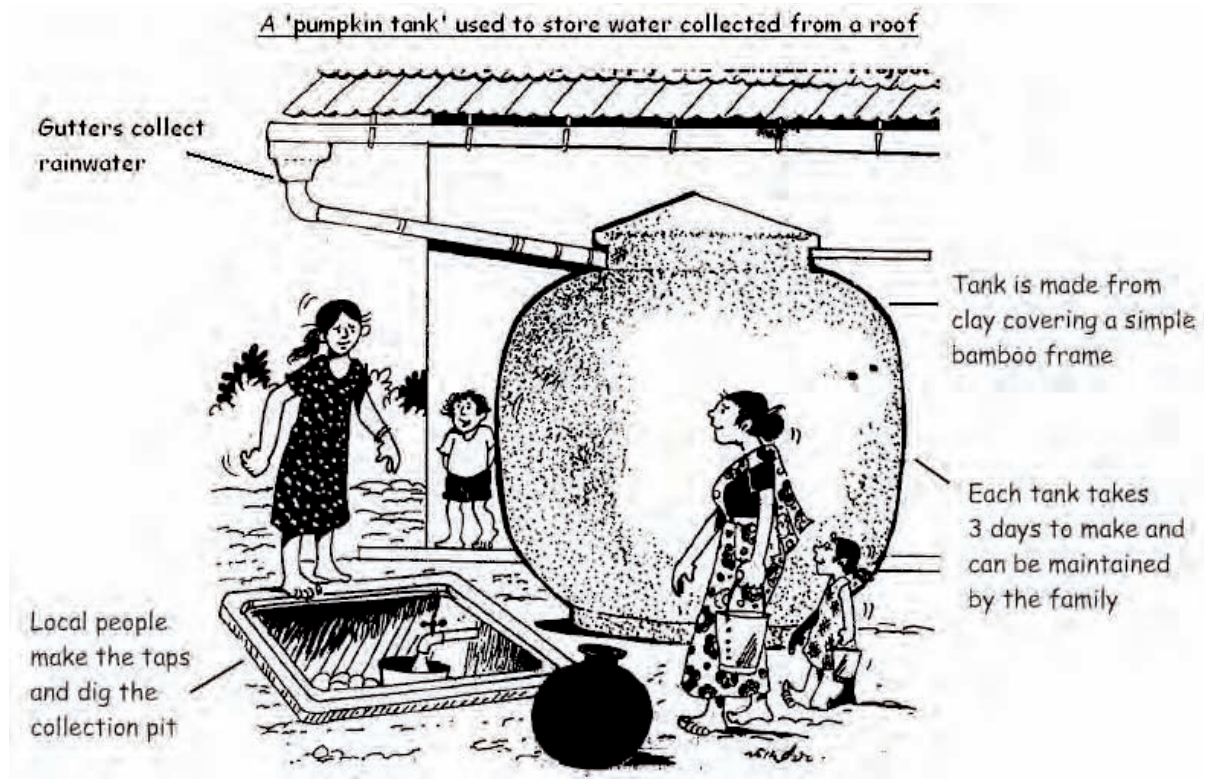
1

2

(Total for Question 3 = 8 marks)

Topic 4: Water World

4 Figure 4 shows a 'pumpkin tank' used to store water in the **developing** world.



(Source: adapted from 'Rainwater Harvesting', Practical Action)

Figure 4

(a) Study Figure 4.

Suggest **one** human use for the water that the pumpkin tank collects.

(1)

(b) Give **one** reason why the pumpkin tank is suitable for use in the **developing** world.

(1)

(c) Suggest **two** problems the people shown might experience if they have a poor water supply.

(2)

1

.....

2

.....

(d) Describe **two** ways in which human activities can reduce water supplies.

(4)

1

.....

.....

2

.....

.....

(Total for Question 4 = 8 marks)

TOTAL FOR SECTION A = 32 MARKS

SECTION B – SMALL SCALE DYNAMIC PLANET

Answer ONE question in this section.

Topic 5: Coastal Change and Conflict

If you answer Question 5 put a cross in this box .

5 Figure 5 shows coastal management at Hornsea in Yorkshire.

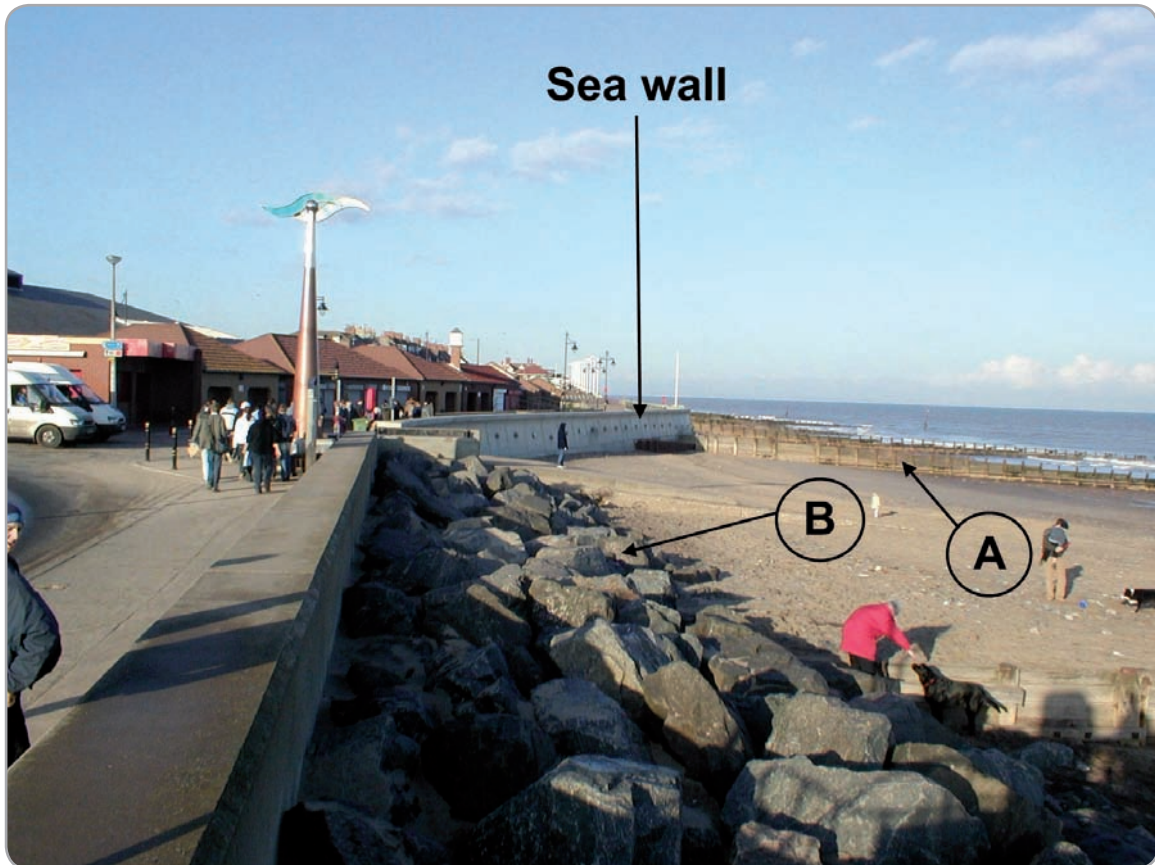


Figure 5

(a) Study Figure 5.

What type of coastal management structure is feature **A**?

(1)

Topic 6: River Processes and Pressures

If you answer Question 6 put a cross in this box .

- 6 Figure 6 shows two flood hydrographs from different parts of the same river system.

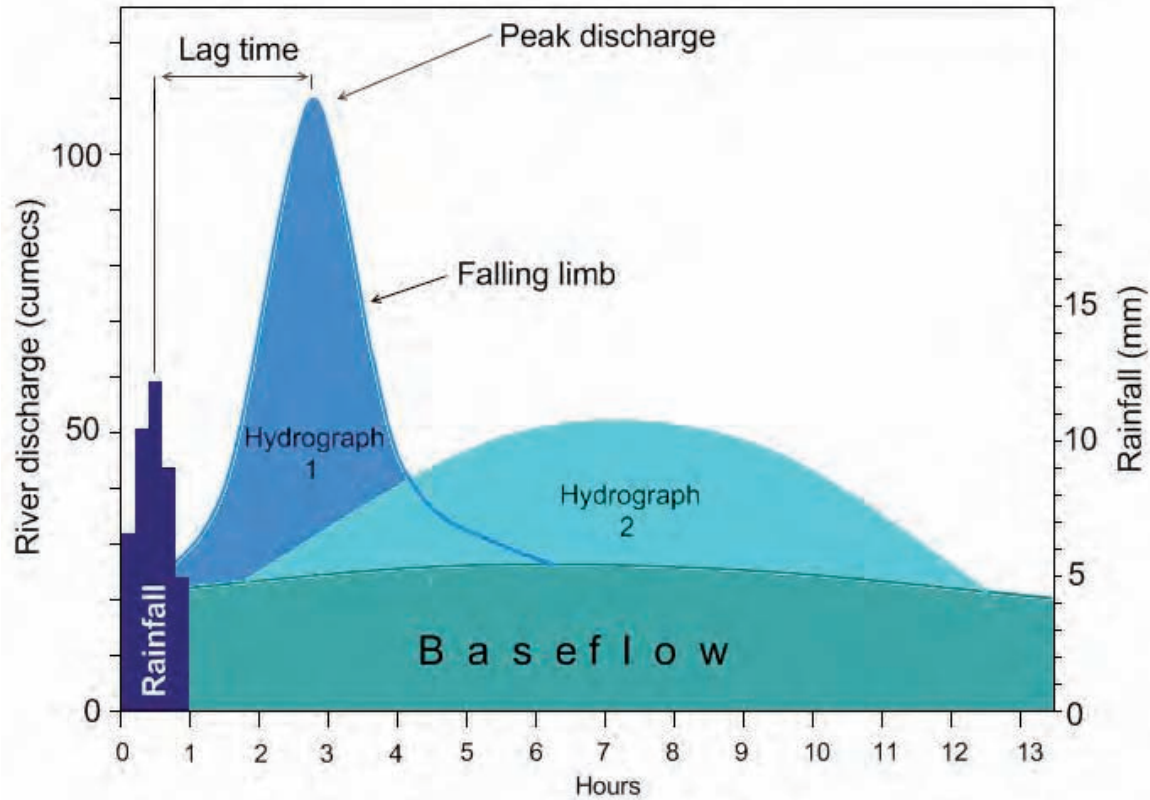


Figure 6

- (a) Study Figure 6.

How high was the peak discharge for **hydrograph 1**?

(1)

SECTION C – LARGE SCALE DYNAMIC PLANET

Answer ONE question in this section.

Topic 7: Oceans on the Edge

If you answer Question 7 put a cross in this box .

7 Figure 7 shows the collapse of North West Atlantic cod fish stocks between 1960 and 2000.

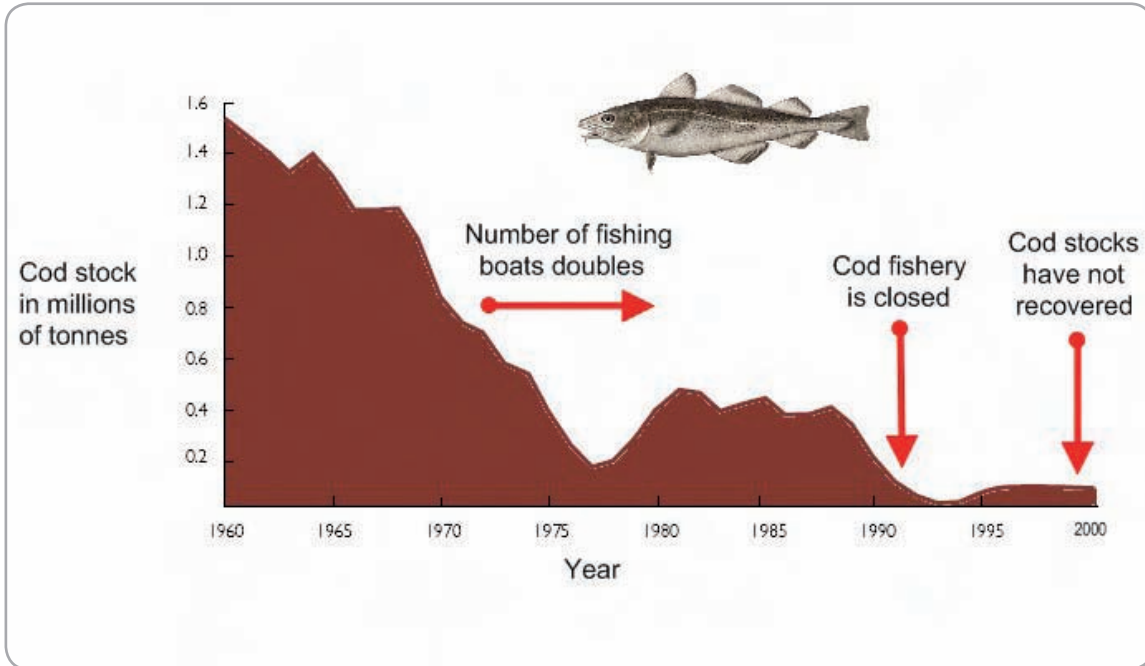


Figure 7

(a) Study Figure 7.

In which year were cod stocks highest?

(1)

(b) Describe how cod stocks changed between 1960 and 2000.

(2)

Topic 8: Extreme Climates

If you answer Question 8 put a cross in this box .

8 Figure 8 shows how two houses are adapted to extreme climates.

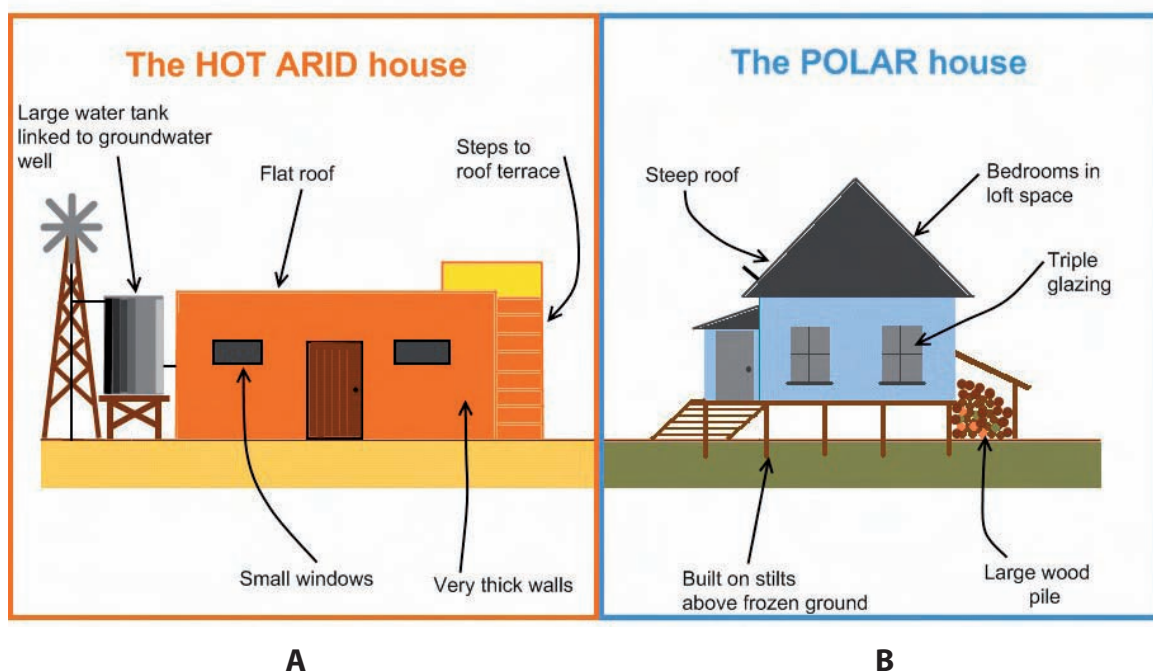


Figure 8

(a) Study Figure 8.

For **either** house **A** or house **B**, state **one** feature designed to store natural resources. (1)

(b) For **either** house **A** or house **B**, describe how the house design allows people inside to survive in an extreme climate. (2)

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Sample Mark Scheme

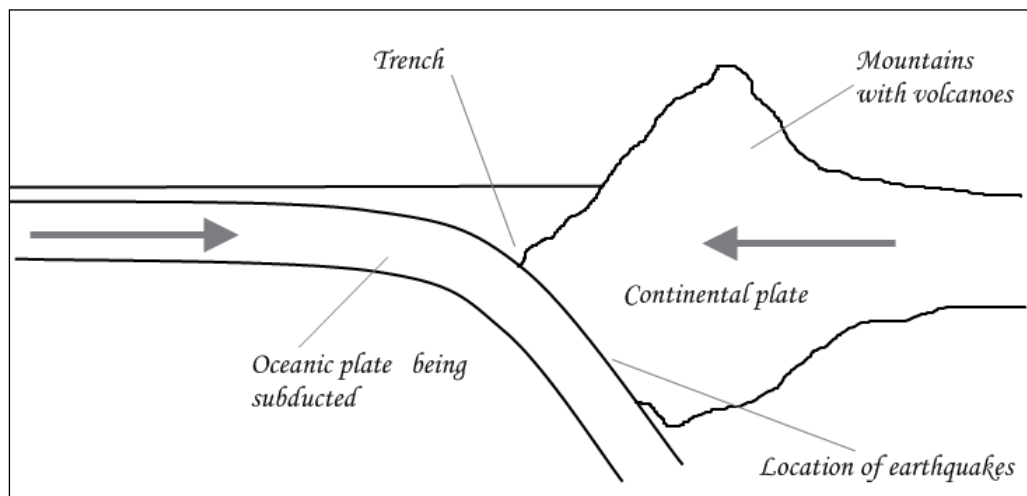
Unit 1F: Dynamic Planet

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
1(a)(i)	<ul style="list-style-type: none"> • Wood (1) • Brick/Mud brick (1) 	Concrete Stone	Tent Canvas	1

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
1(a)(ii)	Aid has been provided (1) Relief has been given to the victims (1)	Need somewhere to live or learn. Put up by an NGO etc.		1

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
1(b)	Any 2 from: <ul style="list-style-type: none"> • Lack of money/poverty means people have few resources (1) • Unlikely to have been well prepared (1) • May lack emergency services (1) • Buildings may be poorly built due to low incomes (1) 	Answers which focus on poverty/lack of money and food.	Answers which focus on the magnitude of the earthquake.	2

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
1(c)	<p>1 mark for showing the correct position of the two plates.</p> <p>1 mark for showing movement, ie together/under/up and over in the case of a collision zone.</p> <p>1 mark for labelling a subduction zone and/or trench, and/or area of fold mountains.</p> <p>Credit additional labels such as earthquake locations and volcano locations.</p> <p>The example below shows an answer worth 4 marks:</p>	<ul style="list-style-type: none"> • Compressional margin • One plate moving under another (OC or OO) 	Plates moving apart/extensional or past each other.	4



Question Number	Correct Answer	Acceptable Answers	Reject	Mark
2(a)	Precipitation will be less/it will fall/go down (1)	It will be drier (1)	Rises, or not about precipitation	1

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
2(b)	Any from <ul style="list-style-type: none"> • Carbon dioxide • Methane • CFCs • Nitrogen oxide(s) 	CO ₂ CH ₄ NO/NO ₂ /NO _x	Any other answer eg water vapour	1

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
2(c)	Any 2 from: <ul style="list-style-type: none"> • Lower yields/income for farmers (1). • People lose property due to hazard damage (1). • Insurance costs rise (1). • Have to pay more for water supplies (1). 	Fishermen lose income as fish die.	Comments using physical changes from the resource, not linked to people.	2

Question Number	Correct Answer	Reject	Mark
2(d)	<p>Definition of risk (1). Extreme weather will become more common (1), eg tornadoes, storms, fires and blizzards (1). Lives might be put at risk through falling food production (1), possibly linked to drought (1) brought on by changing climate norms. Disease risk could increase (1), possibly linked to changing water quality or spreading malaria (1).</p> <p>1 mark for a basic description of a marking point. 2 marks for a development of the marking point. Maximum of 4 marks.</p>	Answers which argue climate change will improve life.	4

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
3(a)	Close to/on the equator (1)	Between the tropics. In low latitudes	Named countries. Along the middle etc.	1

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
3(b)	Nigeria		Any other answer	1

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
3(c)	Accept any reasonable such as: <ul style="list-style-type: none"> • National parks (1), Nature reserves (1) • Conservation areas (1) • Sustainable management strategies (1) • Limits of taking resources, eg timber (1) • Consumer based approaches, eg FSC mark on wood (1). <p style="text-align: right;">(2 x 1)</p>	Pollution reduction. Farming using fewer chemicals.	Examples which are about destruction or very poorly linked to ecosystems.	2

Question Number	Correct Answer	Mark
3(d)(i)	Correct bar drawn in (shading not required if outline is clear) (1) Indonesia label (1)	2

Question Number	Correct Answer	Mark
3(d)(ii)	Reasons accept any of: Deforestation has taken place(1) For wood to sell/burn(1) or for more farmland (1) LEDC countries which need to use the land to develop (1) No laws and regulations to protect forests from destruction (1).	2

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
4(a)	Drinking (1) Washing (1) Cooking (1) Irrigation (1)	Those which clearly imply those to the left such as 'watering crops to help them grow'. Water for farm animals.	Non-human uses unless linked. Answers inappropriate in the context, eg washing a car.	1

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
4(b)	<ul style="list-style-type: none"> The technology is simple. It improves lives directly eg health. Likely to be cheap/Easy to build/maintain/ uses local resources. 1 mark for a reasonable statement	It is sustainable/will last a long time.	Developed world focus.	1

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
4(c)	<ul style="list-style-type: none"> Poor health or similar (1). Poor farming conditions; food insecurity (1). Poor hygiene/increased risk of disease (1). (2 x 1)	High costs of buying water.	Positive answers. Non-human consequences.	2

Question Number	Correct Answer	Mark
4(d)	Over-abstraction of groundwater (1) (taking too much, the water table falls), eg the Great Plains (1). Reduction of supply by removing too much from river systems (1), eg Colorado (1). Climate change reducing rainfall or changing rainfall patterns (1). Pollution of water supplies (1) which mean they cannot be safely used (1). Award 1 mark for each appropriately used named example. 1 mark for a basic description of a marking point 2 marks for a development of the marking point. Maximum of 4 marks.	(4 x 1) 4

Question Number	Answer	Mark
5(a)	Groyne	1

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
5(b)	<p>Rocks prevent waves damaging the sea wall (1), they dissipate/absorb wave energy/power (1), trap beach sand (1).</p> <p>1 mark for a basic description of a marking point. 2 marks for a development of the marking point.</p>		Anything not focussed on the rip-rap.	2

Question Number	Indicative content	
5(c) QWC i-ii-iii	<p>Examples could include any part of the UK coast, or example from overseas.</p> <p>There are a wide range of possible methods:</p> <p>Groynes: Trap sediment brought in by longshore drift (LSD), build beaches and dissipate wave energy.</p> <p>Sea walls: Physically prevent waves causing erosion by protecting cliffs, reflect or dissipate wave energy.</p> <p>Rip-rap/revetments: Break up waves, offshore breakwaters cause wave breaking before waves reach shore.</p> <p>Beach nourishment: Increases beach extent and absorbs wave energy.</p> <p>Accept answers which focus on coastal realignment/managed retreat etc.</p>	
Level	Mark	Descriptor
Level 0	0	No acceptable response.
Level 1	1-2	<p>The response attempts to explain a few management methods, but with little accuracy. There are no examples. The response is not well focussed on coastal management. Explanations offered are not clear.</p> <p>Basic use of geographical terminology, spelling, punctuation and grammar.</p>
Level 2	3-4	<p>Some structure. The response uses several examples (or one in depth), with some detail. Several management measures are explained and these explanations are broadly correct. Clearly communicated, but with limited use of geographical terminology, spelling, punctuation and grammar.</p>
Level 3	5-6	<p>Structured answer. The response uses several detailed and appropriate examples of coastal management methods. There are a range of explanations used and there is depth of understanding present. Well communicated with good use of geographical terminology, spelling, punctuation and grammar.</p>

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
6(a)	110 cumecs	<ul style="list-style-type: none"> • 110 • Range is 105-115 	Answers beyond this range	1

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
6(b)	<p>Rises slowly/steadily (1), shallow/flat (1). Credit description of time taken to rise/fall (1). Low peak (1).</p> <p>1 mark for a basic description of a marking point. 2 marks for a development of the marking point.</p>	Not steep	Answers clearly describing hydrograph 1. Very vague answers such as 'curvy' etc.	2

Question Number	Indicative content	
6(c) QWC i-ii-iii	<ul style="list-style-type: none"> • Hydrograph 1 could result from urbanisation. This decreases infiltration and promotes rapid surface runoff hence the shorter lag time, and higher peak. Deforestation or changing farm practice could have similar results. • Accept impermeable rock type, eg clay or granite could produce a similar shape, as could a small, round drainage basin. Very heavy rainfall/previous wet conditions. 	
Level	Mark	Descriptor
Level 0	0	No acceptable response.
Level 1	1-2	The response attempts to explain the hydrograph, but with little accuracy. The response lacks a clear link to lag time/peak height. Explanations offered are not clear. Basic use of geographical terminology, spelling, punctuation and grammar.
Level 2	3-4	Some structure. Some accurate explanation but there is also some links to processes such as urban areas or very steep slopes; some explanations are clear. Clearly communicated, but with limited use of geographical terminology, spelling, punctuation and grammar.
Level 3	5-6	Structured answer. The response uses detailed explanations linked to processes such as runoff. There are a range of explanations used and there is depth of understanding present. Well communicated with good use of geographical terminology, spelling, punctuation and grammar.

Question Number	Answer	Mark
7(a)	1960	1

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
7(b)	<p>Cod stocks fell (1), there periods, eg 1980-1988 when stocks were stable or rising (1), there are periods of rapid decline, eg early 1970s, very late 80s (1).</p> <p>1 mark for a basic description of a marking point. 2 marks for a development of the marking point.</p>	A downwards trend statement supported by accurate data/dates might gain 2 marks.	Upward or stable overall trends. Lift off of text.	2

Question Number	Indicative content	
7(c) QWC i-ii-iii	<p>Examples could include St Lucia, Great Barrier Reef and many other coral areas. The choice of location and ecosystem/type is not important but examples in Levels 2 and 3 should be local (not 'the Atlantic') and marine (no rivers or lakes). There should be some link to sustainability, and a range of methods such as zoning, reserves, quotas of fishing, bans on certain activities.</p>	
Level	Mark	Descriptor
Level 0	0	No acceptable response.
Level 1	1-2	The response attempts to explain a few ways in which marine areas might be managed, but with no real detail. Scale could be inappropriate. No link to sustainability. Lacks focus and organisation. Basic use of geographical terminology, spelling, punctuation and grammar.
Level 2	3-4	Some structure. Explains a range of management methods with implied understanding of sustainability through use of some appropriate examples. Some explanation of chosen examples, although this is variable. Examples are broadly appropriate with some range, methods of management may not all be. Clearly communicated, but with limited use of geographical terminology, spelling, punctuation and grammar.
Level 3	5-6	Structured answer. Explains a range of examples at the correct scale, ie small/local and has correct details. There is a very clear link to marine ecosystems. Explicit understanding of sustainability. Well communicated with good use of geographical terminology, spelling, punctuation and grammar.

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
8 (a)	A: Water tank (1) B: Wood pile/shed/lean to (1)		Other options from the figure.	1

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
8(b)	A: Small windows stop heat getting in/out (1), thick walls keep it cool (1). B: Triple glazing keeps it warm (1), bedrooms in loft space for warmth (1). Accept 2 marks from one house. 1 mark for a basic description of a marking point. 2 marks for a development of the marking point.	A: Sleep outside on the roof to keep cool (1), water stored during dry periods (1). B: Wood store provides winter heat (1), sloping roof sheds snow (1).	Other options from the figure.	2

Question Number	Indicative content	
8(c) QWC i-ii-iii	<p>Polar Cold: Details of temperatures, ie below freezing for much of the year. Long winters with intense cold and long nights/no daylight. Short summers with temperatures around 10 °C. Short growing/breeding season for plants. Permafrost present. Low precipitation but this mainly falls as snow. Other features such as glaciers and ice caps might be described, as might sea ice. River regimes (frozen in winter). Accept details of plant and animal adaptations.</p> <p>Hot Arid Hot: Details of temperatures and lack of seasonality, perhaps some rains for short time. Generally arid (precipitation levels) all year round. Cold night, intense sunshine during day. Rivers which flow only after rain, accept details of plant and animal adaptations.</p>	
Level	Mark	Descriptor
Level 0	0	No acceptable response.
Level 1	1-2	Describes a few physical characteristics with no detail; does not move beyond 'very cold' or similar. No significant link to chosen location. Lacks focus and organisation. Basic use of geographical terminology, spelling, punctuation and grammar.
Level 2	3-4	Some structure. Describes a range of characteristics with some detail for some areas, and with some use of appropriate examples. Some detailed description of chosen examples although this is variable. Examples are broadly appropriate, with a range generally, or one or two areas more specifically. Clearly communicated, but with limited use of geographical terminology, spelling, punctuation and grammar.
Level 3	5-6	Structured answer. Describes a good range of characteristics in some depth with appropriate details/data. Uses examples to illustrate descriptions. Accurate and clear link to chosen extreme environment. Well communicated with good use of geographical terminology, spelling, punctuation and grammar.

Write your name here

Surname

Other names

Centre Number

Candidate Number

Edexcel GCSE

Geography B

Unit 1: Dynamic Planet

Higher Tier

Sample Assessment Material

Time: 1 hour

Paper Reference

5GB1H/01

You do not need any other materials.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
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- Check your answers if you have time at the end.

Turn over ►

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SECTION A – INTRODUCTION TO THE DYNAMIC PLANET

Answer ALL questions in this section.

Topic 1: Restless Earth

- 1 Figure 1 shows damage to a school caused by the Kashmir earthquake in Pakistan in 2005.



(Source: Professor David Petley, University of Durham)

Figure 1

(a) Study Figure 1.

Identify **two** damages caused by the earthquake.

(2)

- 1
- 2

(b) Describe how this school was especially vulnerable to earthquake damage.

(2)

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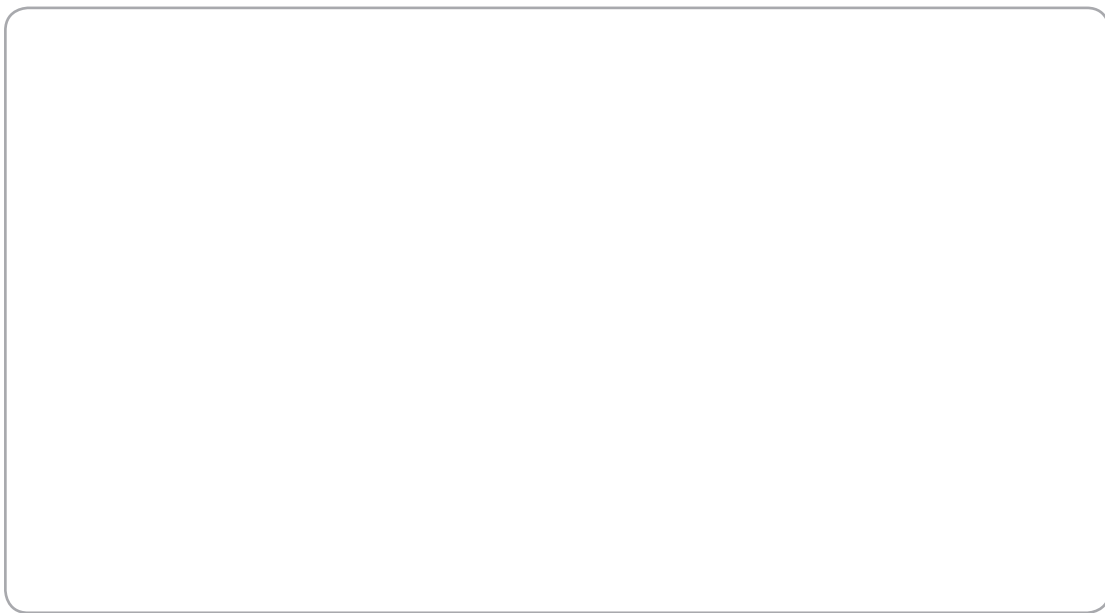
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(c) The 2005 Kashmir earthquake happened on a **destructive** plate margin.

Explain why earthquakes happen on destructive plate margins. You may draw a diagram to help you with your answer.

(4)



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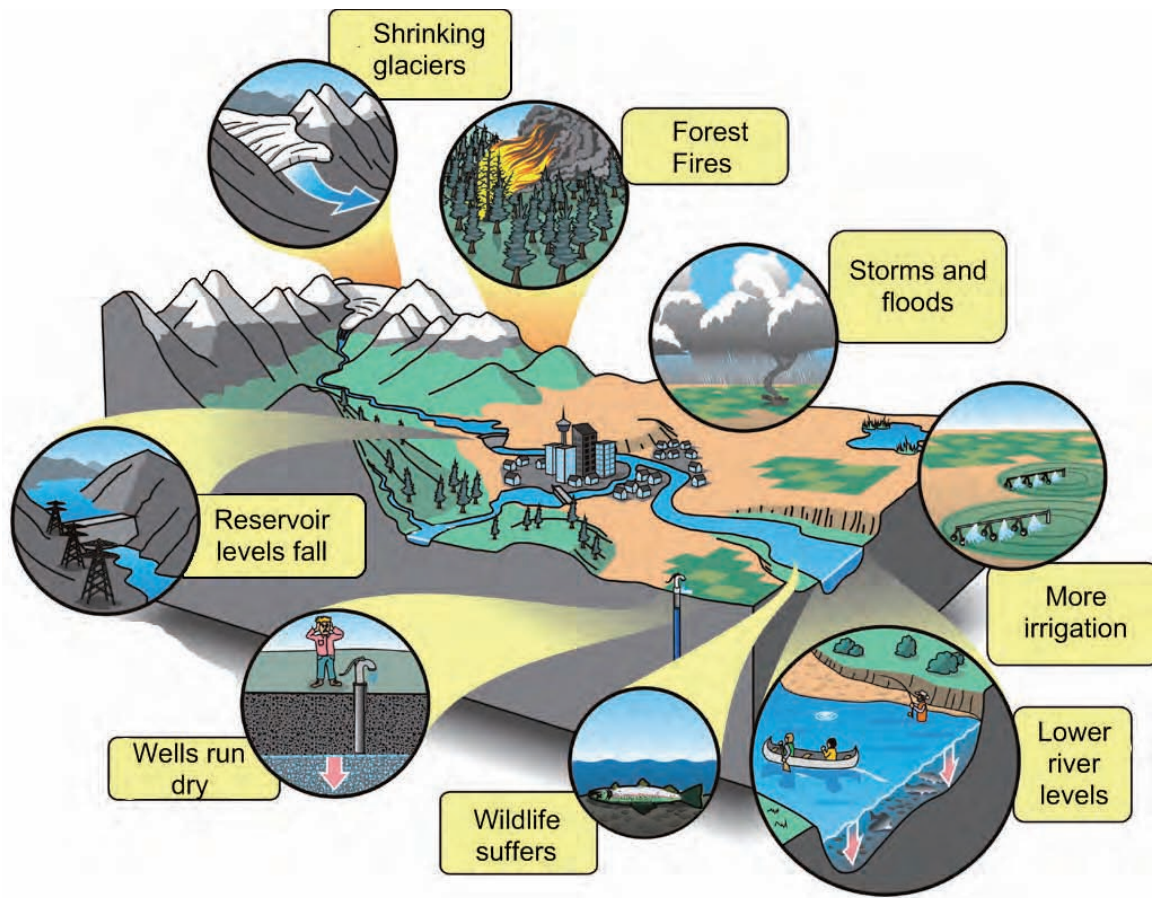
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(Total for Question 1 = 8 marks)

Topic 2: Climate and Change

2 Figure 2 shows how climate change might affect the hydrological cycle in Canada.



(Source: adapted from Natural Resources Canada website, www.nrcan-rncan.gc.ca/com)

Figure 2

(a) Study Figure 2.

Identify **one economic** impact and **one ecological** impact of climate change from Figure 2.

(2)

Economic impact:

.....

Ecological impact:

.....

(b) Describe **one** way in which climate change could cause the level of water in the river to change.

(2)

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(c) Explain how future climate change in Canada may increasingly put people's lives at risk.

(4)

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(Total for Question 2 = 8 marks)

Topic 3: Battle for the Biosphere

- 3 Figure 3 shows the location of areas of tropical forest. It also shows changes in the area covered by forest between the year 2000 and 2005.

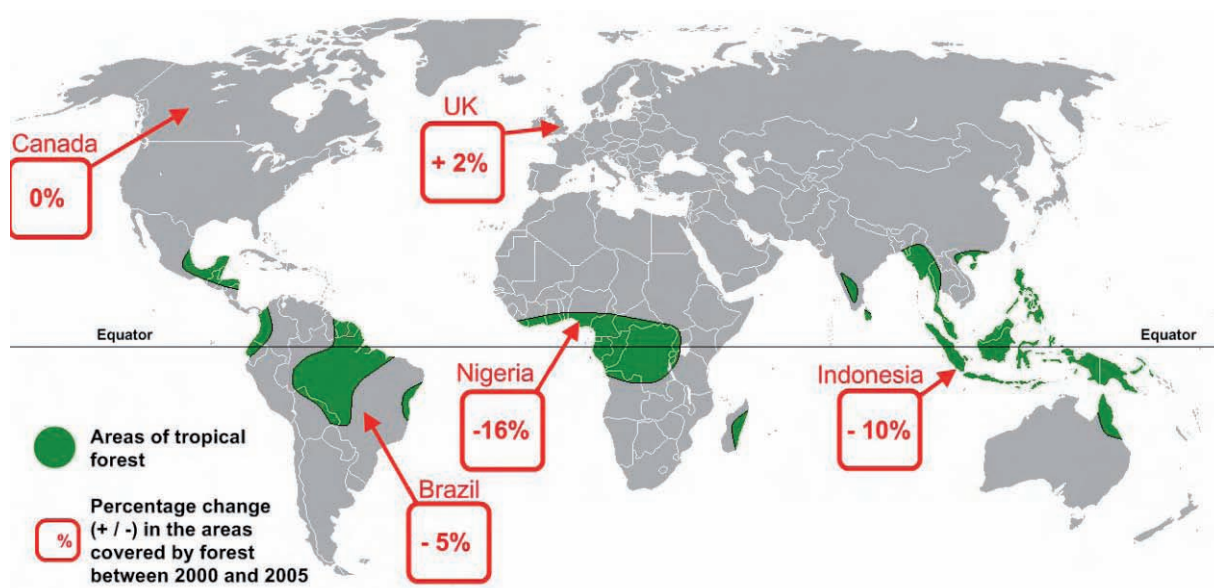


Figure 3

- (a) Study Figure 3.

Describe the distribution of tropical forests shown in Figure 3.

(2)

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- (b) Suggest **two** reasons for this distribution.

(2)

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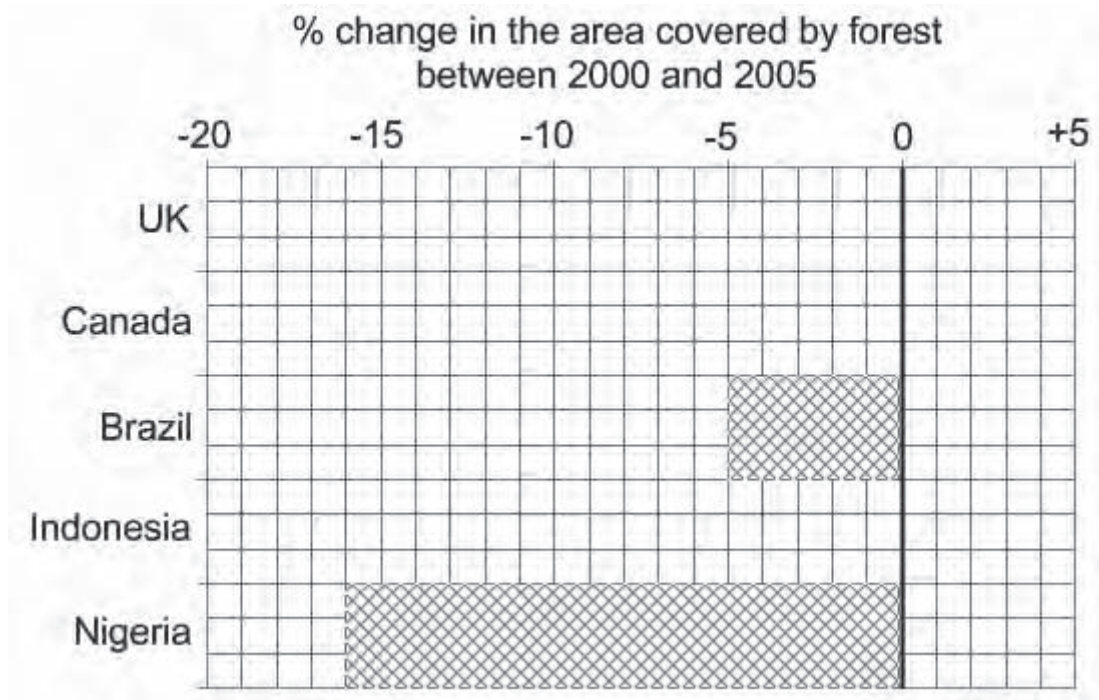
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- (c) (i) Complete the graph below using data on the **UK** and **Indonesia** from **Figure 3**. Some of the graph has been completed to help you. (2)



- (ii) Suggest reasons why some countries have: (2)

More forest in 2005 compared to 2000:

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Less forest in 2005 compared to 2000:

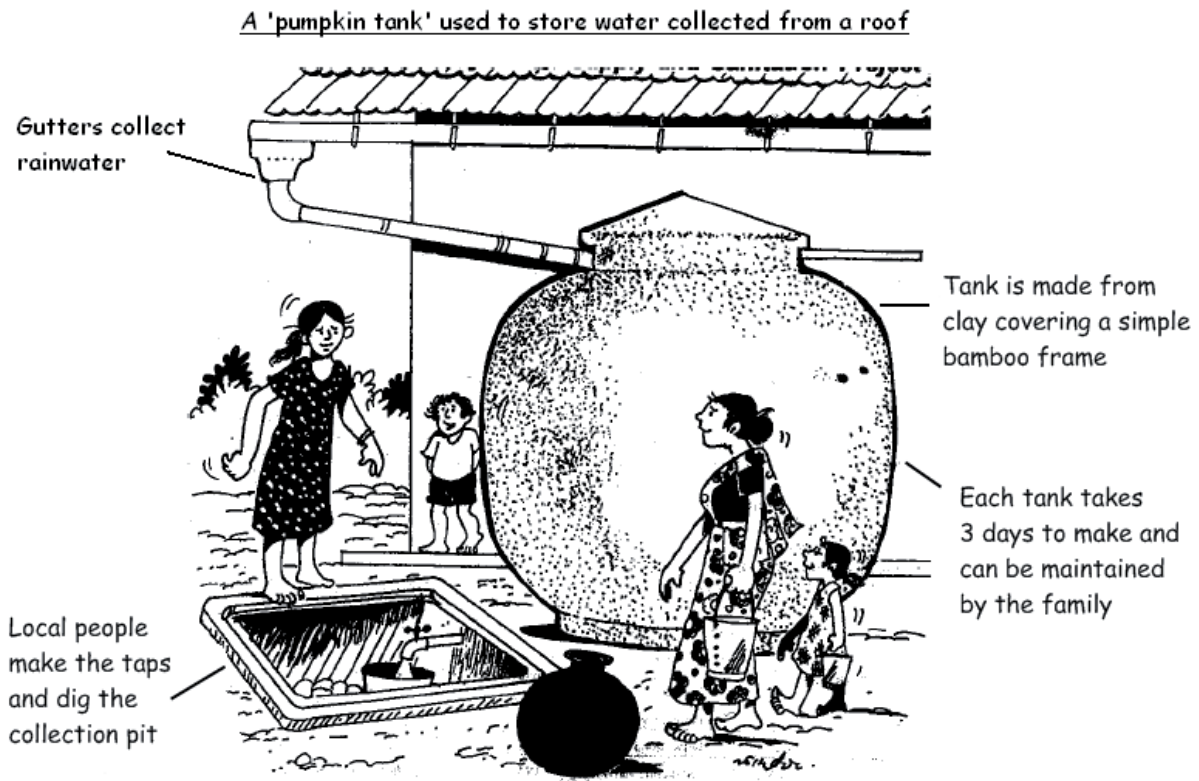
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(Total for Question 3 = 8 marks)

Topic 4: Water World

4 Figure 4 shows a 'pumpkin tank' used to store water in the **developing** world.



(Source: adapted from 'Rainwater Harvesting', Practical Action)

Figure 4

(a) Study Figure 4.

Explain how the pumpkin tank is an example of **intermediate technology**.

(2)

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(b) Suggest **two** problems the people shown might experience if they have a poor water supply.

(2)

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(c) Using examples, explain how human activity can reduce water supplies.

(4)

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(Total for Question 4 = 8 marks)

TOTAL FOR SECTION A = 32 MARKS

SECTION B – SMALL SCALE DYNAMIC PLANET

Answer ONE question in this section.

Topic 5: Coastal Change and Conflict

If you answer Question 5 put a cross in this box .

5 Figure 5 shows coastal management at Hornsea in Yorkshire.



Figure 5

(a) Study Figure 5.

Name coastal management measure **C**.

(1)

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Topic 6: River Processes and Pressures

If you answer Question 6 put a cross in this box .

6 Figure 6 shows two flood hydrographs from different parts of the same river system.

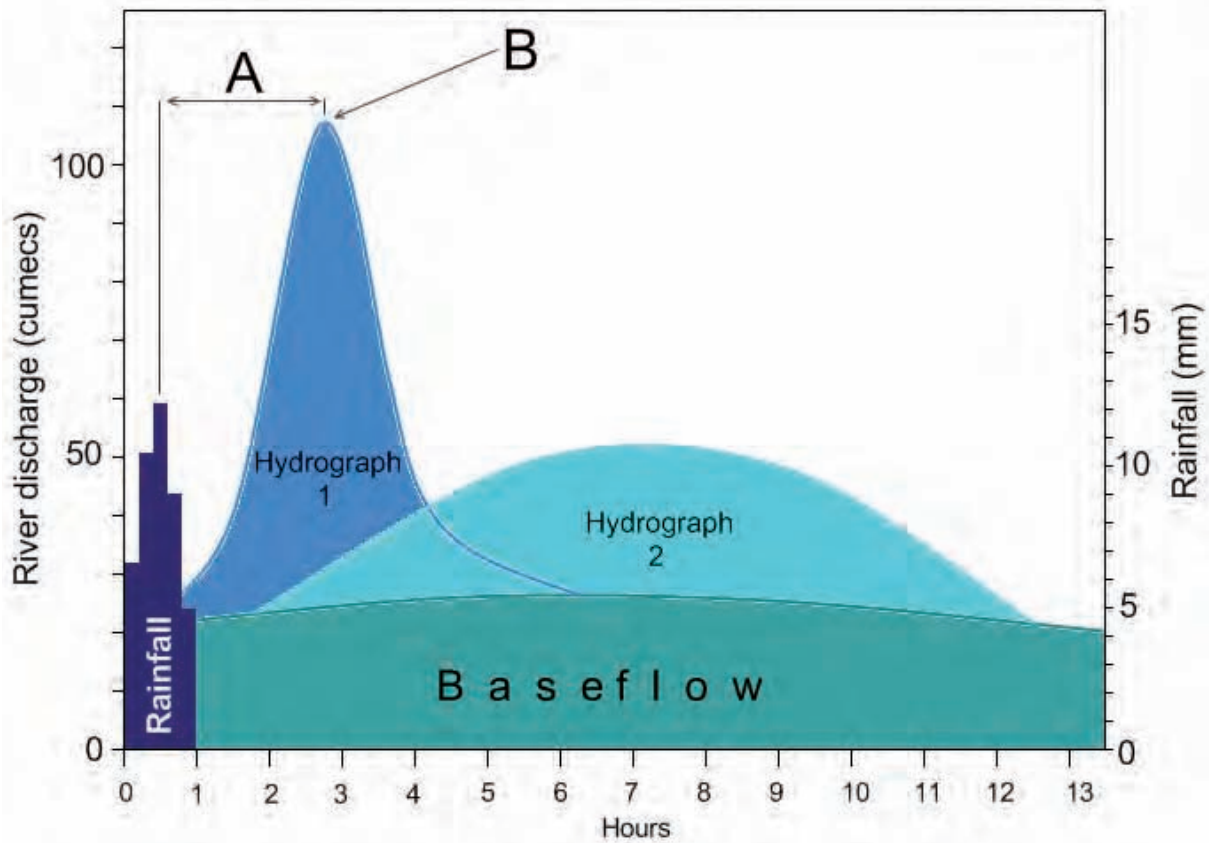


Figure 6

(a) Study Figure 6.

Name the flood hydrograph feature **A**.

(1)

(b) Explain why flood hydrograph 1 is more of a hazard to people compared to hydrograph 2.

(2)

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*(c) Explain how the shapes of hydrographs 1 and 2 might be affected by **physical** and **human** factors.

(6)

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(Total for Question 6 = 9 marks)

TOTAL FOR SECTION B = 9 MARKS

SECTION C – LARGE SCALE DYNAMIC PLANET

Answer ONE question in this section.

Topic 7: Oceans on the Edge

If you answer Question 7 put a cross in this box .

- 7 Figure 7 shows the collapse of North West Atlantic cod fish stocks between 1960 and 2000.

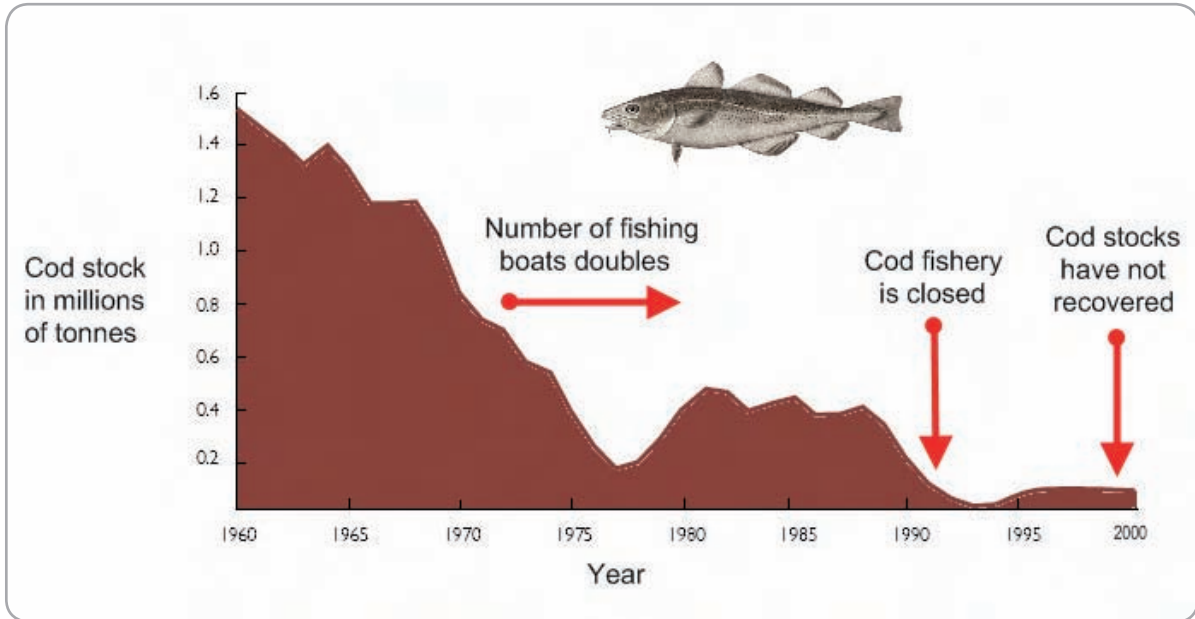


Figure 7

- (a) Study Figure 7.

What was the cod stock in millions of tons in 1975?

(1)

- (b) Describe the trend of the graph.

(2)

*(c) Using named examples, explain how humans can have both **positive** and **negative** impacts on marine ecosystems.

(6)

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(Total for Question 7 = 9 marks)

Topic 8: Extreme Climates

If you answer Question 8 put a cross in this box .

8 Figure 8 shows how two houses are adapted to extreme climates.

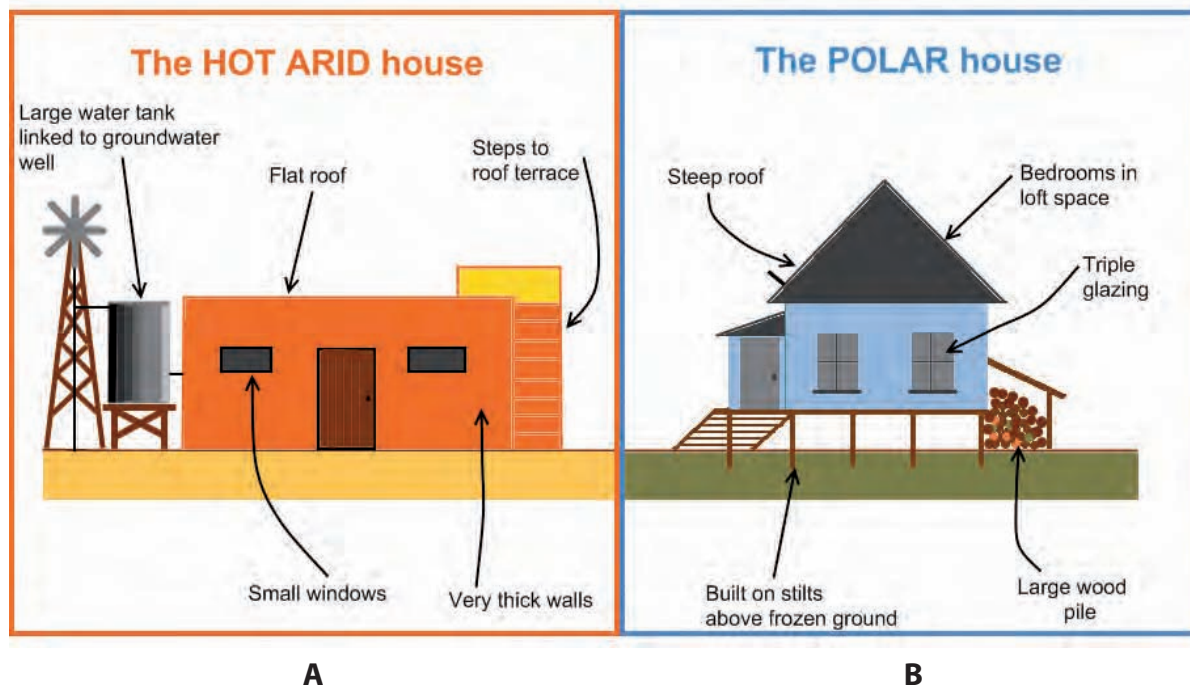


Figure 8

(a) Study Figure 8.

For **either** house **A** or house **B**, give **one** reason for the shape of the roof.

(1)

(b) For **either** house **A** or **B**, describe how it is adapted to the extreme climate.

(2)

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Sample Mark Scheme

Unit 1H: Dynamic Planet

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
1(a)	<ul style="list-style-type: none"> Collapsed walls (1) Fallen roof (1) <p>1 mark for each (2 x 1)</p>	<ul style="list-style-type: none"> Tilted sign Rockfall or similar 	Tent	2

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
1(b)	<p>Likely to have been poorly built (1), as Kashmir is in a poorer developing country (1). Steep slope behind could have triggered landslide/rock fall onto school (1).</p> <p>1 mark for a basic description of a marking point. 2 marks for a development of the marking point.</p>	Loose ground could have been prone to intense shaking.	Answers which focus on the magnitude of the earthquake as this cannot be determined from the resource.	2

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
1(c)	<p>Destructive margin is where 2 plates collide (1), one plate is subducted (1), friction between the two plates (1), pressure builds and eventually gives way (1), energy release is the earthquake (1).</p> <p>1 mark for a basic explanation of a marking point. 2 marks for a development of the marking point. Maximum of 4 marks.</p>	<ul style="list-style-type: none"> Compressional margin. One plate moving under another. If a diagram is drawn: correct position of both plates (1); arrows or similar show movement (1); correct label (1). 	Plates moving apart/extensional or past each other.	4

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
2(a)	<p>Economic:</p> <ul style="list-style-type: none"> • Water supply (1) • Irrigation (1) <p>Ecological:</p> <ul style="list-style-type: none"> • Forest fires (1) • Wildlife(1) <p>(2 x 1)</p>	<p>Economic damage from weather hazards or similar.</p> <p>Recreation activities reduced (1).</p> <p>Decreased HEP (1).</p> <p>Lower water quality (1).</p>	<p>Shrinking glaciers.</p> <p>Extreme weather with no further comment.</p>	2

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
2(b)	<p>It could rise due to increased precipitation (1) and/or snowmelt (rising temperature)(1), leading to greater river discharge (1).</p> <p>It could fall due to decreased precipitation (1), or increased evapotranspiration (1), shrinking glaciers reduce river discharge (1).</p> <p>NB two reasons for rise, or fall, are acceptable.</p> <p>(2 x 1)</p>	<p>Arguments that climate change causes people to use more water from the river, eg fighting forest fires.</p> <p>River becomes more variable.</p>	<p>Dam bursts or similar.</p>	2

Question Number	Correct Answer	Reject	Mark
2(c)	<p>Definition of risk (1) Extreme weather will become more common, eg tornadoes, storms, fires and blizzards (1). People's lives directly at risk; if climate change increases these events, more people will be affected (1). Lives might be put at risk through falling food production (1), possibly linked to drought (1), brought on by changing climate norms. Disease risk could increase (1), possibly linked to changing water quality or spreading malaria (1). Accept economic arguments that risk could result form loss of jobs linked to climate change (1).</p> <p style="text-align: right;">(4 x 1)</p> <p>1 mark for a basic explanation of a marking point. 2 marks for a development of the marking point. Maximum of 4 marks.</p>	Answers which argue climate change will improve life.	4

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
3(a)	<p>Along the equator (1), identification of an anomaly such as Mexico or Madagascar (1).</p> <p style="text-align: right;">(2 x 1)</p>	<p>Close to the equator. In low latitudes. Between the tropics.</p>	<p>Middle of the map or similar. A specific country from the map.</p>	2

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
3(b)	<p>Reasons include: High Temperatures (27 °C+) (1) High Precipitation (2000 mm+) (1) Altitude could be mentioned (1) linked to eg the Andes.</p> <p style="text-align: right;">(2 x 1)</p>	<p>Lack of seasonality in these locations. Basic 'hot and wet' answers are acceptable for 1 combined mark.</p>	Do not accept human factors, eg deforestation.	2

Question Number	Correct Answer	Mark
3(c)(i)	Correct drawing of bar for the UK (1), correct drawing of the bar for Indonesia (1). NB shading is not required if the outline drawn is clear. <p style="text-align: right;">(2 x 1)</p>	2

Question Number	Correct Answer	Mark
3(c)(ii)	<p>More forest: Conservation and replanting policies or sustainable forestry (1) might increase cover. Accept attitude/value, or work of NGOs/Pressure groups (1) if clearly stated.</p> <p>Less forest: The rising demand for resources (timber, fuel wood, farmland) might be causing deforestation (1).</p> <p>Reasoned statement needed, do not accept a one word response such as 'deforestation' or 'afforestation'.</p> <p style="text-align: right;">(2 x 1)</p>	2

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
4(a)	<p>Affordable, because it uses low cost materials (1), which is necessary in a poorer developing country (1). Easy to build/maintain because it uses simple technology (1) and this fits with an area where training/education may be low (1)</p> <p>Local materials may be used which are cheap (or free) to get (1) therefore keeping costs to levels the people can afford (1).</p> <p>1 mark for a basic explanation of a marking point. 2 marks for a development of the marking point.</p> <p style="text-align: right;">(2 x 1)</p>	Answers which explain low inputs, eg no power is needed, or sustainability as the resource (water, and bamboo, mud) is renewable.	Hi tech/low tech or similar. Derogatory answers. Very basic one word statements such as 'cheap'. Description of the system.	2

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
4(b)	<ul style="list-style-type: none"> Poor health or similar (1). Poor farming conditions; food insecurity (1). Poor hygiene /increased risk of disease (1). <p>(2 x 1)</p>	High costs of buying water.	Positive answers. Non-human consequences.	2

Question Number	Correct Answer	Mark
4(c)	<p>Reduction in supply due to over-abstraction of groundwater (1), eg Great Plains. Reduction of supply by removing too much from river systems (1), eg Colorado. Climate change reducing rainfall or changing rainfall patterns (1). Pollution of water supplies which mean they cannot be safely used (1).</p> <p>1 mark for each appropriately used named example. 1 mark for a basic explanation of a marking point. 2 marks for a development of the marking point. A maximum of 4 marks.</p> <p>(4 x 1)</p>	4

Question Number	Correct Answer	Mark
5(a)	Groyne(s) (1)	1

Question Number	Correct Answer	Mark
5(b)	<p>Note: Structure A is a sea wall and B is rip rap. The rip rap protects the sea wall (1) by dissipating (absorbing) wave energy (1) and preventing large waves directly hitting the wall. The wall may have been damaged in the past (1), therefore requiring further defences to be built to protect it (1). Sea level rise or more storms, possibly linked to climate change(1) mean a need for more defences (1). The groyne(s) may have reduced beach size (1), therefore exposing the seawall to erosion, and requiring further defences (1).</p> <p>1 mark for a basic explanation of a marking point. 2 marks for a development of the marking point.</p>	2

Question Number	Indicative content	
5(c) QWC i-ii-iii	<p>Examples could include any part of the UK coast, or examples from overseas.</p> <p>There are a wide range of possible strategies:</p> <p>Traditional Groynes: Trap sediment brought in by longshore drift (LSD), build beaches and dissipate wave energy. Sea walls: Physically prevent waves causing erosion by protecting cliffs, reflect or dissipate wave energy. Rip-rap/revetments: Break up waves, offshore breakwaters cause wave breaking before waves reach shore.</p> <p>More modern Beach nourishment: Increases beach extent and absorbs wave energy. Coastal realignment/managed retreat, ie taking decisions that some areas are too costly or difficult to protect.</p>	
Level	Mark	Descriptor
Level 0	0	No acceptable response.
Level 1	1-2	The response attempts an explanation of a few management methods, but the explanation may not be clear. There are no examples used. There is no differentiation between traditional and more modern strategies. Basic use of geographical terminology, spelling, punctuation and grammar.
Level 2	3-4	Some structure. The response uses several examples (or one in depth), with some detail. Several management measures are explained. These are varied. More modern and traditional is implied rather than clearly stated. There is some balance between traditional and modern strategies. Clearly communicated, but with limited use of geographical terminology, spelling, punctuation and grammar.
Level 3	5-6	Structured answer. The response uses several detailed examples. A range of explanations are used and there is depth of understanding and detail present. Both traditional and modern strategies are clearly explained. Well communicated with good use of geographical terminology, spelling, punctuation and grammar.

Question Number	Answer	Mark
6(a)	Lag time	1

Question Number	Correct Answer	Mark
6(b)	<p>Following the rainfall event: Hydrograph 1 has a short lag time and reacts very quickly (1), which provides little warning of the flood hazard(1), river levels could rise dramatically very quickly (1). It is more likely to produce a flash flood (1), which is more damaging than gradual flooding (1).</p> <p>Do not expect comment on hydrograph 2, but credit a detailed comparison up to 2 marks. 1 mark for a basic explanation of a marking point. 2 points for a development of a marking point.</p>	2

Question Number	Indicative content	
6(c) QWC i-ii-iii	<ul style="list-style-type: none"> Hydrograph 1 could result from urbanisation. This decreases infiltration and promotes rapid surface runoff hence the shorter lag time, and higher peak. Deforestation or changing farm practice could have similar results. Accept impermeable rock type, eg clay or granite could produce a similar shape, as could a small, round drainage basin. Very heavy rainfall/previous wet conditions. Hydrograph 2 could be in an area of sandstone or limestone, promoting infiltration (permeable/porous) and throughflow, lengthening lag time and reducing peak. Accept afforestation or other land use change that could result in this. 	
Level	Mark	Descriptor
Level 0	0	No valid response.
Level 1	1-2	The response contrasts the two hydrographs, but there is little clear explanation. Lacks a link to lag time/peak height. There is no differentiation between physical and human factors. Basic use of geographical terminology, spelling, punctuation and grammar.
Level 2	3-4	Some structure. Some mention of human and physical factors in some detail, with some balance on human and physical factors. Some explanations of factors linked to processes and mentions both hydrographs. Clearly communicated, but with limited use of geographical terminology, spelling, punctuation and grammar.
Level 3	5-6	Structured answer. Balanced on both human and physical and both hydrographs. Explanations focus on processes. Likely to have details eg of rock type and explain how this effects processes. Uses process terms. Well communicated with good use of geographical terminology, spelling, punctuation and grammar.

Question Number	Answer	Mark
7(a)	0.4	1

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
7(b)	The trend is downward (1), there anomalous periods, eg 1980-1988 (stable or rising) (1), there are periods of rapid decline, eg early 1970s, very late 80s (1). (2 x 1)	A downwards trend statement supported by accurate data/dates might gain 2 marks.	Upward or stable overall trends. Lift off of text.	2

Question Number	Indicative content	
7(c) QWC i-ii-iii	<p>Examples could include St Lucia, Great Barrier Reef and many other coral areas. The choice of location and ecosystem/type is not important but examples in L2/L3 should be local (not 'the Atlantic') and marine (no rivers or lakes).</p> <p>Positive There is a wide range of possible impacts including conservation strategies that might involve zoning, creation of nature reserves or similar protected areas, quotas of fishing, bans on certain activities such as dynamite fishing or limiting tourism in particularly sensitive areas.</p> <p>Negative Impacts could focus on overfishing and damage to food chains, plus direct damage such as trawling and dynamite fishing, tourism such as taking coral as a souvenir. Also pollution from developments such as hotels on the shore, coral mining and other activities that remove resources, pollution from sea or land based sources such as oil spills and sewage/farm runoff.</p>	
Level	Mark	Descriptor
Level 0	0	No acceptable response.
Level 1	1-2	Attempts to explain some impacts on marine areas, but explanation may not be clear. The response is unbalanced (most likely negative impacts). There are no named examples and the impacts are generalised/lacking detail. It may be inaccurate. Basic use of geographical terminology, spelling, punctuation and grammar.
Level 2	3-4	Some structure. A response with some explanation. Some examples are used but these lack detail. There are some positive and negative impacts but not in great depth and the response is unbalanced in terms of positive and negative impacts. Clearly communicated, but with limited use of geographical terminology, spelling, punctuation and grammar.
Level 3	5-6	Structured answer. Examples are used in detail in a response which is balanced between negative and positive impacts. There is good use of terminology and the response has clear explanations. Well communicated with good use of geographical terminology, spelling, punctuation and grammar.

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
8(a)	Hot Arid - low rainfall/sleeping outside (1). Polar - snow slides off (1).			1

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
8(b)	Hot Arid Small windows - keeps heat out (1), thick walls keep inside cool (1). Polar Bedrooms in warmest part(1), triple glazing insulates from cold/keeps heat in (1), stilts prevent permafrost melt (1). (2 x 1)	Water tank if linked to aridity. Wood pile if linked to need for heat.	Responses not linked to Figure 8.	2

Question Number	Indicative content	
8(c) QWC i-ii-iii	<p>Examples could come from a range of locations, eg for polar Alaska, Siberia and other areas within the Arctic Circle and for hot arid from the Sahel, USA deserts and the outback. For global actions examples might be of treaties not named places.</p> <p>Global Expect discussion of attempts to limit climate change, eg Kyoto, Montreal or similar. These are relevant to both. There might also be mention of other agreements such as the Antarctic Treaty and possibly even CITES or other attempts to protect wildlife and heritage (UNESCO world heritage sites).</p> <p>Local At this scale accept examples that might be considered regional, and national. Be flexible with scale interpretation. Common themes will include protected areas (the ANWR), national park and conservation style approached, giving right (land and protection) to indigenous peoples and their traditional lifestyles, limiting resource exploitation.</p>	
Level	Mark	Descriptor
Level 0	0	No acceptable response.
Level 1	1-2	Attempted an explanation of some actions, but explanation may not be clear. The response is unbalanced between local and global (or unclear). Some generalised strategies may be mentioned but there is no detail or clear examples. Limited link to the chosen extreme environment. Basic use of geographical terminology, spelling, punctuation and grammar.
Level 2	3-4	Some structure and explanation. Some balance between local and global actions, the focus is on local or global although both are mentioned or inferred. Some examples are used for some ideas or strategies and there are some details. There is some linkage to the chosen extreme environment. Clearly communicated, but with limited use of geographical terminology, spelling, punctuation and grammar.
Level 3	5-6	Well explained and structured answer. There is a balance between local and global actions. Examples are used and there is depth and detail, eg named places and strategies especially at the local scale. There is a clear link to the chosen extreme environment. Well communicated with good use of geographical terminology, spelling, punctuation and grammar.

Write your name here

Surname

Other names

Centre Number

Candidate Number

Edexcel GCSE

Geography B

Unit 2: People and the Planet

Foundation Tier

Sample Assessment Material

Time: 1 hour

Paper Reference

5GB2F/01

You do not need any other materials.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** the questions in Section A. Answer **one** question from Section B and **one** question from Section C.
- Answer the questions in the spaces provided
– *there may be more space than you need.*

Information

- The total mark for this paper is 50.
- The marks for **each** question are shown in brackets
– *use this as a guide as to how much time to spend on each question.*
- Questions labelled with an **asterisk** (*) are ones where the quality of your written communication will be assessed
– *you should take particular care with your spelling, punctuation and grammar, as well as the clarity of expression, on these questions.*

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ►

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SECTION A – INTRODUCTION TO PEOPLE AND THE PLANET

Answer ALL questions in this section.

Topic 1: Population Dynamics

1 Figure 1 shows birth and death rates for four countries.

Country	Birth Rate per 1000	Death Rate per 1000	Natural Increase per 1000
Botswana	31	22	9
UK	11	10	
France	13	9	4
Ghana	30	8	

Figure 1

(a) Calculate the natural increase per 1000 people for:

(i) The UK (1)

.....
(ii) Ghana (1)

.....
(b) Suggest **two** reasons why Botswana and Ghana have **high** birth rates. (2)

1

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2

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(c) The UK and France have **ageing populations**. Describe what is meant by an 'ageing population'.

(2)

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(d) Explain why people in the UK, France and many other countries are living much longer now.

(2)

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(Total for Question 1 = 8 marks)

Topic 2: Consuming Resources

- 2 Figures 2(a) and 2(b) show energy use in different countries. The **size of each country** is affected by **how much energy it uses**.

Use of 'traditional fuels' (eg wood, charcoal, animal and plant waste)



Figure 2(a)

Use of electricity

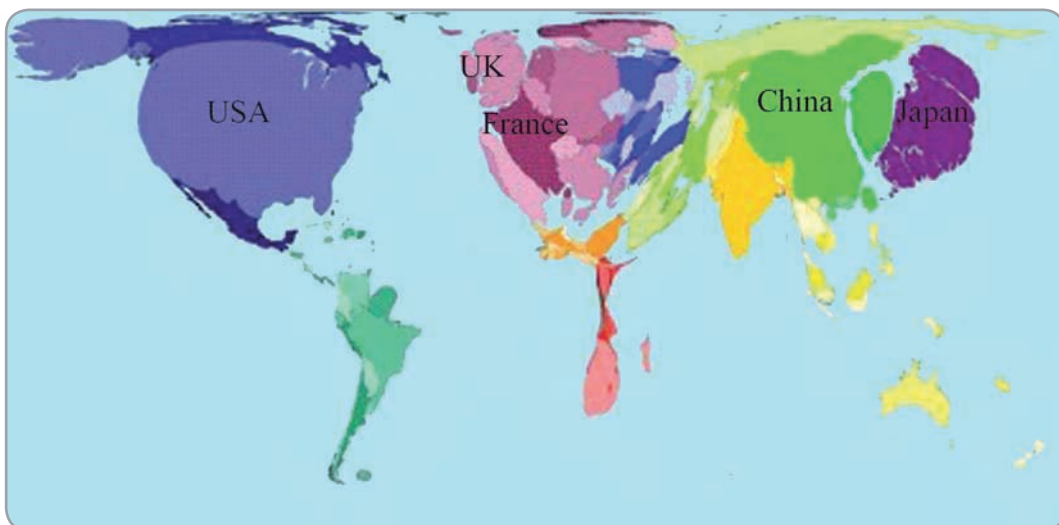


Figure 2(b)

(Source: Worldmapper © Copyright 2006 SASI Group (University of Sheffield) and Mark Newman (University of Michigan))

(a) Study Figure 2(a).

(i) Which named country uses the **most** traditional fuel? (1)

(ii) Study Figure 2(b).

Which named country uses the **most** electricity? (1)

(b) Suggest **two** reasons for the difference in type of energy use between South Africa and the UK. (2)

1

2

(c) Define the term **renewable energy resources**. (2)

(d) Explain why countries using electricity may need to switch to renewable energy resources in the future. (2)

(Total for Question 2 = 8 marks)

Topic 3: Living Spaces

- 3 Figure 3 shows a street in Soweto, a town in South Africa. Soweto's population is growing rapidly.



Figure 3

(a) Study Figure 3.

State **two** disadvantages for people of living in this area.

(2)

1

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2

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(b) Suggest **two** reasons why people living in rural areas of South Africa might want to move to Soweto.

(2)

1

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2

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(c) Describe some of the ways conditions in a shanty town like the one in Figure 3 could be improved.

(2)

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(d) Explain **one** benefit to rural areas that can be provided by those who move to urban areas like Soweto.

(2)

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(Total for Question 3 = 8 marks)

Topic 4: Making a Living

4 Figure 4 shows data about four countries.

Country	% working population employed in industry	Gross National Income in US\$ per person
Bangladesh	11	2300
China	24	7800
Egypt	17	4200
Niger	6	1000

(Source: World Bank, CIA Factbook)

Figure 4

(a) Study Figure 4.

Rank the countries by completing the **two** blank columns in the table below. One ranking has been done to help you.

(2)

Country	% working population employed in industry	RANK	Gross National Income in US\$ per person	RANK
Bangladesh	11		2300	
China	24	1	7800	
Egypt	17		4200	
Niger	6		1000	

(b) Suggest **two** reasons why countries with a high percentage of people working in industry also have high Gross National Income.

(2)

1

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2

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(c) State two problems the growth of industry might bring to developing countries.

(2)

1

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2

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(d) Explain **one** benefit that the growth of industries can bring to **developing** countries.

(2)

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(Total for Question 4 = 8 marks)

TOTAL FOR SECTION A = 32 MARKS

SECTION B – SMALL SCALE PEOPLE AND THE PLANET

Answer ONE question in this section.

Topic 5: Changing Cities

If you answer Question 5 put a cross in this box .

5 Figure 5 shows London's eco-footprint in 2005.

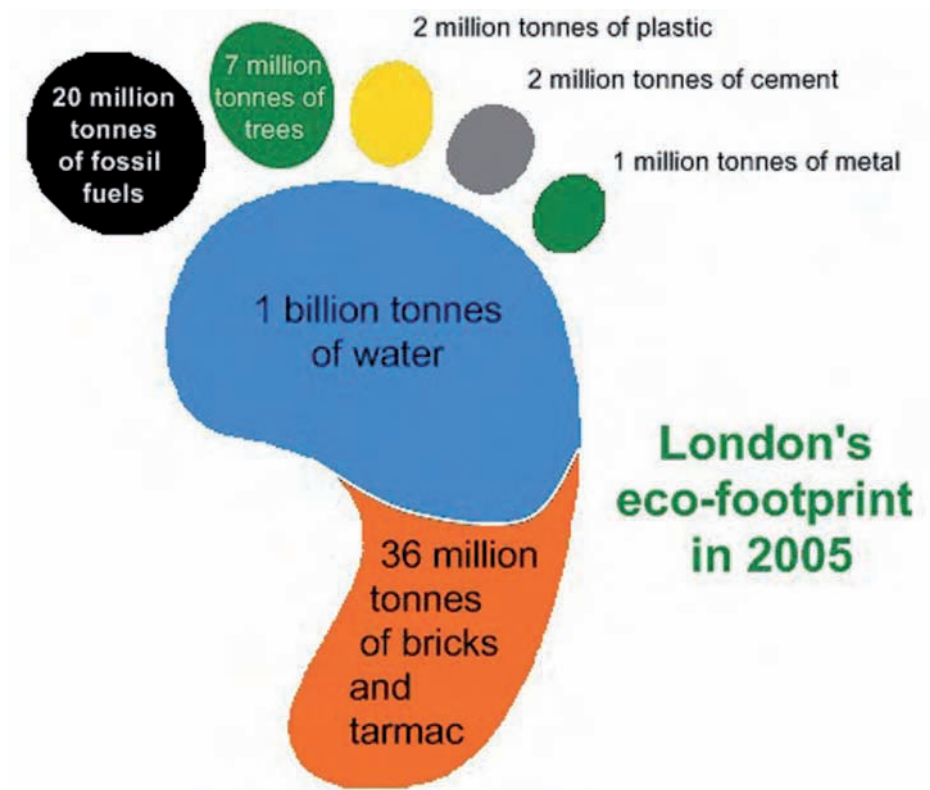


Figure 5

(a) Study Figure 5.

Identify **one** environmental problem caused by London's eco-footprint.

(1)

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(b) Describe how the way people live in cities such as London, leads to high eco-footprints.

(2)

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* (c) Using examples, explain how cities are trying to reduce their eco-footprint.

(6)

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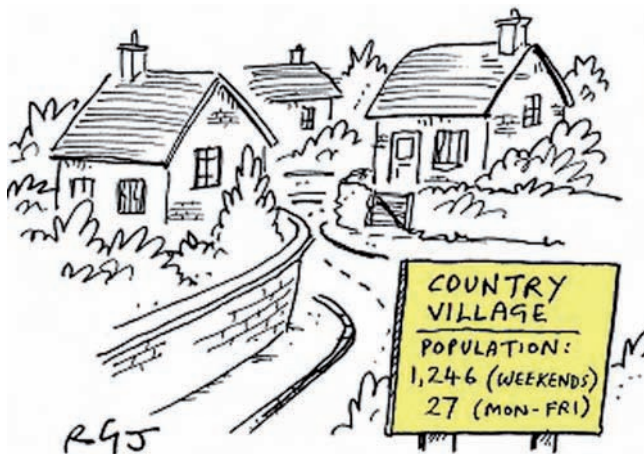
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(Total for Question 5 = 9 marks)

Topic 6: Changing Countryside

If you answer Question 6 put a cross in this box .

- 6 Figure 6 shows a cartoonist's view of one problem facing rural villages.



(Source: www.CartoonStock.com)

Figure 6

- (a) Study Figure 6.

Suggest **one** reason why the population of the village is higher at weekends than from Monday to Friday.

(1)

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- (b) Describe how this might have had a good and bad effect on the village's services.

(2)

Good

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Bad

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*(c) Using examples, explain how rural areas are trying to improve rural services.

(6)

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(Total for Question 6 = 9 marks)

TOTAL FOR SECTION B = 9 MARKS

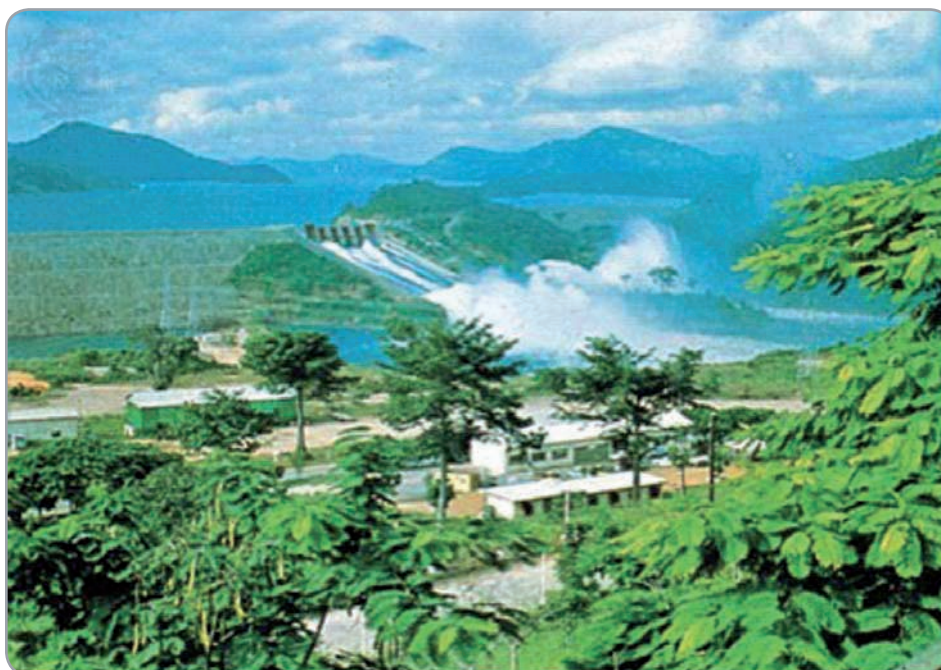
SECTION C – LARGE SCALE PEOPLE AND THE PLANET

Answer ONE question in this section.

Topic 7: Development Dilemmas

If you answer Question 7 put a cross in this box .

- 7 Figure 7 shows a photograph of the Volta Dam in Ghana. It was built with western help in the early 1970s to bring development to Ghana.



(Source: Jacques Jangoux, www.britannica.com)

Figure 7

- (a) Study Figure 7.

Give **one** likely use for the water from this dam.

(1)

(b) Describe how a dam like this could help Ghana develop.

(2)

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* (c) Using examples, explain how bottom-up schemes have benefited developing countries.

(6)

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(Total for Question 7 = 9 marks)

Topic 8: World of Work

If you answer Question 8 put a cross in this box .

- 8 Figure 8 shows a photograph of company headquarters in Canary Wharf in London's Docklands, an extension of London's business district.



(Source: Wikipedia)

Figure 8

- (a) Suggest **one** type of job done by people working in these buildings.

(1)

(b) Describe the characteristics of companies that might occupy Canary Wharf tower. (2)

* (c) Using examples, explain how TNCs may bring **benefits** and **problems** when they invest in a country. (6)

(Total for Question 8 = 9 marks)

TOTAL FOR SECTION C = 9 MARKS

TOTAL FOR PAPER = 50 MARKS

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Sample Mark Scheme

Unit 2F: People and the Planet

Question Number	Answer	Mark
1(a)(i)	1	1

Question Number	Answer	Mark
1(a)(ii)	22	1

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
1(b)	<ul style="list-style-type: none"> Lack of access to/education about contraception (1). Need children to work (1). High Infant mortality rates (expectation some will die)(1). <p>(2 x 1)</p>	<ul style="list-style-type: none"> Religious or cultural reasons. Women begin having children early in life. 	All incorrect answers	2

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
1(c)	<p>A population in which the % of people over 60/65 is large (1), a country whose average age is increasing (1).</p> <p>1 mark for a basic description of a marking point. 2 marks for a development of the marking point.</p>	<ul style="list-style-type: none"> Low birth rates/fertility rates. Top heavy (or similar) population pyramid. 	People dying. High deaths rates.	2

Question Number	Correct Answer	Reject	Mark
1(d)	<p>Better health care for elderly (1), people survive hospital treatment or sickness (1). Increased vaccinations (1), enables children to survive longer/people to recover from disease (1). Increased prosperity (1), lead to better food/diet (1). Better range of drugs available (1), names a now curable disease such as smallpox (1). Better range of treatments available (1), gives example such as heart disease or cancer (1). Accept any reasonable/relevant point.</p> <p>1 mark for a basic explanation of a marking point. 2 marks for a development of the marking point.</p>	<p>Family planning factors, eg contraception. The question is about longevity - so points relating to family planning or lower birth rate are only creditworthy if linked to a rising average age of population reasons given.</p> <p>Similarly 'lower birth rate' unless qualified as shown.</p>	2

Question Number	Answer	Mark
2(a)(i)	India	1

Question Number	Answer	Mark
2(a)(ii)	USA	1

Question Number	Correct Answer	Reject	Mark
2(b)	<p>Reasons should focus on level of development.</p> <p>eg</p> <ul style="list-style-type: none"> • South Africa is a developing/poorer country (1). • People cannot afford as much electricity (1). • South Africa has a more rural population using traditional fuels (1). • The UK is more developed (1). • South Africa has less fossil fuel to produce electricity (1). <p>1 mark per correct reason.</p> <p style="text-align: right;">(2 x 1)</p>	<p>Generalisations, eg 'they've got no resources' 'they are too poor'. Without substantiation or direct link to a country.</p>	2

Question Number	Correct Answer	Reject	Mark
2(c)	<p>Energy resources which will not run out (1)/are not finite (1).</p> <p>One named example (1), eg solar, wind, wave, HEP.</p> <p>(2 x 1)</p>	<p>Any answer that focuses on non-renewable resources.</p> <p>Answers which state that they do not pollute.</p>	2

Question Number	Correct Answer	Reject	Mark
2(d)	<p>Non-renewable energy resources may run out (1), meaning that alternative sources will need to be found (1). They may become too expensive in the future (1) and people will seek a cheaper alternative(1). As they (eg oil) become scarcer (1), they might have to be used for eg plastics instead of energy (1). Pressure from environmental lobby to reduce pollution (1) might cause a switch to renewable which pollute less (1).</p> <p>1 mark for a basic explanation of a marking point. 2 marks for a development of the marking point.</p>	<p>Points about resource depletion or exhaustion are only acceptable if linked to the notion of reserves or supplies.</p> <p>Reject population points, eg 'there will be too many people'.</p>	2

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
3(a)	<p>Any of:</p> <ul style="list-style-type: none"> • unpaved roads • open sewers • poor quality housing • lack of space/high density. <p>(2 x 1)</p>	<p>Any qualitative answer which can be evidenced from the photograph.</p>	<p>Answers which cannot be evidenced from the photograph.</p>	2

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
3(b)	<p>Can be push or pull:</p> <ul style="list-style-type: none"> • opportunity/jobs available (lack of jobs in rural) (1) • better housing/education (lack of rural services) (1) • 'bright lights syndrome' or similar (1). <p>1 mark for each. (2 x 1)</p>	<ul style="list-style-type: none"> • Any reasonable answer relating to improved services compared to rural areas. • Accept war, famine, drought as push. 	Very basic one word statements such as 'poverty'.	2

Question Number	Correct Answer	Reject	Mark
3(c)	<p>Could be improvements such as paving roads (1), adding drainage (1), building sewers and water supply (1), improving housing conditions (1).</p> <p>Or strategies such as aided self help schemes (1), help from an NGO to organise improvements (1), utility wall/site and service type ideas, and social housing (1).</p> <p>1 mark for each correct description. (2 x 1)</p>	<ul style="list-style-type: none"> • Answers such as 'bulldoze' it or similar, or 'build new flats' with no qualification. 	2

Question Number	Correct Answer	Reject	Mark
3(d)	<p>Any reasonable answer about how urban dwellers can bring benefits, eg sending wages home to help older members of families left behind (1), pay for schooling (1), pay for medical treatment (1), 'pioneer' - those who go first can seek out opportunities for others to join them later (1).</p> <p>1 mark for each. Award marks for points which are linked or developed, eg 'By sending wages home (1) to help older members of the family left behind (1).</p>	Unrelated responses, eg might mean more jobs for those left behind.	2

Question Number	Correct Answer	Mark
4(a)	First column correct answer: 3 (1) 2 4 1 mark Second column correct answer: 3 1 2 4 1 mark	2

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
4(b)	<ul style="list-style-type: none"> Trade will increase, so country earns more (1). Jobs may be better paid in industry (1). Spurs the economy in other sectors (or some description of multiplier effect) (1). 1 mark for each valid point. (2 x 1)	<ul style="list-style-type: none"> General terms, eg 'incomes' in lieu of GNI. Accept more general points provided that at least one point has been made relating to data, eg 'there are more jobs for people'. 	Generalised terms, eg people are wealthier.	2

Question Number	Correct Answer	Reject	Mark
4(c)	<ul style="list-style-type: none"> Pollution from factories (1). Some firms pay low wages (1). Some have poor working conditions/sweat shops/exploitation (1). Company may not pay taxes (1) Profits from overseas companies go back overseas (1). 1 mark per correct suggestion. (2 x 1)	Generalised answers or points which don't relate to industry or which misunderstand the point, eg the industries might not want to go there because it's got no services.	2

Question Number	Correct Answer	Reject	Mark
4(d)	Benefits vary, eg greater employment (1) leads to higher incomes (1), more services (1) (with 1 extra mark max if specifies, eg a company school, medical care, electricity or water), more trade (1) which might lead to higher incomes (1). 1 mark for a basic explanation of a marking point. 2 marks for a development of the marking point.	Generalised answers or points which don't relate to industry or which misunderstand the point, eg the industries might not want to go there because it's got no services.	2

Question Number	Correct Answer	Reject	Mark
5(a)	<p>Any reasonable answer:</p> <ul style="list-style-type: none"> • air pollution/release of toxic gases or CO₂ (global warming) (1) • deforestation (1) • waste needs to be dumped, burnt or landfilled (1) • runoff causes flooding (1) • water sources (rivers, groundwater) running dry (1). <p>1 mark</p>	<p>'Bad' things about urban areas, eg 'the amount of land taken up by cities'.</p> <p>Do not accept congestion.</p>	1

Question Number	Correct Answer	Reject	Mark
5(b)	<p>People living in cities use large amounts of resources for building (1), use large amounts of resources (fuel) for transport (1), have their food transported in from elsewhere (1), wealth leads to high car ownership/consumerism (1), people have to use energy to travel commute (1).</p> <p>1 mark for each correct description. (2 x 1)</p>	Lifting statements from Figure 5.	2

Question Number	Indicative content	
5(c) QWC i-ii-iii	<p>Attempts to reduce eco-footprint A wide range of strategies could be expected here. These would include transport development for many cities, especially those designed to increase the % of people travelling on public transport. Waste projects designed to increase recycling, or green energy 'grand designs', eg BedZED in south London, or projects aiming to reduce food miles, eg farmers' markets.</p>	
Level	Mark	Descriptor
Level 0	0	No acceptable response.
Level 1	1-2	Attempted an explanation. Limited identification of attempts to reduce the eco-footprint. Generally explained without detail. Poorly located areas/schemes not well related to reducing eco-footprints. Basic use of geographical terminology, spelling, punctuation and grammar.
Level 2	3-4	Some structure, with some attempts explained. Some range of examples, with some links to reducing footprints, and there is some detail but it is variable. Only one scheme is explained in detail. Clearly communicated, but with limited use of geographical terminology, spelling, punctuation and grammar.
Level 3	5-6	Structured response which includes a range of detailed schemes, with examples which are well located, with clear explanations and link to reducing eco-footprints. Well communicated with good use of geographical terminology, spelling, punctuation and grammar.

Question Number	Correct Answer	Reject	Mark
6(a)	<ul style="list-style-type: none"> • Tourists • Second home owners 	All incorrect answers, eg 'commuters'	1

Question Number	Correct Answer	Reject	Mark
6(b)	<p>Good: Some services might have opened, eg cafes, pubs and restaurants (1).</p> <p>Bad: Others may have closed such as Post Office, general stores etc(1).</p> <p>Example needed for both good and bad for the mark.</p> <p style="text-align: right;">(2 x 1)</p>	Good and bad answers which are the direct reverse. Answers in the wrong place, ie bad in 'good'.	2

Question Number	Indicative content	
6(c) QWC i-ii-iii	<p>Schemes in rural areas</p> <p>Many schemes exist in different parts of the UK and the world. In the UK and EU, Objective One aid has led to the development of several schemes to boost service provision such as dial-a-bus schemes and mobile services. Other regeneration schemes in rural areas include business investment and shared ownership housing schemes. Overseas, LEDC initiatives to build schools, develop local service around 'CampFire'-style projects have also had impacts, as have health clinics.</p>	
Level	Mark	Descriptor
Level 0	0	No acceptable response.
Level 1	1-2	Attempted an explanation but this may not be clear. Some generalised schemes are outlined which are poorly located. Limited link to improving services. Basic use of geographical terminology, spelling, punctuation and grammar.
Level 2	3-4	Some structure, with some attempt to explain some schemes. Some examples have some detail and there is some range. Only one scheme is explained in detail. Clearly communicated, but with limited use of geographical terminology, spelling, punctuation and grammar.
Level 3	5-6	Structured answer which includes a good range of detailed attempts, with examples. Clear explanations well linked to rural services. Well-located. Well communicated with good use of geographical terminology, spelling, punctuation and grammar.

Question Number	Answer	Mark
7(a)	Any of <ul style="list-style-type: none"> domestic supply/industry/irrigation hydro-electric power - accept 'electricity' 1 mark for one correct answer	1

Question Number	Correct Answer	Reject	Mark
7(b)	Water supply could help farming develop (1), provide supply for urban development (1), electricity (HEP) for industry/could attract industry (1), provides direct employment and income (1). Any two descriptive points for 1 mark each. (2 x 1)	Description of development not linked to aspects of the dam and reservoir.	2

Question Number	Indicative content	
7(c) QWC i-ii-iii	<p>Small-scale projects Examples used must be local- or small-scale - likely to be at village or local catchment scale. Examples used might include BBC World 2000 video on La Pecha micro-hydro scheme in Peru, which has not only provided cheap renewable electricity for the village, but has benefited local schools who now use electricity in lessons (eg technology) and allows students to do homework. An 'evening economy' has developed around coffee shops and bars which didn't exist before.</p>	
Level	Mark	Descriptor
Level 0	0	No acceptable response.
Level 1	1-2	Attempted an explanation which outlines some generalised schemes. These may not all be clearly bottom-up, poorly located and with no real explanation or link to benefits. Basic use of geographical terminology, spelling, punctuation and grammar.
Level 2	3-4	Some structure, with some bottom-up schemes explained and some details. Likely to be variable. Some range of examples. Only one scheme is explained in detail. Partially addresses the issue of benefits. Clearly communicated, but with limited use of geographical terminology, spelling, punctuation and grammar.
Level 3	5-6	Structured response which includes a range of detailed examples which are explained in depth. Clear link to the benefits of the chosen schemes. Well located. Well communicated with good use of geographical terminology, spelling, punctuation and grammar.

Question Number	Correct Answer	Reject	Mark
8(a)	<ul style="list-style-type: none"> • Banking, Accountant or any other finance-linked (eg insurance). • Creative, media, advertising, journalism. • Services, eg security for people in offices or cleaning. 1 mark for one correct item.	Office jobs	1

Question Number	Correct Answer	Reject	Mark
8(b)	Very large employers (1), TNCs/MNCs/International/global companies (1), well known/global brand companies (1), tertiary industry/sector (1). Any two descriptive points for 1 mark each. (2 x 1)	The named companies on the photo, ie HSBC and Citigroup Banks.	2

Question Number	Indicative content	
8(c) QWC i-ii-iii	<p>Benefits TNC benefits generally include employment, though in LEDC these tend to be at the bottom of the wage scale, with highest wages and management control remaining in the host country. However, companies such as Nike run their own schools and doctor surgeries, with welfare benefits said to be on offer as well as job security in countries that did not have such jobs before. Some candidates will challenge these points but a well-balanced answer should acknowledge that TNCs can bring substantial benefits and aid the development process.</p> <p>Problems These will vary with the TNC. The kinds of charges laid against TNCs include sweatshop labour at low wages, for long hours, and often in countries who pay little more than lip service to working hours directives, if at all. Some candidates will challenge these points but a well-balanced answer should acknowledge that TNCs have caused significant problems and brought themselves a reputation which some have had to work hard to repair.</p>	
Level	Mark	Descriptor
Level 0	0	No acceptable response.
Level 1	1-2	Attempted an explanation which mentions one or two TNCs and what they do, but not in detail. May focus on 1 sensationalist problem. No balance of benefits and problems. Basic use of geographical terminology, spelling, punctuation and grammar.
Level 2	3-4	Some structure in a response with some explanations of both benefits and problems. Likely to be unbalanced when explaining benefits and problems. Examples used have variable depth. Only one scheme is described in detail. Clearly communicated, but with limited use of geographical terminology, spelling, punctuation and grammar.
Level 3	5-6	A well explained and structured response which includes a range of detailed, named examples. Well-located and with a balance across benefits and problems. Well communicated with good use of geographical terminology, spelling, punctuation and grammar.

Write your name here

Surname

Other names

Centre Number

Candidate Number

Edexcel GCSE

Geography B

Unit 2: People and the Planet

Higher Tier

Sample Assessment Material

Time: 1 hour

Paper Reference

5GB2H/01

You do not need any other materials.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** the questions in Section A. Answer **one** question from Section B and **one** question from Section C.
- Answer the questions in the spaces provided
– *there may be more space than you need.*

Information

- The total mark for this paper is 50.
- The marks for **each** question are shown in brackets
– *use this as a guide as to how much time to spend on each question.*
- Questions labelled with an **asterisk** (*) are ones where the quality of your written communication will be assessed
– *you should take particular care with your spelling, punctuation and grammar, as well as the clarity of expression, on these questions.*

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ►

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SECTION A – INTRODUCTION TO PEOPLE AND THE PLANET

Answer ALL questions in this section.

Topic 1: Population Dynamics

1 Figure 1 shows birth and death rates for four countries.

Country	Birth Rate per 1000	Death Rate per 1000
Botswana	31	22
UK	11	10
France	13	9
Ghana	30	8

Figure 1

(a) Which country has

(i) the highest rate of natural increase per 1000? (1)

(ii) the lowest rate of natural increase per 1000? (1)

(b) Explain why some countries, such as Botswana and Ghana, have high birth rates. (2)

(c) Explain **two** problems faced by countries with ageing populations.

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(Total for Question 1 = 8 marks)

Topic 2: Consuming Resources

- 2 Figures 2(a) and 2(b) show energy use in different countries. In each case, the size of each country is affected by how much energy is used.

Use of 'traditional fuels' (eg wood, charcoal, animal and plant waste)

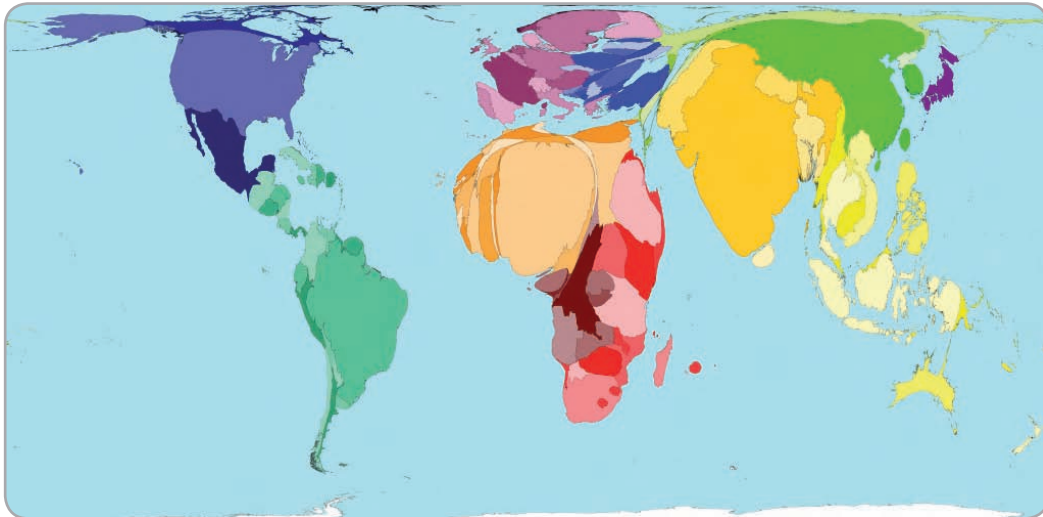


Figure 2(a)

Use of electricity

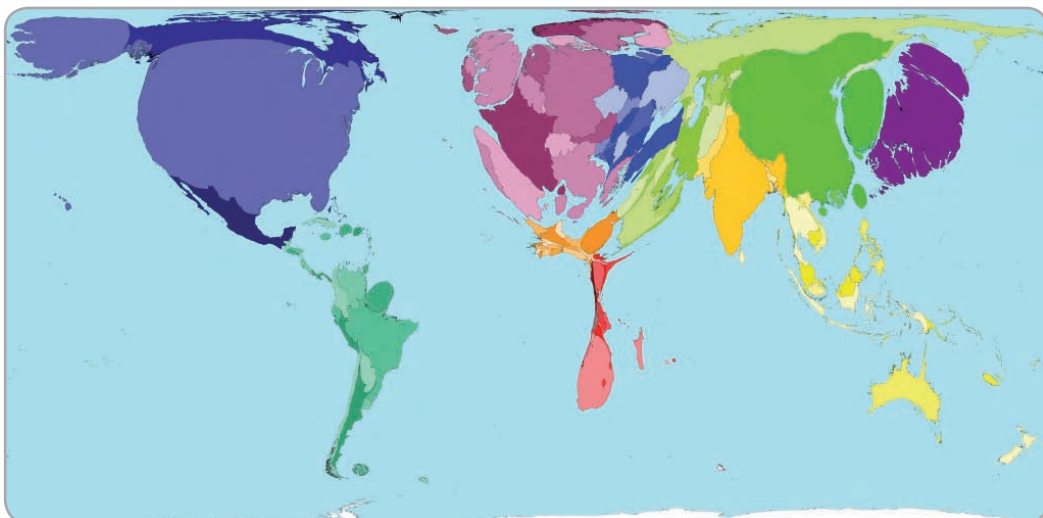


Figure 2(b)

(Source: Worldmapper © Copyright 2006 SASI Group (University of Sheffield) and Mark Newman (University of Michigan))

Study Figure 2(a).

(a) Describe the distribution of countries using traditional fuels. (2)

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(b) Explain why the distribution of countries using 'traditional fuels' (Figure 2(a)) is different from those using electricity (Figure 2(b)). (2)

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(c) In the future it may be difficult for countries to provide enough energy.
Explain the problems that countries may face as follows: (4)

Countries using traditional fuels

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Countries using electricity

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(Total for Question 2 = 8 marks)

Topic 3: Living Spaces

- 3 Figure 3 shows a street in Soweto, a town in South Africa. Soweto's population is growing rapidly.



Figure 3

- (a) Study Figure 3.

Describe the urban settlement shown in Figure 3.

(2)

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(b) Suggest **two pull factors** which attract people to move to urban areas like Soweto.

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(c) Explain **two** reasons why people who move to urban areas like Soweto sometimes find that it is not as good as they had hoped.

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(Total for Question 3 = 8 marks)

Topic 4: Making a Living

4 Figure 4 shows data about four countries.

Country	% working population employed in industry	Gross National Income in US\$ per person per year	Life expectation in years
Bangladesh	11	2300	62.8
China	24	7800	72.9
Egypt	17	4200	71.6
Niger	6	1000	44

(Source: World Bank 2006, CIA Factbook)

Figure 4

(a) Study Figure 4.

What is the **general** relationship between the **% of people working in industry** and **Gross National Income** per person? Use data to illustrate your answer.

(2)

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(b) Explain how such data might encourage developing countries to increase their industry.

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(c) Using examples, explain how the growth of industries in developing countries can bring both **benefits** and **problems**.

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(Total for Question 4 = 8 marks)

TOTAL FOR SECTION A = 32 MARKS

SECTION B – SMALL SCALE PEOPLE AND THE PLANET

Answer ONE question in this section.

Topic 5: Changing Cities

If you answer Question 5 put a cross in this box .

5 Figure 5 shows London's eco-footprint in 2005.

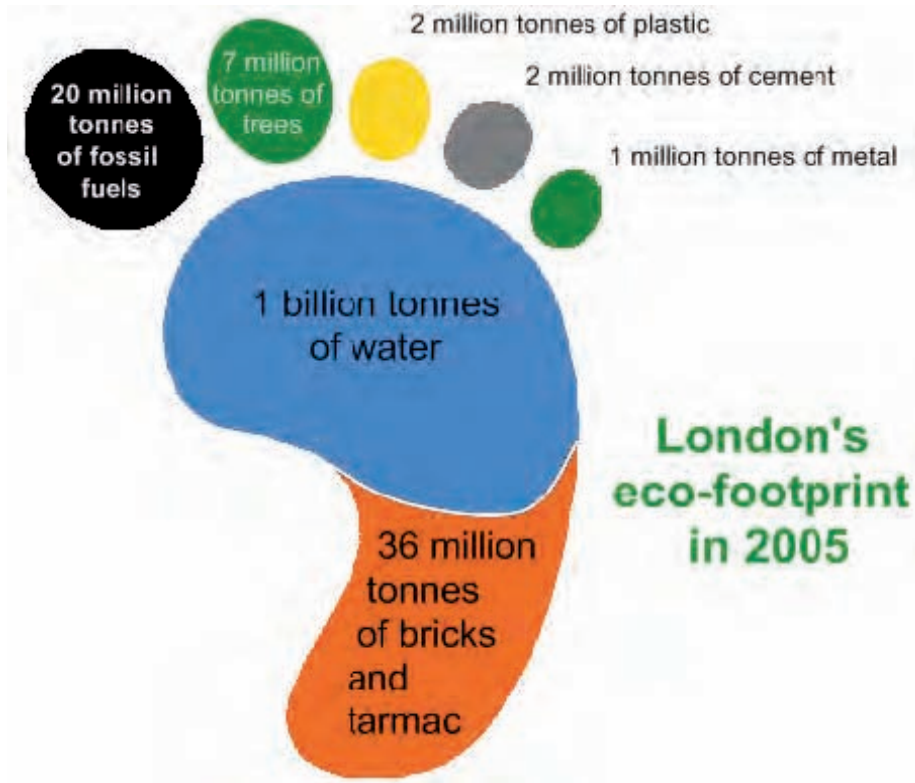


Figure 5

(a) Study Figure 5.

Explain why cities such as London have such large eco-footprints.

(2)

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(b) State **one** negative impact on people of living in cities with very high eco-footprints.

(1)

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* (c) Using **named examples**, explain attempts that have been made to reduce the eco-footprint of cities and how well you think they are succeeding.

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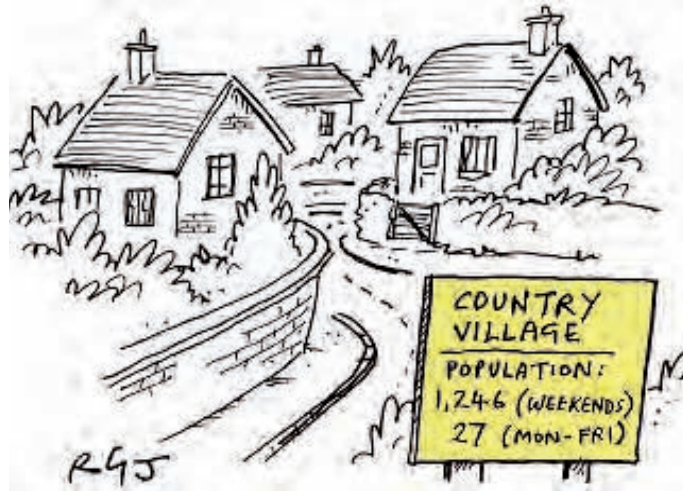
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(Total for Question 5 = 9 marks)

Topic 6: Changing Countryside

If you answer Question 6 put a cross in this box .

- 6 Figure 6 shows a cartoonist's view of one problem facing rural villages.



(Source: www.CartoonStock.com)

Figure 6

- (a) Study Figure 6.

Explain the problem the cartoon suggests the village is facing.

(2)

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(b) State **one** negative impact the residents might experience because of this. (1)

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*(c) Using **named examples**, explain how schemes in rural areas have been developed to improve rural services, and how well you think they are succeeding. (6)

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(Total for Question 6 = 9 marks)

TOTAL FOR SECTION B = 9 MARKS

SECTION C – LARGE SCALE PEOPLE AND THE PLANET

Answer **ONE** question in this section.

Topic 7: Development Dilemmas

If you answer Question 7 put a cross in this box .

- 7 Figure 7 shows a photograph of the Volta Dam in Ghana. It was built with western help in the early 1970s to bring development to Ghana.



(Source: Jacques Jangoux, www.britannica.com)

Figure 7

- (a) Study Figure 7.

Suggest **one** way such a dam could help a country like Ghana develop.

(1)

(b) Explain how the dam could have had **negative** impacts on some people in Ghana. (2)

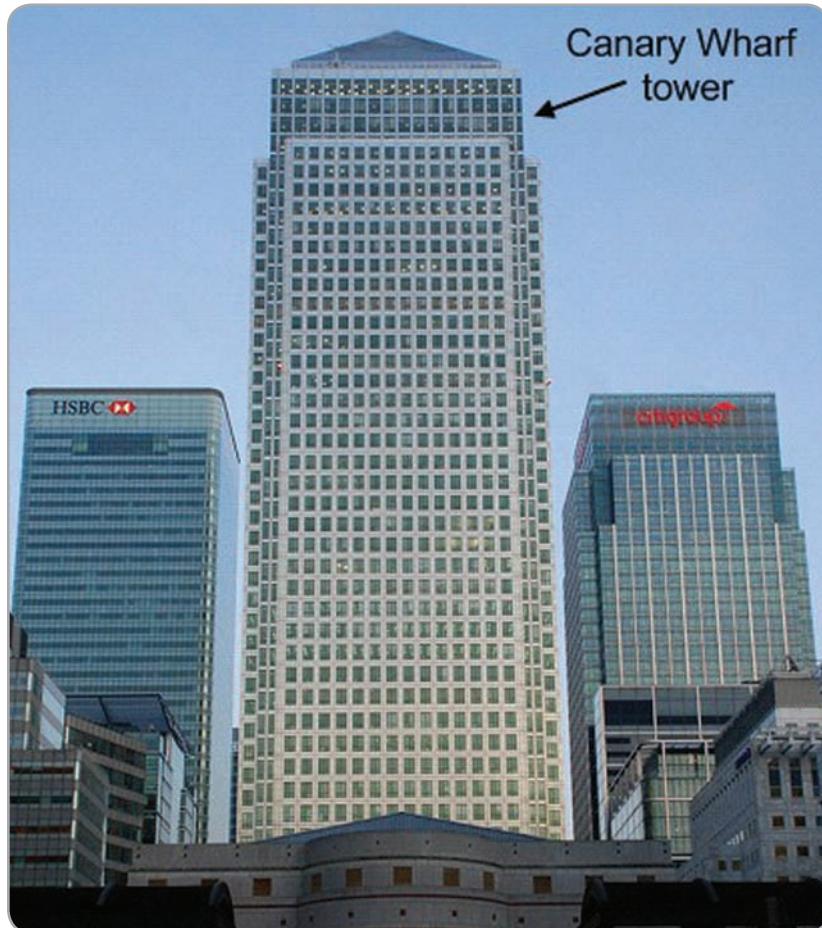
* (c) Using **named examples**, explain how bottom-up schemes meet the needs of developing countries, and how successful these have been. (6)

(Total for Question 7 = 9 marks)

Topic 8: World of Work

If you answer Question 8 put a cross in this box .

- 8 Figure 8 shows a photograph of company headquarters in Canary Wharf in London's Docklands, an extension of London's business district.



(Source: Wikipedia)

Figure 8

- (a) Study Figure 8.

What does the photograph tell you about the type of company that has chosen to locate in Canary Wharf?

(1)

(b) Explain why London is an attractive location for these companies.

(2)

* (c) Using named examples, explain how far TNCs bring more benefits than problems when they invest in a country.

(6)

(Total for Question 8 = 9 marks)

TOTAL FOR SECTION C = 9 MARKS
TOTAL FOR PAPER = 50 MARKS

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Sample Mark Scheme

Unit 2H: People and the Planet

Question Number	Answer	Mark
1(a)(i)	Ghana	1

Question Number	Answer	Mark
1(a)(ii)	UK	1

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
1(b)	<p>Cultural reasons, eg religion, belief in no birth control (1). Family reasons, eg to ensure care in old age, ensure continuation of family name and land holding (1). Economic reasons, eg more family members to work, value of child labour, expense of contraception (1).</p> <p>1 mark for each correct suggestion. (2 x 1)</p>	<p>Accept</p> <ul style="list-style-type: none"> • They don't know about contraception • Large families can be wealthy families • More people to work • It's part of tradition • Lack of clinics to promote contraception 	<p>They don't know any better. Lack of education.</p>	2

Question Number	Correct Answer	Reject	Mark
1(c)	<p>Any two developed points from the following:</p> <p>High costs of health care for elderly (1). High costs of pensions, eg taxation (1). Lower percentage/number of working people in the population, eg economic decline (1). High dependency ratio/fewer people working (1). Might be linked to low fertility rate, so could indicate population decline (1). Might have to raise pension age (political issue) (1). Might have to reduce benefits for the elderly (private pensions) (1).</p> <p>1 mark for a basic explanation of a marking point . 2 marks for a development of a marking point.</p> <p style="text-align: right;">(2 + 2)</p>	<p>Declining population without any reasons given. Similarly, 'leads to economic decline' without reasons given, 'will lead to lower birth rate'.</p>	4

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
2(a)	<p>Any two points from the following:</p> <p>Mainly developing countries or continents (1). Named examples which can be either countries (eg Mexico, Brazil, Nigeria, India, China) or named continents (Latin/South America, Africa, southern Asia) (1). Some more developed countries with examples (eg France, USA) (1).</p> <p>Can obtain both marks just by naming countries without general description.</p> <p>1 mark per correct answer.</p> <p style="text-align: right;">(2 x 1)</p>	<p>Third World /LICs/LEDCs. Africa provided it is not identified as a country, 'eg a country like Africa'.</p>	<p>Asia if mentioned as a whole without qualifying.</p>	2

Question Number	Correct Answer	Reject	Mark
2(b)	<p>Electricity is used mainly in the more developed countries (1), eg in factories, offices (1). The electricity producing countries are generally the more developed (1) and therefore use electricity in industries and homes (1).</p> <p>Or if comparison is made using developing countries, eg the traditional fuel countries are generally poorer (1) and therefore can't afford electricity (1).</p> <p>1 mark only if description given without a comparison, eg poor countries often have no coal or oil (1).</p> <p>1 mark for a basic explanation of a marking point. 2 marks for a development of a marking point.</p>	<p>Bland generalisations, eg 'they've got no resources' 'they are too poor' without substantiation or direct link to a country.</p> <p>Do not credit 'America' as an example.</p>	2

Question Number	Correct Answer	Reject	Mark
2(c)	<p>Traditional fuels Wood might run out as forests are cut down or as droughts get worse (1). Cattle dung might be in short supply as cities grow (1). Anything suggesting loss of fuel supply in a named country, eg Nigeria which may become exhausted with increasing population demands (1). Anything suggesting alternative uses (which must be specified), eg cattle dung might have to be used as fertiliser instead (1).</p> <p>Countries using electricity Named supply of fuel for that country, eg in Japan oil might become so expensive as it imports a lot of its supply (1). Anything suggesting loss of supply with example, eg coal in Australia, linked to exhaustion of reserves (1). Anything suggesting alternative uses (must be specified), eg oil in China needs to be preserved for vital uses such as plastics (1).</p> <p>1 mark per correct explanation. Can award maximum 3 marks within an explanation for well developed or exemplified points.</p>	<p>Points must be linked, so do not accept generalisations, eg 'the forest will all be cut down' (doesn't say why this is a problem), 'all the fuels will run out' without specific problem or fuel type.</p> <p>Reject points about 'there will be too many people' if stated without any link to energy or supply problems.</p>	4

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
3(a)	<p>Shanty town, slum, squatter settlement, informal settlement.</p> <p>1 mark</p> <p>Poorly built houses/built out of scrap (1), open sewers (1), dirt roads (1).</p> <p>1 mark</p> <p>(1 + 1)</p>	Unplanned	City Town Anything that cannot be evidence from the photograph.	2

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
3(b)	<p>Must be pull factors, eg: opportunity/jobs available (1), 'bright lights syndrome' (1), services available with an example, eg schools or healthcare (1).</p> <p>1 mark for each. (2 x 1)</p>	Any reasonable answer which can be evidenced.	Rural push factors	2

Question Number	Correct Answer	Reject	Mark
3(c)	<p>Any reasonable points about poor living conditions, eg: housing is expensive (1), jobs are often low-paid or non-existent (1), wages can be very low/live in poverty (1), lack of suitable housing near the centre, eg for families (1), high costs of living (does not need to be specified) (1), the bright lights may be for more wealthy people (1).</p> <p>1 mark for a basic explanation of a marking point. 2 marks for a development of the marking point. (2 x 2)</p>	<p>Factors which are more about the rural area rather than urban, eg:</p> <ul style="list-style-type: none"> • might miss their house in the rural area • miss their family etc. 	4

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
4(a)	<ul style="list-style-type: none"> • The greater the % of people in industry, the greater the GNI (1). • With data to illustrate (1). <p>(2 x 1)</p>	<ul style="list-style-type: none"> • GDP in place of GNI. • Direct country comparisons, eg Niger has the lowest % in industry and the lowest GNI. 	<p>All incorrect answers.</p> <p>All general answers that do not specify data, eg 'Niger is lower than Egypt'.</p>	2

Question Number	Correct Answer	Acceptable Answers	Reject	Mark
4(b)	<p>Accept minimum of one answer which relates to the data, eg incomes will increase (1), life expectation is likely to increase as people become wealthier (1), can afford better medical care (1).</p> <p>1 mark for a basic explanation of a marking point. 2 marks for the development of a marking point.</p> <p>(2 x 1)</p>	<p>General terms, eg 'incomes' in lieu of GNI, or 'people live longer' in lieu of 'increased life expectation'. Accept more general points provided that at least one point has been made relating to data, eg 'there are more jobs for people'.</p>	<p>Generalised terms, eg people are wealthier.</p>	2

Question Number	Correct Answer	Reject	Mark
4(c)	<p>Benefits, eg greater employment (1), higher incomes (1), more services (1) eg electricity or water (1).</p> <p>Problems, eg pollution from factories (1), low wages (1), overseas company may not pay taxes (1), profits from overseas companies go back overseas (1), eg so the country doesn't gain much (1).</p> <p>1 mark for a basic explanation of a marking point. 2 marks for a development of the marking point. Maximum 3 marks if benefits only or problems only described.</p> <p>Accept answers that refer solely to TNCs provided that offer benefits and problems in named countries, otherwise maximum 3 marks.</p>	<p>Generalised answers or points which don't relate to industry or which misunderstand the point, eg the industries might not want to go there because it's got no services.</p>	4

Question Number	Answer	Mark
5(a)	<p>High energy use (1), food consumption needs to be brought in from elsewhere (1), airports and other travel to cities uses energy (1), eg fossil fuels/add to greenhouse gases (1), wealth leads to high car ownership (1), people have to travel to work which consumes energy (1).</p> <p>1 mark for a basic explanation of a marking point. 2 marks for a development of the marking point. Do not require development, 2 basic explanations are acceptable.</p> <p style="text-align: right;">(2 x 1)</p>	2

Question Number	Correct Answer	Reject	Mark
5(b)	<ul style="list-style-type: none"> • High levels of air pollution lead to health problems. • Congestion causes stress and ill-health. • Costly places to live due to high resource use. <p>1 mark for a clear statement.</p>	<p>Benefits. One word statement such as 'pollution'.</p>	1

Question Number	Indicative content	
5(c) QWC i-ii-iii	<p>Attempts to reduce eco-footprint A wide range of strategies could be expected here. These would include transport development for many cities, especially those designed to increase the % of people travelling on public transport. Waste projects designed to increase recycling, or green energy 'grand designs', eg BedZED in south London, or projects aiming to reduce food miles, eg farmers' markets.</p> <p>How well these are succeeding This can vary. Many councils now, whether under the cosh of government targets or penalties, or for environmental reasons, are adopting stringent recycling policies in order to cut landfill. Therefore an answer about how well a city is doing might refer to this, together with increased recycling amounts in the face of new targets, or might say how poorly it is doing because it is not meeting new targets. In the case of London, public transport, especially buses, is booming. Similarly public transport developments in Manchester or Sheffield.</p>	
Level	Mark	Descriptor
Level 0	0	No acceptable response.
Level 1	1-2	Attempted an explanation. Some generalised examples used with little range. Poorly located areas/city may not be named. No attempt made to explain success. Limited link to reducing eco-footprints. Basic use of geographical terminology, spelling, punctuation and grammar.
Level 2	3-4	Some structure. Response explains some ways of reducing footprints. Some range but lacking detail but some examples are named/specific. Some brief explanation of how well the city is doing but not in depth. Clearly communicated, but with limited use of geographical terminology, spelling, punctuation and grammar.
Level 3	5-6	Structured explanation. A range of attempts in detail, with specific named examples linked to reducing footprints. Well-located and with linked detail. Clear explanation of success. Well communicated with good use of geographical terminology, spelling, punctuation and grammar.

Question Number	Correct Answer	Reject	Mark
6(a)	Falling population/depopulation (1), which may be the result of people buying second homes/holiday homes (1), ie weekenders. Large numbers of tourists who go there at weekends (1), which may result in problems such as litter, noise and congestion (1). <p style="text-align: right;">(2 x 1)</p>	Statements that do not relate to the changing population.	2

Question Number	Correct Answer	Reject	Mark
6(b)	<ul style="list-style-type: none"> • Decrease in local services, eg shops, schools (1). • Despite large weekend visitor numbers there is an insufficient weekday population to sustain services (1). • House prices may have risen beyond the pockets of locals(1). • Environmental problems such as litter, congestion. <p>1 mark for a clearly stated issue.</p>	Rise in services unless it is linked to a rise in services which are of little use to locals eg gift shops. Positive impacts.	1

Question Number	Indicative content	
6(c) QWC i-ii-iii	<p>Schemes in rural areas Many schemes exist in different parts of the UK and the world. In the UK and EU, Objective One aid has led to the development of several schemes to boost service provision such as dial-a-bus schemes and mobile services. Other regeneration schemes in rural areas include business investment and shared ownership housing schemes. Overseas, LEDC initiatives to build schools, develop local service around 'CampFire'-style projects have also had impacts, as have health clinics.</p> <p>How successful have these been This can vary. Some generate permanent and add significantly to the local economy. Others wither, eg tourist schemes that bring only seasonal visitors in. LEDC schemes vary, some target health and have had great impacts in reducing child mortality, whilst others suffer for lack of sustained investment.</p>	
Level	Mark	Descriptor
Level 0	0	No acceptable response.
Level 1	1-2	Attempted an explanation. Some generalised examples of schemes used, with little range. Poorly located (may not be fully rural). Limited link to services and not attempt to examine success. Basic use of geographical terminology, spelling, punctuation and grammar.
Level 2	3-4	Some structure. Response explains some schemes with some range of schemes and some details. Some examples more specific than others. Some brief explanation of success is present. Clearly communicated, but with limited use of geographical terminology, spelling, punctuation and grammar.
Level 3	5-6	Structured response that explains a range of schemes in detail, with specific examples. Well-located and with linked detail. Some detailed explanation of how successful the schemes have been. Well communicated with good use of geographical terminology, spelling, punctuation and grammar.

Question Number	Answer	Mark
7(a)	<p>Provide a constant water supply for industry/farming to develop (1), provide hydro-electric power for industrialisation (1), provide employment and income directly (1), electricity/water could be used to improve health such as clean drinking water/power for hospitals (1).</p> <p>1 mark for a correct answer, which must have a link to development.</p>	1

Question Number	Answer	Mark
7(b)	<p>Explanations could focus on: Farmers could have lost land when the dam/reservoir was built (1), which reduces their ability to support themselves/lowers income (1). Some people may have lost their homes (1), forcing them to move elsewhere possibly at great cost/loss of job (1). The river may have changed/no longer floods depriving farmers (1) downstream of irrigation/fertile silt (1).</p> <p>1 mark for a basic explanation of a marking point. 2 marks for a development of the marking point.</p>	(2 x 1) 2

Question Number	Indicative content	
7(c) QWC i-ii-iii	<p>Bottom-up schemes Examples used must be local or small-scale, likely to be at village or local catchment scale. Examples used might include BBC World 2000 video on La Pecha micro-hydro scheme in Peru, which has not only provided cheap renewable electricity for the village, but has benefited local schools who now use electricity in lessons (eg technology) and allows students to do homework. An 'evening economy' has developed around coffee shops and bars which didn't exist before.</p> <p>How successful it has been Again, this can vary. The general rule is that such schemes tend to be successful because they are localised and owned by local people. However, sometimes a lack of technical help can scupper projects, eg if a water pump breaks down. Success is usually the result of aggregation of benefits, eg economic or social benefits which multiply.</p>	
Level	Mark	Descriptor
Level 0	0	No acceptable answer
Level 1	1-2	Attempted an explanation with limited detail about the schemes, which are generalised. Locations may not be named. Details non-specific with no real explanation or link to success. Basic use of geographical terminology, spelling, punctuation and grammar.
Level 2	3-4	Some structure with some details of schemes and some explanation. Some range but variable detail. Brief mention of success but not in depth. Clearly communicated, but with limited use of geographical terminology, spelling, punctuation and grammar.
Level 3	5-6	Structured answer that includes details about the schemes, with specific examples and explanation. Well-located. Detailed explanation of how successful the schemes have been. Well communicated with good use of geographical terminology, spelling, punctuation and grammar.

Question Number	Correct Answer	Reject	Mark
8(a)	<ul style="list-style-type: none"> • TNCs/MNCs (1) • Large global/international companies/corporations (1). 	The named companies on the photograph. Banks.	1

Question Number	Correct Answer	Mark
8(b)	<p>Highly skilled/well-educated/knowledgeable workforce (1), which would attract global investment (1). Attractive location because land is available in Docklands (1) and grants might have been available (1). London has excellent connections to Europe (1), eg 5 international airports/Eurostar links (1). The location has prestige and access as its close to Europe/EU (1) and also has linkages to companies already there (1).</p> <p>1 mark for a basic explanation of a marking point. 2 marks for a development of the marking point.</p>	<p>(2 x 1) 2</p>

Question Number	Indicative content	
8(c) QWC i-ii-iii	<p>Benefits TNC benefits generally include employment, though in LEDC these tend to be at the bottom of the wage scale, with highest wages and management control remaining in the host country. However, companies such as Nike run their own schools and doctor surgeries, with welfare benefits said to be on offer as well as job security in countries that did not have such jobs before. Some candidates will challenge these points but a well-balanced answer should acknowledge that TNCs can bring substantial benefits and aid the development process.</p> <p>Problems These are implied by the question. So points made will vary with the TNC chosen. The kinds of charges laid against TNCs include sweatshop labour at low wages, for long hours, and often in countries who pay little more than lip service to working hours directives, if at all. Some candidates will challenge these points but a well-balanced answer should acknowledge that TNCs have caused significant problems and brought themselves a reputation which some have had to work hard to repair.</p>	
Level	Mark	Descriptor
Level 0	0	No acceptable response.
Level 1	1-2	Attempted an explanation with limited detail about the TNC(s). Generalised descriptions of investment in unnamed locations. No balance of benefits and problems. No attempt to say 'how far'. Basic use of geographical terminology, spelling, punctuation and grammar.
Level 2	3-4	Some structure in a response with some details of the TNC investment. Does address problems and benefits but unbalanced in terms of benefits and problems. There are some explanations and a brief attempt to address 'how far'. Clearly communicated, but with limited use of geographical terminology, spelling, punctuation and grammar.
Level 3	5-6	Structured and detailed answer that includes a range of benefits and problems, with examples and good explanation. Well-located and specific. Broadly balanced and judges 'how far'. Well communicated with good use of geographical terminology, spelling, punctuation and grammar.

Write your name here

Surname

Other names

Centre Number

Candidate Number

Edexcel GCSE

Geography B

Unit 3: Making Geographical Decisions

The Future of Antarctica

Foundation Tier

Sample Assessment Material

Time: 1 hour

Paper Reference

5GB3F/01

You must have:

Pre-released Resource Booklet

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** the questions.
- Answer the questions in the spaces provided
– *there may be more space than you need.*

Information

- The total mark for this paper is 50.
- The marks for **each** question are shown in brackets
– *use this as a guide as to how much time to spend on each question.*
- Questions labelled with an **asterisk** (*) are ones where the quality of your written communication will be assessed
– *you should take particular care with your spelling, punctuation and grammar, as well as the clarity of expression, on these questions.*

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ►

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3/3



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Answer ALL the questions.

SECTION A – INTRODUCING ANTARCTICA

1 Use Section A in the Resource Booklet to answer this question. You will also need to refer to other resources for particular questions as instructed.

(a) (i) Give **three** reasons why Captain Scott, an early explorer, thought Antarctica was **'an awful place'**.

(3)

1

2

3

(ii) Suggest **two** ways in which the **environment** makes Antarctica a **'very special place'** for tourists to visit.

(4)

1

2

(iii) Describe **two** ways in which the **wildlife** makes Antarctica a '**very special place for**' tourists to visit.

(2)

1

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2

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(b) Look at page 17 of the Resource Booklet which gives details of the Antarctic Treaty System (ATS).

(i) Explain **two** benefits of the ATS.

(4)

1

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2

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(ii) Choose **two** of the statements about the ATS shown in Table 4.

Using your **own** words say how each statement suggests that not everyone supports the ATS.

(2)

Statement number

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Statement number

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.....

(Total for Question 1 = 15 marks)

TOTAL FOR SECTION A = 15 MARKS

SECTION B – THREATS TO ANTARCTICA'S ENVIRONMENT

2 Use Section B in the Resource Booklet to answer this question.

(a) (i) Complete the table below to summarise the threats to Antarctica.

Use the key to insert the correct answer.

(3)

Threats	Extent of threat	Present problem	Future problem	Success in management of threat at present	Degree of damage at present on Antarctic
Fishing in southern oceans	R	✓	✓	**	**
Global warming	G	✓	✓		***
Mining	L			*	None
Ozone hole	G	✓	✓	**	**
Research stations		✓	X	*	**
Tourism	L	X	✓	*	*

Key to use	Insert G (Global) R (Regional) L (Local)	✓ for present and/or future X no problem changes as in H	* managing well ** quite hard to manage *** very hard to manage	None * minor ** major *** very severe
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(ii) State **two** pieces of **evidence** from the resources which show that global warming is having an impact on Antarctica.

(2)

1

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2

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(iii) State the type of emissions which caused the ozone hole to form.

(1)

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(iv) Suggest **one** reason why people are concerned about the ozone hole above Antarctica.

(2)

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(v) Suggest **one** reason why the ozone hole is proving a difficult problem to solve.

(2)

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(b) (i) Many people think tourism is becoming unsustainable in the **Antarctic Peninsula**.

Use evidence from the resources to explain why people think this.

(4)

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(ii) Suggest **two** ways that research stations could be managed **sustainably** to prevent them having an impact on Antarctica's environment.

(4)

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(Total for Question 2 = 18 marks)

TOTAL FOR SECTION B = 18 MARKS

SECTION C – MAKING DECISIONS

3 Use all the resources in the booklet but with particular reference to those in Section C.

The issue

The future development of Antarctica is a battle between conservationists and those who want to exploit the resources.

You should consider the following three options for Antarctica's future:

Option 1	Make Antarctica a World Park managed by UN. No further development should be allowed. Antarctica should be conserved as a wilderness area.
Option 2	Allow small scale sustainable development only on the Antarctica peninsula. Examples include ecotourism, new designs for research stations, sustainable shellfish industry.
Option 3	Permit some large scale development of resources for fishing, tourism and mining throughout Antarctica provided the developments are sustainably managed.

*(a) (i) Choose the option you think is best for Antarctica.

My chosen option number is

Explain why you chose this option as best for Antarctica.

(8)

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(ii) Give **three** possible disadvantages of your chosen option.

(3)

1

2

3

*(b) Choose the option which you think would be the worst option and justify your choice.

(6)

Option number

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(Total for Question 3 = 17 marks)

TOTAL FOR SECTION C = 17 MARKS
TOTAL FOR PAPER = 50 MARKS

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Sample Mark Scheme

Unit 3F: Making Geographical Decisions

(e) = extension of marking point/extended point

Question Number	Answer	Mark
1(a)(i)	<p>Any 3 of the following</p> <ul style="list-style-type: none"> • Extremely cold temperatures • Detail from graph of extreme climate • Extremely high winds • Frequent white outs/blizzards/snow • Complete isolation, lack of settlements/people • Wind chill making it very cold • Fear of frost bite • Poor equipment in historic times. <p style="text-align: right;">(3 x 1)</p>	3

Question Number	Answer	Mark
1(a)(ii)	<p>Environment</p> <p>Any of the following ideas - 1 for basic, 2 for extended point same wording as unit 1</p> <ul style="list-style-type: none"> • Beautiful coast scenery (1)/ice shelves/ice bergs (e) • Awesome views (1), steep mountain slopes/details/chaffs (e) • Glaciated scenery (1), ice sheets/glaciers (e) • Volcanic thermal (1) pools surrounded by ice (e) • Opportunities for extreme (X) sports (1) with example, for example of a location count as extension • Interesting historic settlements (1) from early explorers (e). 	4

Question Number	Answer	Mark
1(a)(iii)	<p>Wildlife</p> <p>Any of the following ideas - 1 for basic, 2 for extended point same wording as unit 1</p> <ul style="list-style-type: none"> • Opportunity to see penguins (1) breeding/types (e) • Chance to watch seals (1) breeding/types/location (e) • Mention of other birds (100,000) types (e) • Mention of marine life whales (1), dolphins (e) • Idea that you can get very close to them (1) (photography, no settlement) (e). 	2

Question Number	Answer	Mark
1(b)(i)	<p>Benefits</p> <p>Any two of the following (1 for basic statement, 2 for extended)</p> <ul style="list-style-type: none"> • Maintains the idea of peaceful international co-operation (1), no nuclear/military allowed (e) • Has resolved conflicts between nations (1) eg Russia and US (cold war) or UK and Argentina work together, or no territorial claims recognised (e) • Has promoted science (1) up to 2 marks (e) for types of science • Limited environmental damage (1) up to 2 marks (e) for ways this has been done eg no mineral exploitation and ecosystems conserved. <p style="text-align: right;">(2 x 2)</p>	4

Question Number	Answer	Mark
1(b)(ii)	<p>Accept any of the following but not as a lift off</p> <ul style="list-style-type: none"> • (6) Only rich nations do science, LEDCs excluded • (7) The research bases, eg new Indian one are not really for science - just to stake out claims • (9) Only the small issues have been resolved • (10) ATS ineffective: needs a World Park to improve conservation • (11) Decisions are so slow because democratic and all have to agree • (13) Allow if separate to (6), LEDCs gain no benefits from Antarctica (only 50/190 countries have signed). 	2

Question Number	Answer	Mark
2(a)(i)	<ul style="list-style-type: none"> • Global warming - *** • Mining - future problem only so accept only X (present) ✓ (future) • Research stations extent of threat - local <p style="text-align: right;">(3 x 1)</p>	3

Question Number	Answer	Mark
2(a)(ii)	<p>Any two of following - precise evidence for 1</p> <ul style="list-style-type: none"> • Increased °C must say, eg 3 °C or in Antarctica peninsula • Melting ice sheets - must say West Antarctica or other locations • Melting ice shelf, eg Larsen for 1, or appearance of moving new icebergs • Reject sea level rise, not really an Antarctic issue. <p style="text-align: right;">(2 x 1)</p>	2

Question Number	Answer	Mark
2(a)(iii)	CFCs or halons	1

Question Number	Answer	Mark
2(a)(iv)	<p>Basic point • damage to plants (1)/people (1)</p> <p>Extended answer • impact of UV(B) rays reaching earth leading to skin cancer etc/risk to human health (2).</p> <p>Decreases productivity of ecosystems (eg phytoplankton) (2).</p> <p>Use of map to report a 95% depletion over Central Antarctica which is very severe (2).</p>	2

Question Number	Answer	Mark
2(a)(v)	<p>1 for basic point, 2 for extended point up to maximum 2</p> <ul style="list-style-type: none"> • It is a global problem (1). Negotiations needed between many countries to sign Montreal Protocol banning CFC emissions (e). • Many Newly Industrialised Countries (China and India) still emitting (1) problems of replacement cost of old style fridges (e). • CFCs are being illegally produced (1) and traded (e). • CFCs very stable (1) take 50 years for them to disappear so ozone hole unlikely to disappear if CFC production stopped completely (e). 	2

Question Number	Answer	Mark
2(b)(i)	<p>Basic point (1), extension (2), maximum 3 for general answer reserve, maximum 4 for mention of Antarctic Peninsula specific information/evidence.</p> <ul style="list-style-type: none"> • Issues of potential damage (1) with details of penguin stress etc (e). • Issues of greatest accessibility (1) with details of distance/ports (e). • Issues of congestion of cruise ships/zodiacs (1), details of location (e). • Tourist numbers rising very rapidly (1) 14% 2006-2007 (e). • Very congested sites (1) eg numbers/locations (e). • Unsustainable at present (1) not looking after Antarctic for future generations (e). • Issues of tourist ship collision (1) → pollution (e) or concentrated in summer 3 months (e): evidence from Rothera graph. 	4

Question Number	Answer	Mark
2(b)(ii)	<p>1 for basic idea, 2 for extension 2 x 2</p> <ul style="list-style-type: none"> • Recycling waste (1) composting or extended idea, eg making paper briquettes (e). • Using renewable energy (1), details of type, eg wind turbine (e). • Recycling water (1), use of grey water (e). • Cleaning up toxic waste (1) and shipping it back to mainland (e). • Carrying out an Environmental Impact Assessment (1) and assessing the likely damage of all activities before doing them (e). • Taking care with supplies(1) using biodegradable plastic etc (e) or less damaging fuels so leaks are less problematic (e). <p style="text-align: right;">(2 x 2)</p>	4

Question Number	Indicative content	
3(a)(i) QWC i-ii-iii	<p>Option 1 is a likely choice. Candidate may include details from the World Park resource on prohibited activities and monitoring. Reasons for choice will be linked to the importance of conserving the unique environment of Antarctica in its pristine state (details of wildlife and features). Problems of environmental impacts of developments, eg tourism, research station at present support the arguments for conservation.</p> <p>Option 2 is again a likely choice - candidates may show understanding of sustainable development and recognise that it would limit damage to the pristine environment for example giving examples of ecotourism, or new style research stations such as Halleys which are sustainable in design and management.</p> <p>Option 3 is a choice for those who see development as important for the growing population of the world, eg oil, copper and need for TNCs to get new resources. The developments will be sustainably managed. They will cite importance of exploiting minerals or need for fish resources for Japan and advantages of more tourism also with Antarctica being so large would developments spread across continent have an impact.</p>	
Level	Mark	Descriptor
Level 0	0	No acceptable response.
Level 1	1-2	Lacks structure, often a series of random points, not well evidence. Does offer one or two reasons but shows limited understanding of the Antarctica context. Basic use of geographical terminology, spelling, punctuation and grammar.
Level 2	3-4	Some structure with use of evidence and terminology. Several reasons included - mostly relevant to context. Occasionally reasons are lacking in detailed support. Shows some understanding of the Antarctica development issue. Clearly communicated, but with limited use of geographical terminology, spelling, punctuation and grammar.
Level 3	5-6	Well structured with sound use of evidence and terminology. Includes a range of reasons for choice all appropriate. Good understanding of conservation exploitation controversy and role of sustainable development. Well communicated with good use of geographical terminology, spelling, punctuation and grammar.

Question Number	Answer	Mark
3(a)(ii)	<p>Note: disadvantages must be marked in tandem with reasons for choice.</p> <p>Option 1 Disadvantages might include:</p> <ul style="list-style-type: none"> • the fact that no further development could prevent useful projects (1) such as more research stations(e) • deny tourist opportunities (1) pleasure periphery/global tourism (e) makes Antarctica a must • it would deny people access to vital resources (1) which Antarctica has such as minerals (e) • policing the park may be extremely expensive (1) and difficult because of its remoteness/huge size (e). <p>Option 2 Disadvantages include the</p> <ul style="list-style-type: none"> • location in the Antarctic peninsula which by being so accessible (1) is the easiest point for tourists to get to (1) • threat (1) from research stations (eg Fildes) as they are mainly based in a small area (e) • congestion at tourists sites (1) such as Deception Island (penguin issues) (e) • there is no indigenous population (1) socio-economic benefits of sustainable development will not be realised (e) <p>Option 3 Disadvantages. There will still be:</p> <ul style="list-style-type: none"> • environmental impacts (1) and pollution of pristine environment (e) • destruction of ecosystems (1) (fisheries issues) (e) • potential territorial disputes (1) over mineral rights (e). • knowledge of sustainable development (1) and how difficult it is to manage (e). <p style="text-align: right;">(3 x 1)</p>	3

Question Number	Indicative content	
3(b) QWC i-ii-iii	<p>Option 1 the key to Antarctica is sustainable development. No further development might prevent useful science projects or deprive all except rich people the chance to visit. Total protection may not be best way forward. Very difficult to get agreement on and police.</p> <p>Option 2 Antarctica peninsula all ready comparatively developed. Does it need more? Sustainable schemes again are difficult to monitor and also small start ups may develop into larger units. Will not necessarily protect Antarctic Peninsula sufficiently.</p> <p>Option 3 clearly major environmental impacts because of the nature of large scale developments in mining, fishing, tourism even if sustainably managed. Inevitable destruction of ecosystems (especially marine), potential territorial disputes over mineral rights. End of the wilderness idea as spread across continent leading to yet more pressures, eg of shipping.</p> <p>Note: must be read in conjunction with (a). Will be linked to choice of option here. No marks if a repeat of choice in (a).</p>	
Level	Mark	Descriptor
Level 0	0	No acceptable response.
Level 1	1-2	Lacks structure one or two basic, generalised points. Sporadic use of evidence. Only basic terminology, some of the ideas are inappropriate or context misunderstood. Basic use of geographical terminology, spelling, punctuation and grammar.
Level 2	3-4	Some structure, uses some terminology and evidence to support some valid reasons for non selection. Clearly communicated, but with limited use of geographical terminology, spelling, punctuation and grammar.
Level 3	5-6	Well structured, sound use of terminology and evidence. Justifies rejection with a range of appropriate reasons why it was not selected. Well justified. Well communicated with good use of geographical terminology, spelling, punctuation and grammar.

Write your name here

Surname

Other names

Centre Number

Candidate Number

Edexcel GCSE

Geography B

Unit 3: Making Geographical Decisions

The Future of Antarctica

Higher Tier

Sample Assessment Material

Time: 1 hour

Paper Reference

5GB3H/01

You must have:

Pre-released Resource Booklet

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** the questions.
- Answer the questions in the spaces provided
– *there may be more space than you need.*

Information

- The total mark for this paper is 50.
- The marks for **each** question are shown in brackets
– *use this as a guide as to how much time to spend on each question.*
- Questions labelled with an **asterisk** (*) are ones where the quality of your written communication will be assessed
– *you should take particular care with your spelling, punctuation and grammar, as well as the clarity of expression, on these questions.*

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ►

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Answer ALL the questions.

SECTION A – INTRODUCING ANTARCTICA – THE BACKGROUND TO THE ISSUE

1 Use Section A in the Resource Booklet to answer this question. You will also need to refer to other resources for particular questions as instructed.

- (a) (i) Give **three** features of the climate of Antarctica which make it difficult for those who have to live and work there. (3)

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- (ii) Explain why many tourists and scientists visiting Antarctica regard it as '**a very special place**'. (6)

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(b) For this question refer to the resource on the Antarctic Treaty System (ATS) on page 16.

Explain why this treaty was needed to govern Antarctica and to safeguard its future.

(6)

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(Total for Question 1 = 15 marks)

TOTAL FOR SECTION A = 15 MARKS

SECTION B – THREATS TO ANTARCTICA’S ENVIRONMENT

2 Use Section B in the Resource Booklet to answer this question.

(a) (i) For **either** global warming **or** ozone depletion complete the table below using the key provided.

(3)

Threats	Extent of threat	Timespan		Success in management of threat	Degree of damage at present
		Present	Future		
Sealing, whaling, fishing in Southern Oceans	R	✓	✓	*	**
Global warming	G				
Oil and mineral extraction	L	X	✓	*	none
Ozone depletion	G				
Research station and science projects	L	✓	X	*	**
Tourism	L	X	✓	*	*

Key to use	Insert G (Global) R (Regional) L (Local)	✓ for a problem X no problem	✓ a problem X no problem	* good success in solution ** proving hard to solve ** very complex to solve	None * minor ** major *** very severe
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* (ii) For your chosen option justify your decisions for timespan, success in management of threat and degree of damage at present.

(6)

Chosen option:

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(b) Sustainable strategies are needed to manage Antarctica.

Using examples explain why sustainable strategies are needed for each of the following:

(i) **Research stations**

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(ii) **Tourism**

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(Total for Question 2 = 17 marks)

TOTAL FOR SECTION B = 17 MARKS

SECTION C – MAKING DECISIONS

3 Use all the resources in the booklet but with particular reference to those in Section C.

The issue

There are different and conflicting views about the **future development of Antarctica**. The advantages of **exploiting** the resources have to be weighed up against the environmental impacts, pollution threats and dangers of international disputes. Many see the **conservation** of the world's last great wilderness as absolutely vital and non-negotiable.

You should consider the following four options for the future of Antarctica:

Option 1	Maintain the current situation, as the Antarctic Treaty is working and protecting Antarctica well.
Option 2	Make Antarctica a World Park managed by the UN to strengthen conservation and avoid threats for example from mining and land-based tourism development.
Option 3	Allow limited small scale sustainable developments, for example new research stations or ecotourism, but only in the Antarctic peninsula.
Option 4	Permit development of resources throughout Antarctica provided the developments are sustainably managed.

Tasks

*(a) Choose **one** option which you think would be best for Antarctica.

Option number

Justify your choice of this option as best for Antarctica. You should briefly mention any possible disadvantages in your justification.

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*** (b) Explain the reasons why you rejected the other **three** options. **(8)****

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(Total for Question 3 = 18 marks)

TOTAL FOR SECTION C = 18 MARKS
TOTAL FOR PAPER = 50 MARKS

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Sample Mark Scheme

Unit 3H: Making Geographical Decisions

Question Number	Answer	Mark
1(a)(i)	<p>Any 3 of the following</p> <ul style="list-style-type: none"> • Extremely cold temperatures • Detail from the graph of extreme climate • Extremely high winds • Frequent white outs/blizzards/snow. <p style="text-align: right;">(3 x 1)</p>	3

Question Number	Indicative content	
1(a)(ii)	<p>Expect details of the Polar environment coast and inland with names of features - like no other place on earth. May get details of unusual atmospheric phenomena with clear air. Pristine, untouched nature. Expect details of being able to get near a range of wildlife from whales, dolphins, penguins and seals to rare lichens and moss mats.</p>	
Level	Mark	Descriptor
Level 0	0	No acceptable response.
Level 1	1-2	Uses one or two pieces of evidence but fails to build up a case for 'specialness'. May be focussed on a narrow range of ideas, eg just wildlife.
Level 2	3-4	Uses some evidence and terminology to justify the specialness across a satisfactory range of ideas. Tends to be a thorough description.
Level 3	5-6	Uses evidence and terminology to bring 'specialness' to life across a range of environment and wildlife. Awe and wonder well supported, may look at scientist and tourist perspective.

Question Number	Indicative content	
1(b)	<p>Two major strands</p> <p>(1) pristine nature of the wilderness environment determined to keep it free from damaging developments. As it was discovered there were many competing territorial claims and inappropriate developments. As the environment was so unique it needed protecting by Environmental Protocol etc.</p> <p>(2) Need a continent of peace and science whereby nations collaborated to really find out about the environment rather than fighting over resources, sharing in the governance and regulation. To ensure findings from unique science laboratory (details etc).</p>	
Level	Mark	Descriptor
Level 0	0	No acceptable response.
Level 1	1-2	Uses resources to lift off information on ATS and idea of continents of peace/science. Superficial understanding of reasons.
Level 2	3-4	Uses some range of evidence to describe, with more limited explanation why Antarctica was governed by ATS and internationally.
Level 3	5-6	Uses a range of evidence and terminology to explain why the uniqueness and importance of Antarctica needed the system of government such as ATS and Environmental Protocol. The top end answers may put this in historical context.

Question Number	Answer	Mark
2(a)(i)	<p>For global warming expect</p> <ul style="list-style-type: none"> • ✓ present ✓ future (1) • xxx complexity accept xx (1) • xxx impact accept xx (1) <p>Reject X for last 2</p> <p>For ozone depletion expect</p> <ul style="list-style-type: none"> • ✓present ✓ future (1) • xx difficult to solve (1) accept xxx • xxx severe impact (1) accept xx <p>Reject X for last 2</p> <p>Mark the table again after the justification has been read.</p> <p style="text-align: right;">(3 x 1)</p>	3

Question Number	Indicative content	
2 (a)(ii) QWC i-ii-iii	<p>Global warming clearly a world wide problem affecting the whole planet to a lesser or greater degree directly and indirectly. Very much a present problem - some may quote the hockey stick curve and the acceleration of rising °C since 1970s and must include future (issues of tipping point etc). Past would be harder to justify as global warming not climate change. Complexity of solutions, expect details of difficulty of achieving mitigation via Kyoto, Bali etc as many nations self interests involved (reward details). Details of damage expect worldwide, direct and indirect impacts.</p> <p>Ozone depletion - clearly is global. Informed candidates may know of Arctic holes, it is globally caused too. Present as discovered as late as 1985, and also future as while hole is filling in there are issues of trading in illegal CFCs and also 50 year 'life' of CFCs even if no more are emitted. Montreal Protocol was an Internationally negotiated treaty. NICs such as India and China in height of development found it hard to meet costs of replacement technology so not easy to negotiate.</p> <p>The concerns over damage to human health and ecosystems would certainly place it in at least xx maybe xxx although by 2070 it may be yesterday's problem.</p>	
Level	Mark	Descriptor
Level 0	0	No acceptable response.
Level 1	1-2	One or two basic attempts at justification of table decisions. Likely to lack details beyond lift off and may show some incorrect misunderstanding of chosen issue. Basic use of geographical terminology, spelling, punctuation and grammar.
Level 2	3-4	Makes an attempt to correctly justify some of the decisions made in the table but often the supporting reasoning lacks some detail/terminology. Clearly communicated, but with limited use of geographical terminology, spelling, punctuation and grammar.
Level 3	5-6	Has a very sound understanding of chosen issue and is able to support table decisions with a sound knowledge of the issues across the range of the table. Well communicated with good use of geographical terminology, spelling, punctuation and grammar.
		<p>Note: could get maximum, even if no attempt at table depending on wording.</p> <p>Could do one aspect very well, rather than specifically mentioning other bits. This would get maximum 4 marks.</p>

Question Number	Answer	Mark
2(b)(i)	<p>Research stations need to:</p> <ul style="list-style-type: none"> • Guard precious environment for future generations. • May be exemplified by past damaging actions at bases (toxic waste, frozen rubbish etc). • Action - expect one strategy such as recycling or running on renewables. <p>For each award marks as follows, up to maximum of 4. 1 for link/understanding of sustainability 2 for examples as to what problems are 1 for a named example of a sustainable strategy</p> <p style="text-align: right;">(4 x 1)</p>	4

Question Number	Answer	Mark
2(b)(ii)	<p>Tourism need to:</p> <ul style="list-style-type: none"> • Guard precious, pristine environment for future generations. • May be exemplified by potential damaging actions of tourists, eg penguin stress. Pressures of rising numbers of tourists, especially in congested areas (space) and time window each year. • Action - expect permits or zoning strategy, as well as education. <p>For each award marks as follows, up to maximum of 4. 1 for link/understanding of sustainability 2 for examples as to what problems are 1 for a named example of a sustainable strategy</p> <p style="text-align: right;">(4 x 1)</p>	4

Question Number	Indicative content	
3(a) QWC i-ii-iii	<p>Option 1 is a possible choice, as the Antarctica treaty is working well in many ways, for example encouraging scientific cooperation and banning any land-based mineral exploitation until 2048. Use of Environmental Protocol, conservation of seals, status quo a little complacent as some failures. Tourism only voluntary. Issue of iceberg/oil spills. Lowest common denominator in terms of rate of progress in maintaining pristine environment.</p> <p>Option 2 is a likely choice. The Greenpeace plan will strengthen wildlife conservation as whales/seals totally protected, also prevent threats of continental shelf oil exploration. Improved monitoring of some of the major issues such as waste disposal at research bases, fish and inappropriate tourism.</p> <p>Option 3 is a possible choice in that there is a recognition of demand for resources. Accessible AP is already a hotspot for tourism and research stations, and has considerable minerals, eg copper. Developments would be sustainable eg tourism zoning, but issue is by concentrating activity on Fildes peninsula already on SPA - already too developed. Under threat from GN.</p> <p>Option 4 would be a less likely choice but it would spread development throughout Antarctica. Possible arguments need to develop minerals, growing world resources but allowing claims could lead to disputes. Issues over sustainable development as difficult to police could spread pollution over a wider area especially if developments such as a large tourist resort took place. Many of the resources such as ecosystems are already under threat.</p>	
Level	Mark	Descriptor
Level 0	0	No acceptable response.
Level 1	1-2	Poorly structured answer which raises one or two poorly evidenced points in support of an option. Some misunderstanding and misinterpretation in arguments. Unlikely to see for and against. Basic use of geographical terminology, spelling, punctuation and grammar. Simple style lacking in clarity.
Level 2	3-4	Some structure in an answer which describes a range of partially evidenced points most of which are appropriate/relevant to chosen option. Many understand disadvantages. Clearly communicated, but with limited use of geographical terminology, spelling, punctuation and grammar.
Level 3	5-6	A well structured, well reasoned statement, supported by detailed evidence which effectively justifies choice yet at the same time recognises some disadvantages shown. Some evaluation. Well communicated with good use of geographical terminology, spelling, punctuation and grammar.
		Note: maximum 7 if no consideration of weakness of chosen scheme.

Question Number	Indicative content	
3(b) QWC i-ii-iii	<p>Much depends on which option student selected in (a). The rejections must not include this choice.</p> <p>Option 1 may be rejected, because it presents an over optimistic picture of what is actually going on. Currently insufficient strong sharing on conservation for increasing pressures. In support the status quo is working well.</p> <p>Option 2 may be rejected as too restrictive on any form of development, as there is over emphasis on protection at expense of conservation. Good points are that all fear on inappropriate developments have gone.</p> <p>Option 3 may be rejected as it is ineffectively allowing development, albeit sustainable, in the very crowded most accessible area which is under some pressure already.</p> <p>Option 4 may be rejected as even with the sustainable proviso the large scale developments may be too explorative, lead to significant environmental damage and lead to territory disputes. On the other hand they may add to useful resources for the world.</p>	
Level	Mark	Descriptor
Level 0	0	No acceptable response.
Level 1	1-2	Poorly structured response which does give one or two poorly supported reasons for rejection but all in general terms with poor use of evidence. Unlikely to list any good points as style is simple, lacking in coherence. Frequent errors in writing style. Basic use of geographical terminology, spelling, punctuation and grammar.
Level 2	3-4	Some structure in an answer which gives a range of reasons for rejection, supported by some evidence. Usually clear writing style appropriate to subject. Clearly communicated, but with limited use of geographical terminology, spelling, punctuation and grammar.
Level 3	5-6	Well structured, well argued and reasoned justification of rejection. Beginning to be evaluative. Clear understanding of spectrum of options. Well communicated with good use of geographical terminology, spelling, punctuation and grammar.
		Note: maximum 4 for one, maximum 7 for two only.

Edexcel GCSE

Geography B

Unit 3: Making Geographical Decisions

The Future of Antarctica

Paper 3F and 3H

Sample Assessment Material

Resource Booklet

Paper Reference

5GB3F/01

5GB3H/01

Do not return the Resource Booklet with the question paper

Instructions to Candidates

Use this Resource Booklet to prepare for the examination for Unit 3: Making Geographical Decisions. You will be asked to use the resources in the examination.

Your teacher will go through the Resource Booklet, over a period of 10 hours, in the lessons leading up to the examination.

The Resource Booklet must be handed in to your teacher at the end of each lesson. You must not write on the booklet. No notes are to be taken into the exam.

This Resource Booklet will be given back to you when you take the examination.

Contents of the Resource Booklet

Section A – Introducing Antarctica

- Fact file ● Antarctica's Environment

(pages 2 to 7)

Section B – Threats to Antarctica's Environment

- Global threats ● Regional threats ● Local threats

(pages 8 to 15)

Section C – Making Decisions

- The Antarctic Treatment System ● The Future of Antarctica

(pages 16 to 19)

Edexcel would like to thank the British Antarctic Survey (BAS) for making data maps and images available and for reviewing and checking this resource booklet.

Turn over ►

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Suggested Activities

General

You should:

- begin by reading through all of the materials to have a good idea what each resource is about
- list all geographical terms used and make sure you understand their meaning.

Section A

- Learn the key facts about Antarctica.
- Use the reference maps to find out about the size of Antarctica and its remote position. See where the locations of all the research stations are (including the UK station at Rothera) and where the top tourist sites on the Antarctica Peninsula are. When you are studying the resources, make links with the topics you have studied. Think about what makes the natural environment of Antarctica so hostile and yet so special, and why it needs a unique way of being governed (see ATS resources on page 16).

Section B

- Work your way through all the resources on threats to Antarctica. Think about their relative importance, and whether they lead to present or future pressures.
- Think about how the threats can cause damage to the unique Antarctic environment and how difficult the threats are to manage.
- You should consider the role that sustainable development can play in managing these threats.

Section C

Think about:

- how successfully Antarctica is managed at present using the Antarctic Treaty System (ATS)
- whether Antarctica should be a protected continent with no further development
- whether there should be development, if so what kind and where should it be allowed
- what increased exploitation might do to the continent.

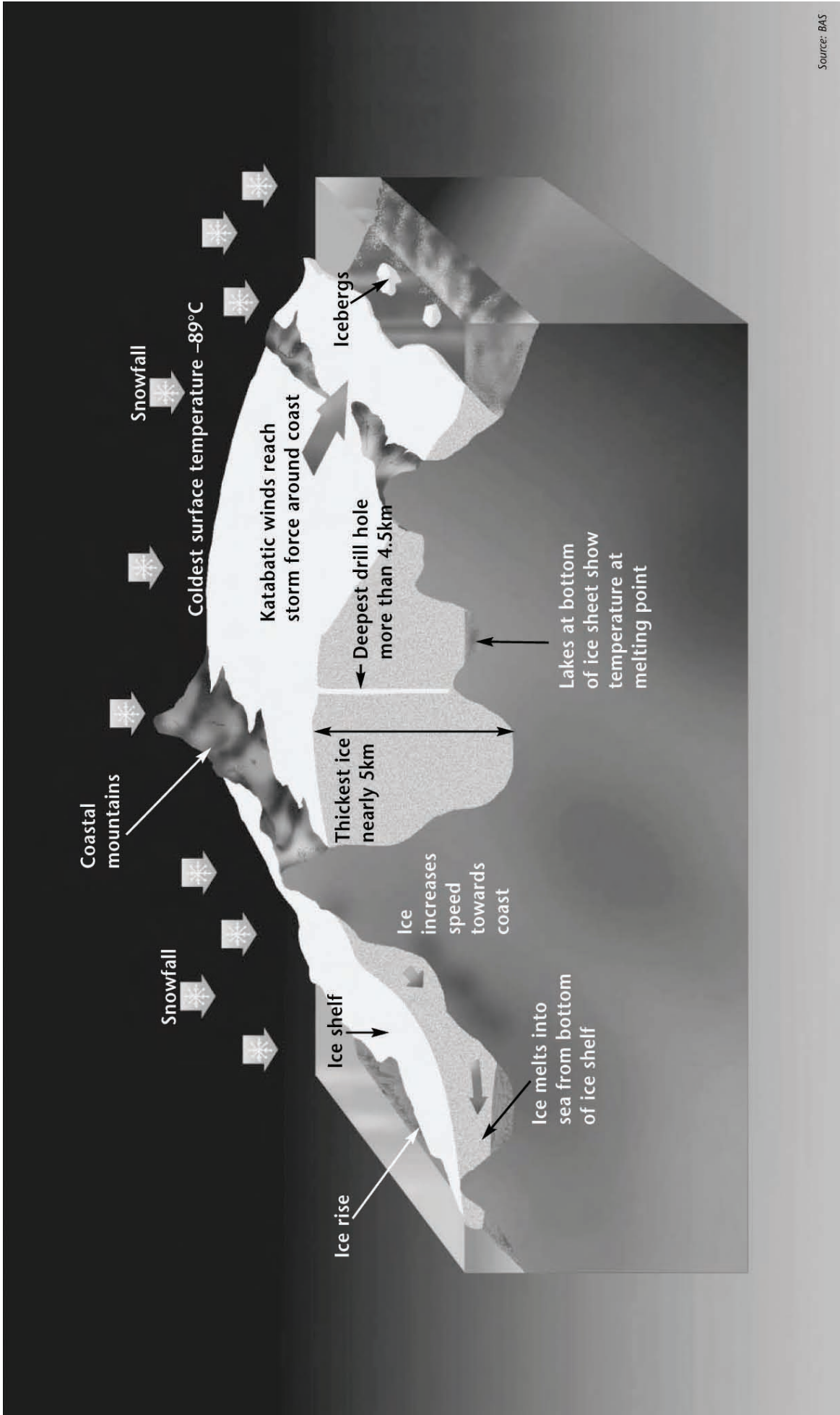
Background research

- Carry out some background research using the following websites:
 - **www.discoveringantarctica.org.uk** is a website especially designed for schools with a wide range of useful resources about Antarctica.
 - **www.antarctica.ac.uk** is the British Antarctic Survey (BAS) website. You can download all sorts of useful information. There are some excellent image resources which show you what Antarctica looks like and the animals that live there.
 - **<http://earth.google.com/>** for satellite images of Antarctica.
 - **<http://lima.usgs.gov/>** is the Landsat Image Mosaic of Antarctic website, containing many satellite images of Antarctica.
 - **www.iaato.org** has details about tourist activities in Antarctica, and how tourism is managed in the region.
 - **www.wwf.org.uk** has a very useful fact sheet on Antarctica.

SECTION A – INTRODUCING ANTARCTICA

1. Fact File

- Antarctica is a continent and covers an area of 14 million km², nearly 60 times the size of the UK.
- The inland ice sheet which covers over 99% of Antarctica contains 90% of the world's total ice and over 70% of the world's fresh water.
- The peaks of the Transantarctic mountains rise above the ice sheet, which is over 4km deep in places. The highest point is Mount Vinson at 4897m above sea level.
- Antarctica is classified as a polar desert. Snow falls and builds up gradually and compacts into ice which flows from the ice sheet towards the coast as huge **glaciers**. In many places these extend out to sea as massive floating **ice shelves**.
- Antarctica contains no **indigenous** (native) peoples. Whilst only around 1000 scientists and support staff work there in winter, in summer the number rises to over 10,000. To these can be added nearly 40,000 tourists who visit during the summer, nearly all on cruise ships.
- All activities are regulated by the Antarctic Treaty System (1961) and its associated agreements, which designate Antarctica as a natural reserve devoted to peace and science.



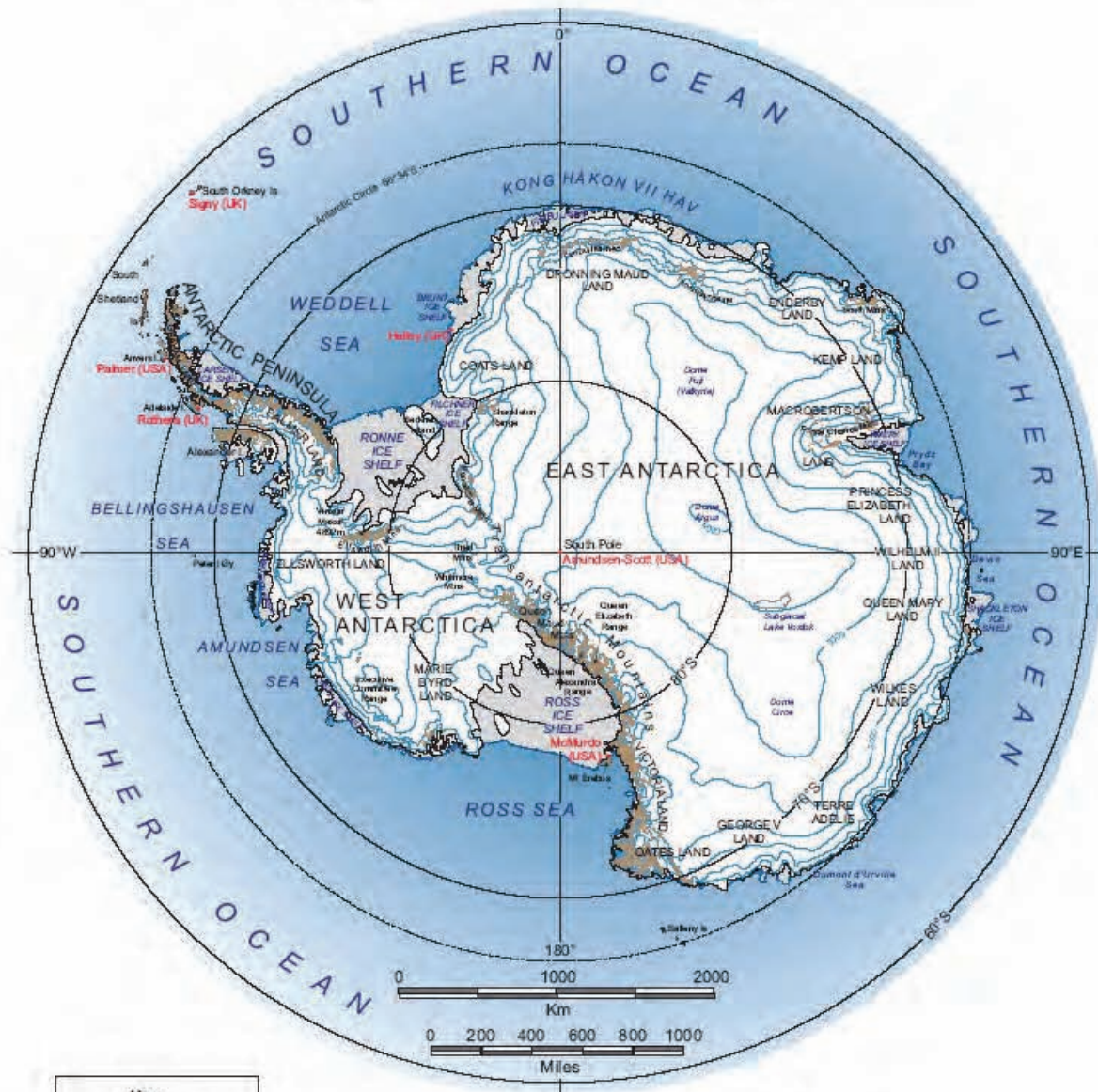
Source: BAS

(Source: BAS Antarctic Schools Pack)

Figure 1 – A block diagram of Antarctica

ANTARCTICA OVERVIEW MAP

This map shows the major geographical features on the Antarctic continent and the USA and UK research stations, to accompany the Landsat Image Mosaic of Antarctica (LIMA). For information about LIMA and to access the imagery, go to <http://lima.usgs.gov>



Key	
	Ice-free rock
	Ice sheet
	Ice shelf
	Contours at 500m intervals

To find more detailed maps of Antarctica:
 Order maps and posters from the LIMA website: <http://lima.usgs.gov/order.php>
 British Antarctic Survey Map Catalogue: <http://www.antarctica.ac.uk/magic/newmapcat/mapcat.html>
 SCAR (Scientific Committee for Antarctic Research) map catalogue: <http://aadco-maps.aad.gov.au/>
 For a composite gazetteer of placenames in Antarctica visit: http://www3.pnra.it/SCAR_GAZE/
 For a map showing all research stations operating in Antarctica visit: <http://www.comnap.aq/>

To find out interesting facts about Antarctica see:
 'Antarctica in Context' on <http://lima.usgs.gov/download.php>

To find out more about Antarctica and British Antarctic Survey research, visit:
www.antarctica.ac.uk



(Source: LIMA/NASA/BAS)

Figure 2 – A map of the continent of Antarctica

2. Antarctica's Environment

a. The extreme climate

Rothera Research Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean temperature (°C)	0.8	0.4	-2.2	-4.0	-4.9	-11.7	-10.9	-9.9	-6.5	-3.2	-1.0	-1.2
Mean wind speed (km/hr)	16.7	22.2	25.9	22.2	20.4	14.8	22.2	27.8	20.4	29.7	18.5	22.2

(Source: www.discoveringantarctica.org.uk)

Table 1 – The climate at Rothera Station (UK), Adelaide Island, Antarctic Peninsula

In terms of climate Antarctica is a continent of extremes. It is the coldest, windiest, driest and highest of all the continents. In the words of the famous British polar explorer Captain Scott '*Great God, this is an awful place*'. It is the **coldest** place on Earth with extreme temperatures, especially in the interior. The world's record lowest temperature of -89.6°C was recorded at the Russian Vostok station. Even on the coast in the Summer temperatures are rarely above freezing point.

It is one of the **windiest** places on Earth. Strong winds of up to 300 km per hour can blow down the valleys from the interior to the coast causing 'white outs' or blizzards which can last for weeks.

It is one of the **driest** places on Earth. Snowfalls are equivalent to only 150 mm of rain per year at South Pole.

There is huge concern that climate change could result in significant melting of the Antarctic ice sheet. This may disrupt the Earth in a major way, leading to a rise in global sea levels. If the West Antarctic Ice Sheet were to melt, it would raise global sea levels by 5 m.

b. Wildlife

Antarctica is the world's largest wildlife sanctuary. The continent and the surrounding ocean are home to millions of birds and seals. Only a few of these, such as Emperor penguins and Weddell seals, can survive in Antarctica's harsh environment throughout the year. Whilst the whole continent is protected by the ATS, there are some areas which are designated as Antarctic Specially Protected Areas. These areas contain highly endangered plant and animal life.

There are three major ecosystems – marine, land based and fresh water. The land-based ecosystem consists almost entirely of lichens, mosses and small insects, as a result of isolation, lack of continuous ice-free sites and extreme climate. There are no trees or land mammals in Antarctica, and only two species of plants. The mosses and lichens are slow growing, extremely fragile and can be easily destroyed by seals hauling themselves across them.



(Source: BAS)

Figure 3 – Tourists from a cruise ship visit a penguin colony.



Fur seal pup



Elephant Seal



Weddell Seal



Minkie Whale

Antarctica's Wildlife and Scenery

Antarctica is a scenic paradise.

- For **bird watchers** there are 11 different species of penguin living in colonies.
- You can also see the **albatross**. These huge birds fly huge distances around the southern oceans looking for food.
- You can see **moss banks** which are thousands of years old.
- There are six species of **seal**. Fur seals used to be hunted for their fur pelts. Numbers are increasing rapidly as they are now protected.
- Large areas of the Southern Ocean have been designated as a **whale** sanctuary. Since 1986 the International Whaling Commission has banned all commercial whaling, but Japan still hunts whales for scientific purposes.
- The wildlife live in a spectacular and beautiful polar environment of icebergs, glaciers and mountains.



Wandering albatross



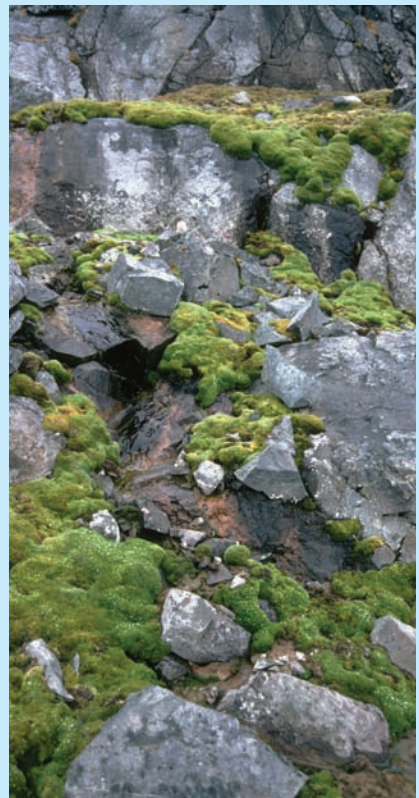
Chinstrap penguins



King penguin



Giant petrel



Moss bank



Emperor penguins



Gentoo penguin



Macaroni penguin

(Source: BAS)

Figure 4 – A variety of different wildlife found in Antarctica and South Georgia

SECTION B – THREATS TO ANTARCTICA'S ENVIRONMENT

This section explores how pressures from human activities are posing threats (both present and future) to Antarctica's environment at a variety of scales. Technology is making it easier to exploit the harsh and hostile environment. The pressures frequently conflict with each other, but also with the conservation of Antarctica as the world's last great wilderness.

1. Global Threats

a. Climate Change

*The Antarctic Peninsula is one of the areas most affected by rising temperatures (up 3°C since 1950). Most scientists now believe this is due to **global warming**, as a result of human actions leading to the emission of **greenhouse gases** (CO₂, methane). The increase in temperature has caused the melting of many glaciers and the collapse of several ice shelves (e.g. Larsen) in 2002 in the region. Locally these changes have had considerable impact on ecosystems, for example exposing new areas of land.*

Scientists are still uncertain as to the likely impact of global warming on the Antarctic ice sheet. But melting is happening faster than predicted.

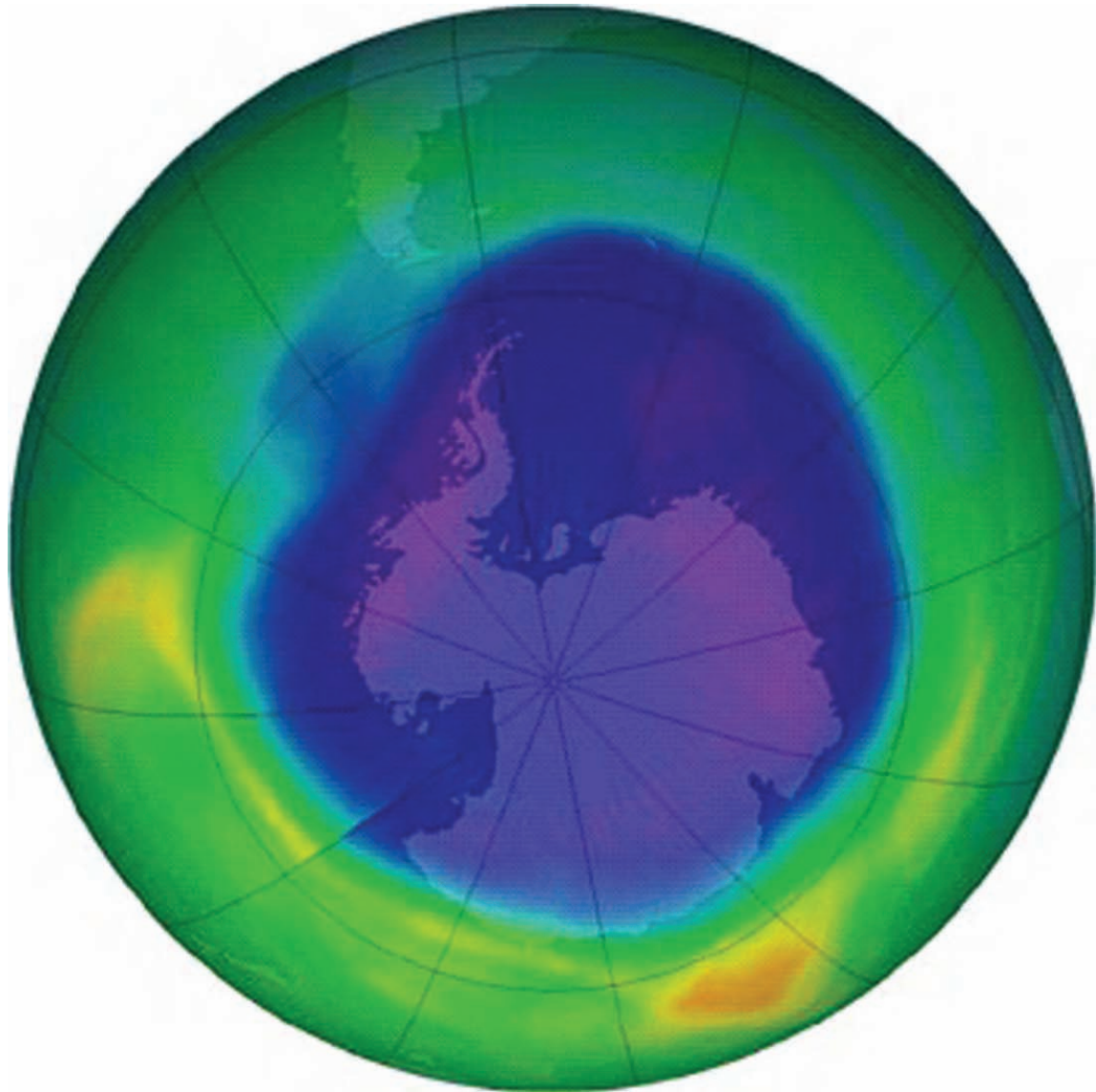
*In order to **lessen** the impacts of global warming, global solutions, such as the Kyoto Protocol, to reduce greenhouse gas emissions are needed. Global agreement is very hard to get. It also must be supported by national and local strategies to cut down on fossil fuel use. All nations are having to develop strategies to **adapt** to, and reduce the impact of, climate change.*

b. Ozone depletion

*The discovery by scientists at the British Antarctic Survey (BAS) of an annual hole in the stratospheric (upper atmosphere) ozone layer in 1985 caused huge concern. This is because ozone absorbs harmful ultra-violet radiation (UVB) from the sun. UVB radiation is very harmful to humans and can cause skin cancer, and also affects eco-system productivity. The ozone hole over Antarctica forms at the end of the Antarctic winter when the atmosphere is very cold. This destruction of ozone, most marked in the Antarctic spring, means the loss of protection for the Earth from ultra-violet radiation (UVBs). This is very harmful to humans, and also affects ecosystem productivity. Scientists suspected that CFCs might be responsible for the ozone depletion. Following International agreements such as the 1993 **Montreal Protocol** to restrict CFC use, ongoing measures suggest that the hole is getting smaller and shallower.*

The CFC emissions come from the developed nations and more recently from Newly Industrialised Countries (NICs) such as India and China. The problem is that not all countries have signed the Montreal Protocol, and trade in illegally produced CFCs is occurring. Also because CFCs are such stable gases it will take at least 50 years for the ozone hole to disappear even if CFC production stops totally.

Figure 5 shows the ozone hole over Antarctica on 13th September 2007. The hole was approximately the size of North America.



(Source: NASA)

Figure 5 – Ozone depletion in Antarctica

2. Regional Threats – exploitation of the Southern Ocean

The Southern Ocean which surrounds Antarctica forms over 10% of the global ocean.

Man has exploited the Southern Ocean for over 200 years. In the 1800s millions of fur seals were hunted for their pelts, and in the 1900s whales were killed in their hundreds of thousands for their meat, bone and oil.

In the 1900s fishing became established in the Southern Ocean. For some types of fish, such as Antarctic cod, it took only a few years to reduce the stock to very low levels. As one species became scarce, fishermen turned their attention to another.

To prevent over-fishing becoming an ecological disaster for the Southern Ocean, the Antarctic Treaty nations agreed the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) in 1982. This protects the whole Southern Ocean ecosystem rather than the individual fish species being caught. CCAMLR now regulates fishing activity and ensures that fish and krill are left for penguins, seals and whales to eat. Problems remain, however, with illegal or pirate fishing, which is very difficult to police.

3. Local Threats – direct threats to Antarctica’s environment

a. Threats from scientific research stations

The value of science

The Antarctic Treaty (1961) established Antarctica as a continent for science. Since then, Antarctica has become a globally important natural laboratory for finding out about how the earth evolved and how it is changing today.

- studying life at the edge – looking at how animals and plants survive the extreme environment
- measuring weather in the upper atmosphere
- monitoring the ozone hole
- monitoring changes in the ice sheets to see how they are responding to climate change
- recording changes in the Earth’s climate by analysing ice cores.

Environmental impact of science

Most research stations are concentrated on the ice free coastal margins of Antarctica which make up under 1% of the continent, often in areas of fragile ecosystems and wildlife hotspots such as the Fildes Peninsula on King George Island. There was a rush in the 1970s and 80s to establish research stations, coinciding with the negotiations about mineral exploitation.

The US McMurdo Research Station is the largest base in Antarctica. In the past, rubbish was dumped into the sea near the station and the sea floor is now heavily polluted by fuel and toxic waste. Now the station is run on strict environmental policies. Over 90% of waste produced at the station is now removed and recycled in the US.

As a result of the Environmental Protocol to the Antarctic Treaty (1998) there has been a dramatic change in attitude towards eliminating, reducing and recycling waste and cleaning up the stations. Now all scientific activities have an Environmental Impact Assessment (EIA) and solid waste is recycled and removed by ship. Renewable energy systems are being introduced. Local problems remain however with raw or partially treated sewage dispersed in local waters. Although some old bases and rubbish dumps have been cleaned up, others have been abandoned with no attempt to restore the environment.

A recent controversy has been the building of an ice “road” from McMurdo base to the South Pole as a supply route for the US Antarctic Program. The road will only be used during the Antarctic summer; and will enable tractors to tow cargo to the South Pole for the first time. This will mean fewer aircraft will be needed, saving fuel and reducing emissions.



(Source: Wikipedia)

Figure 6 – The US McMurdo Research Station, Ross Island, Antarctica.

b. Future minerals exploitation

There has been considerable speculation about the possible mineral wealth of Antarctica. There are claims that the continent is as rich in minerals as Southern Africa and South America, to which Antarctica was once attached over 200 million years ago. There are deposits of coal in the Transantarctic mountains. But over 50 years of geological mapping has not revealed any mineral deposits in quantities which would be worth mining, especially in such harsh conditions. The Environmental Protocol bans all commercial mining. In the future, improvements in technology might enable minerals exploitation of the sea bed around Antarctica. Some countries are now considering making claims for parts of the continental shelf around the continent.

Reasons to exploit	Reasons not to exploit
1. The growing world thirst for oil and gas from newly industrialised countries (China, India).	1. High risk of activities damaging and destroying the environment, such as the threat of major oil spills.
2. Rising prices make exploitation worthwhile for the oil and mining companies.	2. Increased risk of minerals exploitation and development leading to territorial disputes.
3. Developments in new technology from the Arctic make it possible to mine in the Antarctic.	3. Huge costs to prospect because of the harsh continent and lack of any infrastructure.
4. Melting of the ice sheets may expose mineral deposits and lower exploitation costs.	4. Development is not sustainable. More should be done to conserve existing resources and develop renewables and keep Antarctica pristine.

Table 2 – Reasons for and against the exploitation of Antarctica

c. Tourism in Antarctica

Tourists first visited Antarctica as long ago as 1958. But only since the 1980s, when ice-strengthened vessels became available have numbers started to escalate. Many people are fascinated by Antarctica, often after watching films such as 'March of the Penguins', and there is growing demand to see the continent at first-hand. In 2007, 37,500 tourists visited Antarctica, more than 5000 of them British.

The vast majority of tourists visit Antarctica by cruise ship, similar to the one shown in Figure 7. Tourists will spend about two weeks cruising the Antarctic Peninsula, often going ashore in small inflatable boats to visit wildlife, heritage sites and research stations. But only 20 or so sites are safe for people to go ashore, and the best sites receive thousands of visitors every year, such as Port Lockroy and Deception Island. Currently tourism is well regulated by IAATO (International Association of Antarctica Tour Operators) with whom tourist companies are **voluntarily** registered to follow environmental and safety code of practice. Under the ATS the most visited landing sites have special guidelines to protect them from impact and ensure tourist safety. Table 3 shows the potential impact of tourism on the environment.

Potential Impacts	Part of the environment at risk	Ways to minimise impact
Disturbance of wildlife	Breeding birds, hauled out seals	Impose minimum approach distances to wildlife. Educate visitors to behave responsibly.
Litter, waste, fuel spills	Damages land-based ecosystems Marine wildlife, particularly seals and birds, becoming entangled in rubbish or coated in fuel	Ensure ship operation conforms to international maritime standards. Ensure ships are ice-strengthened and have modern ice navigation equipment. Limit size of tourist vessels entering Antarctic waters. Ensure ship has an oil spill response plan in case of an accident. Oil spill equipment available and crew trained in cleanup techniques.
Environmental degradation (e.g. trampling)	Fragile moss mats	Limit numbers going ashore. Avoid sensitive areas. Brief tourists before arrival.
Removing historic artefacts, fossils, bones	Historic sites, fossils	Tell tourists not to collect souvenirs. Brief tourists before arrival.
Disruption to important scientific research	Research stations, field study sites	Allow only a few tourist visits per season. Brief tourists before arrival. Guide tourists around station.

Table 3 – The potential impact of tourism on the environment

There are significant concerns about the future of the tourist industry in Antarctica and opinions are divided about whether tourism should now be controlled by the ATS, and limits placed on the numbers of tourists and ships going to the region.

Particular issues include:

- *The development of land-based adventure tourism, already established at Patriot Hills, in the Ellsworth Mountains could cause serious environmental impact if large-scale tourist developments are allowed, such as hotel resorts and air services.*
- *Cruise ships are not only more numerous but much larger with some very large ships taking 3500 people. At the moment they do not land but cruise the islands off the Antarctic Peninsula. Larger ships are not ice-strengthened, and carry more damaging heavy fuel oil.*
- *Concerns have risen about the safety and environmental impact of the tourist industry. In 2007, the small expedition cruise ship Explorer sank after hitting an iceberg in Antarctica. Fortunately, there was no loss of life but the ship was wrecked sinking to the sea bed with over 190,000 litres of fuel on board.*
- *Development of an improved tourist management strategy for Antarctica is needed, including the introduction of shipping safety and environmental guidelines.*

Antarctica

Antarctica is often called the “Great White continent” and it is one of the most pristine environments in the world. It was made famous by the heroic expeditions of Scott, Amundsen and Shackleton.

During our voyage on the Penguin Express you will see that Antarctica is an area of outstanding beauty and is home to many different species of wildlife.



Great photo opportunities await you!



The Penguin Express arriving in the Antarctic

The Penguin Express

Your journey will be on board a first class expeditionship, which is specially adapted to exploring Antarctica. It will also offer many comforts that you would expect at home. The most important feature is our experienced crew. They will guide you through the different parts of our cruise and lead the expeditions on the ship's zodiacs (smaller boats for up to 15 passengers). They will also give informative evening talks in the ships and library. There are only 39 cabins and suites on the Penguin Express, which means that every passenger gets the attention they deserve.



The route of the Penguin Express

Arctic Adventure cruise – route

- **Day 1** Board the Penguin Express for an evening departure from the historic port of Ushuaia in Argentina.
- **Day 2 to Day 3** Cruise through the Drake Passage where the cold polar waters sink beneath the warmer temperate waters. Watch albatrosses and petrels follow the ship.
- **Day 4** Visit to King George Island, the largest of the South Shetland Islands, where you can go ashore to Potter Bay.
- **Day 5** Land at Neko Harbour, your first stop on the Antarctic mainland. Here you will find spectacular scenery and wildlife. Watch out for blue-eyed shags, cape petrels, weddell, crabeater, leopard seals, orcas and humpback whales. The wildlife is not afraid of humans.
- **Day 6** Sail south past the dramatic cliffs and glaciers of the Lemaire Channel. Go ashore at Petermann Island, the southernmost point of your journey and home to colonies of Gentoo and Adelie penguins. Take a zodiac ride to see the glaciers.
- **Day 7** Head north to Paradise Bay where again you will have time to explore the surroundings by zodiac. This evening visit Cuverville Island, with its dramatic scenery and home to a large Gentoo colony.
- **Day 8** Sail on to Deception Island, the largest active volcano in the area, where you can swim in the thermal waters and walk around an historic whaling station.
- **Day 9** Return crossing of the Drake Passage.

Figure 7 – A Tourism brochure (Adapted from Kuoni World Wide Brochure 2008)

SECTION C – MAKING DECISIONS

1. The Antarctic Treaty System – How Antarctica is governed

The system of international governance that has been agreed for Antarctica is unique. The Treaty established Antarctica as a region of peace and science. Nearly 50 countries have now signed representing 80% of the world's people. Since 1961 a number of separate international agreements have been adopted including the **Environmental Protocol 1998**. The protocol sets out principles for environmental protection, with sections on conservation of flora and fauna, prevention of marine pollution, waste disposal and management and Environmental Impact Assessment. The Protocol bans mining in Antarctica, and requires the environmental assessment of all activities before they can go ahead.

1. Military activities are not allowed.	7. Treaty nations will meet regularly to consider ways of furthering the principles and objectives of the Treaty.
2. Freedom of scientific investigation and co-operation shall continue.	8. Treaty nations will try to ensure that no one engages in any activity contrary to the principles of the Treaty.
3. Territorial claims are not recognised and no new territorial claims can be made.	9. The treaty may be modified/updated at any time by unanimous agreement.
4. Nuclear explosions and radioactive waste disposal are banned.	10. The treaty must be accepted by any nation wishing to join.
5. The treaty applies to all land including ice shelves but not to the seas within the area. Activities south of latitude 60°S are governed by it.	11. The original treaty was signed in 1959 and came into operation in 1961.
6. All research stations, ships and aircraft operating in Antarctica have to be open to inspection at any time.	

Table 4 – The terms of the Antarctic Treaty



(Source: BAS)

Figure 8 – Comments on the Antarctic Treaty System

2. The Future of Antarctica – Two Views

a. Maintaining and strengthening the Antarctic Treaty – the view of Treaty nations

- The Antarctic Treaty is working well, with more nations signing up every year.
- Current fishing levels in the Southern Ocean are below the quota of total allowable catch for many species, such as krill.
- Levels of pollution in Antarctica are extremely low by global standards.
- Most research stations are making a valuable contribution to science especially to the study of climate change. Nearly all are now sustainably managed to minimise fuel use and waste disposal.
- Tourism is currently well managed by the tour operators and is at sustainable levels.
- Global warming is a world issue – activities in Antarctica have little or no impact.
- No problems have been experienced over mineral exploitation as the Environmental Protocol has been observed.
- Antarctica remains the world's last great wilderness region.
- The Treaty enables scientists from around the world to work together to study some of the most important global threats to the planet, such as climate change and ozone depletion.

b. Creating Antarctica 'World Park' – the Greenpeace Vision

In 1994, Greenpeace suggested the idea of a World Park in order to protect Antarctica. There was concern that Antarctica could not cope with increasing threats and protection of the Antarctic environment should be the most important consideration.

The Greenpeace vision of a World Park is guided by **four** principles:

- the recognition of the value of the continent as the world's last great wildernesses
- the protection of **all** wildlife and ecosystems
- the use of the continent for high quality, collaborative scientific activity
- maintaining the continent as a zone of peace, free of all military consideration in order to focus on **Protection** of the Antarctic environment as the main consideration.

Note: Greenpeace is a campaigning environmental pressure group

c. Arguments against development

- Antarctica is unique as the world's last great wilderness. Once it is developed the continent's near pristine state will be lost forever.
- Should development take place damage will be very severe in such a fragile and vulnerable environment. It takes the environment a long time to recover in the cold climate.
- Most resources are finite and would only last a few decades. There would be extensive short term damage for little benefit. The long term strategy should be better stewardship of current resources so that resources in the Antarctic would not be needed.
- The research programmes rely on a completely natural and unpolluted environment

d. Arguments for development

- The world's population is still rising, and as development takes place, for example in China, more resources will be needed.
- Developers have a large amount of experience in the Arctic of sustainable design, development and management and can thus protect the unique environment in Antarctica.
- Development can be strictly controlled through the Antarctic Treaty and zoned in order to minimise environmental impacts.
- The world should be able to share more fully in the beauty and scientific, environmental and economic value of Antarctica.

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Geography B

Unit 4: Researching Geography

Theme: Coastal Environments

Task question 1

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THEME: COASTAL ENVIRONMENTS

Task question 1: Along most coastlines, there are striking differences in the physical nature of the coast and its ecosystems.

How far does the research you have carried out make you think that this statement is correct?

How to tackle the task:

a. Planning

High level of control. Suggested timing 5 hours.

- Your fieldwork investigation will need to have a focus linked to the task question. This may include, for example, any geographical models that could be tested. This focus will be provided by your teacher.
- Begin the initial background research into the topic area. You can use any resources normally available in your school or college.

b. Methods of data collection

Limited level of control. Suggested timing 2 hours + 1 day.

- Decide how you will collect the data for your fieldwork investigation.
- When you carry out your fieldwork investigation you will be working as a team to collect your **primary fieldwork** data. Your findings must be recorded accurately and reliably. You may use any recording sheets you may have been provided with or developed yourself.
- Record any **secondary sources** you are going to use to provide you with additional data, e.g. other peoples' photographs, videos, newspaper editorials etc. Consider the reliability and usefulness of these particular.
- Decide whether you will take photographs of equipment or people involved in the investigation or to produce some field sketches or sketch maps.

c. Data presentation and report production

High level of control. Suggested timing 5 hours.

- Decide how to structure your report and which sections to include.
- Use maps to locate your field study area and consider why this location was chosen.
- Describe the specific aims you were given in relation to this fieldwork and also any aims you decided upon individually.
- Explain the methods you used, suggesting why particular techniques were chosen. Record your investigation technique in a suitable way, explaining what you did and your reasons for doing it.
- Ensure that you communicate your findings clearly using correct geographical language, grammar, spelling, and punctuation. The quality of communication in your report will be marked.

d. Analysis and conclusions

High level of control. Suggested timing 5 hours.

- Use a range of appropriate techniques to refine and display your results and findings.
- Carry out the analysis of your data. Make sure you refer back to a range of data sources, both primary and secondary. Provide an explanation for the patterns in your data.
- Explain your conclusions.
- Explain how far you agree with the statement given in the task question. Draw on the evidence collected, both primary and secondary data.

e. Evaluation

High level of control. Suggested timing 3 hours.

- Explain how accurate and reliable your results are.
- Explain how what might you do differently if you were going to repeat the investigation and how may that help you to improve the results collected, or the reliability and accuracy of your data.

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Geography B

Unit 4: Researching Geography

Theme: Coastal Environments

Task question 2

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THEME: COASTAL ENVIRONMENTS

Task question 2: The type of coastal management depends on local conditions.

How far does the research you have carried out make you think that this statement is correct?

How to tackle the task:

a. Planning

High level of control. Suggested timing 5 hours.

- Your fieldwork investigation will need to have a focus linked to the task question. This may include, for example, any geographical models that could be tested. This focus will be provided by your teacher.
- Begin the initial background research into the topic area. You can use any resources normally available in your school or college.

b. Methods of data collection

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Geography B

Unit 4: Researching Geography

Theme: River Environments

Task question 1

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THEME: RIVER ENVIRONMENTS

Task question 1: The channel characteristics of a river change along its course.

How far does the research you have carried out make you think that this statement is correct?

How to tackle the task:

a. Planning

High level of control. Suggested timing 5 hours.

- Your fieldwork investigation will need to have a focus linked to the task question. This may include, for example, any geographical models that could be tested. This focus will be provided by your teacher.
- Begin the initial background research into the topic area. You can use any resources normally available in your school or college.

b. Methods of data collection

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Geography B

Unit 4: Researching Geography

Theme: River Environments

Task question 2

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THEME: RIVER ENVIRONMENTS

Task question 2: The use of a river and its flood plain vary along its course.

How far does the research you have carried out make you think that this statement is correct?

How to tackle the task:

a. Planning

High level of control. Suggested timing 5 hours.

- Your fieldwork investigation will need to have a focus linked to the task question. This may include, for example, any geographical models that could be tested. This focus will be provided by your teacher.
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Geography B

Unit 4: Researching Geography

Theme: Rural/Countryside Environments

Task question 1

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THEME: RURAL/COUNTRYSIDE ENVIRONMENTS

Task question 1: Rural areas close to towns and cities face particular challenges.

How far does the research you have carried out make you think that this statement is correct?

How to tackle the task:

a. Planning

High level of control. Suggested timing 5 hours.

- Your fieldwork investigation will need to have a focus linked to the task question. This may include, for example, any geographical models that could be tested. This focus will be provided by your teacher.
- Begin the initial background research into the topic area. You can use any resources normally available in your school or college.

b. Methods of data collection

Limited level of control. Suggested timing 2 hours + 1 day.

- Decide how you will collect the data for your fieldwork investigation.
- When you carry out your fieldwork investigation you will be working as a team to collect your **primary fieldwork** data. Your findings must be recorded accurately and reliably. You may use any recording sheets you may have been provided with or developed yourself.
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Geography B

Unit 4: Researching Geography

Theme: Rural/Countryside Environments

Task question 2

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THEME: RURAL/COUNTRYSIDE ENVIRONMENTS

Task question 2: Remote rural areas must diversify if they are to survive.

How far does the research you have carried out make you think that this statement is correct?

How to tackle the task:

a. Planning

High level of control. Suggested timing 5 hours.

- Your fieldwork investigation will need to have a focus linked to the task question. This may include, for example, any geographical models that could be tested. This focus will be provided by your teacher.
- Begin the initial background research into the topic area. You can use any resources normally available in your school or college.

b. Methods of data collection

Limited level of control. Suggested timing 2 hours + 1 day.

- Decide how you will collect the data for your fieldwork investigation.
- When you carry out your fieldwork investigation you will be working as a team to collect your **primary fieldwork** data. Your findings must be recorded accurately and reliably. You may use any recording sheets you may have been provided with or developed yourself.
- Record any **secondary sources** you are going to use to provide you with additional data, e.g. other peoples' photographs, videos, newspaper editorials etc. Consider the reliability and usefulness of these particular.
- Decide whether you will take photographs of equipment or people involved in the investigation or to produce some field sketches or sketch maps.

c. Data presentation and report production

High level of control. Suggested timing 5 hours.

- Decide how to structure your report and which sections to include.
- Use maps to locate your field study area and consider why this location was chosen.
- Describe the specific aims you were given in relation to this fieldwork and also any aims you decided upon individually.
- Explain the methods you used, suggesting why particular techniques were chosen. Record your investigation technique in a suitable way, explaining what you did and your reasons for doing it.
- Ensure that you communicate your findings clearly using correct geographical language, grammar, spelling, and punctuation. The quality of communication in your report will be marked.

d. Analysis and conclusions

High level of control. Suggested timing 5 hours.

- Use a range of appropriate techniques to refine and display your results and findings.
- Carry out the analysis of your data. Make sure you refer back to a range of data sources, both primary and secondary. Provide an explanation for the patterns in your data.
- Explain your conclusions.
- Explain how far you agree with the statement given in the task question. Draw on the evidence collected, both primary and secondary data.

e. Evaluation

High level of control. Suggested timing 3 hours.

- Explain how accurate and reliable your results are.
- Explain how what might you do differently if you were going to repeat the investigation and how may that help you to improve the results collected, or the reliability and accuracy of your data.

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Edexcel GCSE

Geography B

Unit 4: Researching Geography

Theme: Town/City Environments

Task question 1

Sample Controlled Assessment Material

Paper Reference

5GB04/01

You do not need any other materials.

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THEME: TOWN/CITY ENVIRONMENTS

Task question 1: No two CBD's or residential districts are exactly alike.

How far does the research you have carried out make you think that this statement is correct?

How to tackle the task:

a. Planning

High level of control. Suggested timing 5 hours.

- Your fieldwork investigation will need to have a focus linked to the task question. This may include, for example, any geographical models that could be tested. This focus will be provided by your teacher.
- Begin the initial background research into the topic area. You can use any resources normally available in your school or college.

b. Methods of data collection

Limited level of control. Suggested timing 2 hours + 1 day.

- Decide how you will collect the data for your fieldwork investigation.
- When you carry out your fieldwork investigation you will be working as a team to collect your **primary fieldwork** data. Your findings must be recorded accurately and reliably. You may use any recording sheets you may have been provided with or developed yourself.
- Record any **secondary sources** you are going to use to provide you with additional data, e.g. other peoples' photographs, videos, newspaper editorials etc. Consider the reliability and usefulness of these particular.
- Decide whether you will take photographs of equipment or people involved in the investigation or to produce some field sketches or sketch maps.

c. Data presentation and report production

High level of control. Suggested timing 5 hours.

- Decide how to structure your report and which sections to include.
- Use maps to locate your field study area and consider why this location was chosen.
- Describe the specific aims you were given in relation to this fieldwork and also any aims you decided upon individually.
- Explain the methods you used, suggesting why particular techniques were chosen. Record your investigation technique in a suitable way, explaining what you did and your reasons for doing it.
- Ensure that you communicate your findings clearly using correct geographical language, grammar, spelling, and punctuation. The quality of communication in your report will be marked.

d. Analysis and conclusions

High level of control. Suggested timing 5 hours.

- Use a range of appropriate techniques to refine and display your results and findings.
- Carry out the analysis of your data. Make sure you refer back to a range of data sources, both primary and secondary. Provide an explanation for the patterns in your data.
- Explain your conclusions.
- Explain how far you agree with the statement given in the task question. Draw on the evidence collected, both primary and secondary data.

e. Evaluation

High level of control. Suggested timing 3 hours.

- Explain how accurate and reliable your results are.
- Explain how what might you do differently if you were going to repeat the investigation and how may that help you to improve the results collected, or the reliability and accuracy of your data.

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Edexcel GCSE

Geography B

Unit 4: Researching Geography

Theme: Town/City Environments

Task question 2

Sample Controlled Assessment Material

Paper Reference

5GB04/01

You do need any other materials.

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THEME: Town/City Environments

Task question 2: Recent changes in inner urban areas have brought many benefits.

How far does the research you have carried out make you think that this statement is correct?

How to tackle the task:

a. Planning

High level of control. Suggested timing 5 hours.

- Your fieldwork investigation will need to have a focus linked to the task question. This may include, for example, any geographical models that could be tested. This focus will be provided by your teacher.
- Begin the initial background research into the topic area. You can use any resources normally available in your school or college.

b. Methods of data collection

Limited level of control. Suggested timing 2 hours + 1 day.

- Decide how you will collect the data for your fieldwork investigation.
- When you carry out your fieldwork investigation you will be working as a team to collect your **primary fieldwork** data. Your findings must be recorded accurately and reliably. You may use any recording sheets you may have been provided with or developed yourself.
- Record any **secondary sources** you are going to use to provide you with additional data, e.g. other peoples' photographs, videos, newspaper editorials etc. Consider the reliability and usefulness of these particular.
- Decide whether you will take photographs of equipment or people involved in the investigation or to produce some field sketches or sketch maps.

c. Data presentation and report production

High level of control. Suggested timing 5 hours.

- Decide how to structure your report and which sections to include.
- Use maps to locate your field study area and consider why this location was chosen.
- Describe the specific aims you were given in relation to this fieldwork and also any aims you decided upon individually.
- Explain the methods you used, suggesting why particular techniques were chosen. Record your investigation technique in a suitable way, explaining what you did and your reasons for doing it.
- Ensure that you communicate your findings clearly using correct geographical language, grammar, spelling, and punctuation. The quality of communication in your report will be marked.

d. Analysis and conclusions

High level of control. Suggested timing 5 hours.

- Use a range of appropriate techniques to refine and display your results and findings.
- Carry out the analysis of your data. Make sure you refer back to a range of data sources, both primary and secondary. Provide an explanation for the patterns in your data.
- Explain your conclusions.
- Explain how far you agree with the statement given in the task question. Draw on the evidence collected, both primary and secondary data.

e. Evaluation

High level of control. Suggested timing 3 hours.

- Explain how accurate and reliable your results are.
- Explain how what might you do differently if you were going to repeat the investigation and how may that help you to improve the results collected, or the reliability and accuracy of your data.

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Assessment criteria

Assessment criterion a - Planning

Mark range	Descriptor
0	No outline of the purpose of study or location.
1-3	Limited outline only of the issue to be studied; location may be absent or unclear. Limited introduction, context, framework and rationale are absent or wholly incomplete. Use of secondary data may be absent.
4-6	A satisfactory statement to identify the issue to be studied, including aims and location. A satisfactory introduction providing some geographical background and purpose. Likely to reference to secondary data and research.
7-8	A clear, focused statement of aims, purpose and location, of the issue to be studied, including appropriate maps. Some justification for study provided in the introduction, for example an attempt to contextualise fieldwork and research. Student uses secondary data and research to inform study.

Assessment criterion b - Methods of data collection

Mark range	Descriptor
0	No description of methods of data collection.
1-2	Very limited description of data-collection methods, no explanation of choice of methods. The evidence for data collection is absent or extremely limited and the use of GIS is not included.
3-5	Satisfactory description of data-collection methods (may include some explanation at top of band). The evidence for data collection is sometimes appropriate and will include the use of GIS, which may not be relevant.
6-7	Clear description (and possibly some explanation) of methods used to collect and record data. Expect some justification for maximum marks. There is evidence of data collection which is linked to the task and GIS is used well.

Assessment criterion c* - Data presentation and report production

Mark range	Descriptor
0	No data presentation techniques have been used and the report is not structured.
1-3	Very limited range or only partial attempts to present data in a meaningful way. Limited to very basic techniques. These may be incomplete, with no attention to detail and finishing. GIS is not included. Very limited organisation and structure, and weak style of writing. Abundant spelling and grammatical errors. Geographical terminology likely to be absent.
4-7	Limited range of sometimes appropriate techniques to present data. Errors in terms of technical correctness and finishing. GIS is included but may not be relevant. Organisation and structure likely to be satisfactory; some errors in spelling and punctuation. Work is legible. Use of geographical terminology has been attempted.
8-11	Uses some range of appropriate data presentation methods, although they may not always be technically correct. The presentation techniques are nearly always clear and complete. The use of GIS is relevant and clear. A generally well-organised and structured piece of work linked to the enquiry sequence. There are few grammar, punctuation and spelling errors and use of geographical terminology is generally accurate.
12-15	A good range of appropriate data-presentation methods which are fit for purpose. The techniques are neat and clear, possibly including some original ideas. The use of GIS is clear and supports the report well. An organised and well-structured report showing the sequence of enquiry followed. Grammar, punctuation and spelling errors are almost non-existent. Clear and accurate use of geographical terminology.

* Opportunity for students to be assessed on quality of written communication strands:

- i) ensure that text is legible and that spelling, punctuation and grammar are accurate so that meaning is clear
- ii) select and use a form and style of writing appropriate to purpose and to complex subject matter
- iii) organise information clearly and coherently, using specialist vocabulary when appropriate.

Assessment criterion d - Analysis and conclusions

Mark range	Descriptor
0	There is no evidence of any data analysis. A conclusion has not been attempted.
1-3	Data analysis is very basic and highly restricted. There is no linkage to geographical theory. A very limited attempt which forms a short and very basic conclusion. Comments are brief and unfinished. Original aims tend to be overlooked or ignored.
4-6	Partial data analysis which is brief and descriptive only. Connections between data sets have not been explored. Limited linkage to any geographical theory. A basic conclusion is attempted, using generalised and simplistic comments. There is limited linkage to original aims.
7-9	Data is analysed in a satisfactory manner, but tends to be more descriptive than analytical. There is a limited attempt to identify possible geographical connections between data collected. Plausible conclusions are drawn, but there is somewhat limited evidence used to support findings.
10-12	Data is analysed using some analytical tools. Links and connections between data sets may be identified. There may be some linkage to relevant geographical theory. Conclusions are generally clear and relevant, with some linkage back to the original aims of the investigation. Some evidence is used to support conclusions, possibly recognising their wider geographical significance.
13-14	Data is analysed in detail using appropriate processing tools. Some links and connections are identified between data presented. Expect linkage to geographical theory (where relevant). Conclusions are clear, relevant and focused. Evidence is used to support conclusions. Expect comment on the wider geographical significance of the work. There are links to the original aims of the investigation.

Assessment criterion e - Evaluation

Mark range	Descriptor
0	There is no attempt to either review or evaluate the work.
1-2	There is only a limited or partial attempt to either review or evaluate the work. There is no comment on the validity of the task question set.
3-4	The work is reviewed/evaluated in a satisfactory manner. There is some attempt to evaluate the outcomes with respect to the task question. Expect some of the limitations of the evidence to be recognised.
5-6	A reasonable range of limitations of the evidence are considered. There is good reviewing and/or evaluation of the process and findings. The student clearly attempts to link the findings from the work to the task question. A reasonable range of limitations of the evidence are considered.

