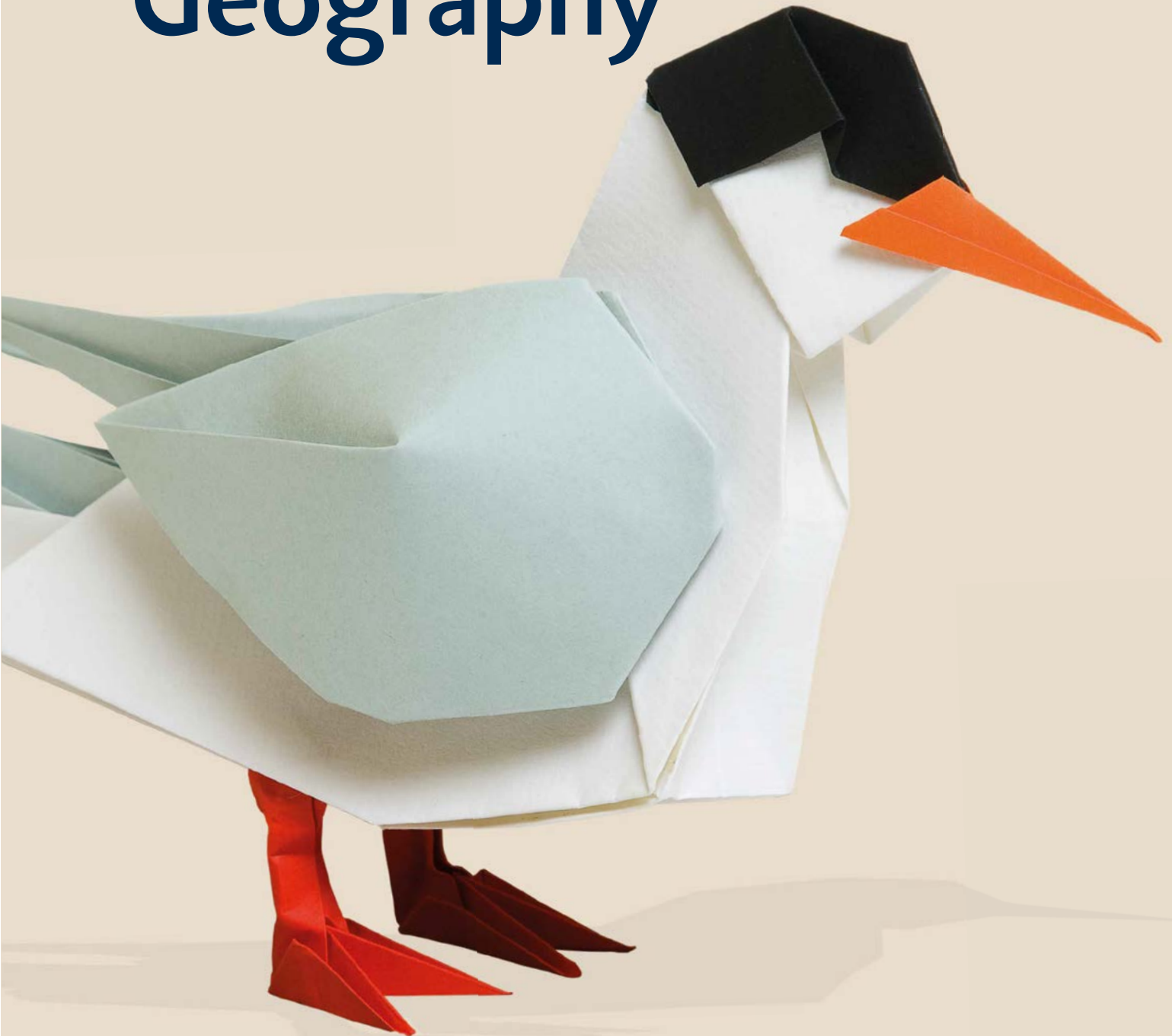


# AS Geography



## Sample Assessment Materials

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Pearson Edexcel Level 3 Advanced Subsidiary GCE in Geography (8GE0)

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*First teaching from September 2016*

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*First certification from 2017*

Issue 3

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# Summary of Pearson Edexcel Level 3 Advanced Subsidiary GCE in Geography SAMs

## Issue 3 changes

<b>Summary of changes made between previous issue and this current issue</b>	<b>Page number</b>
A correction has been made to one of the multiple choice options in Paper 1 Q2b(ii)	10

If you need further information on these changes or what they mean, contact us via our website at: [qualifications.pearson.com/en/support/contact-us.html](http://qualifications.pearson.com/en/support/contact-us.html).



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Paper 2 Mark Scheme	115



# Introduction

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The Pearson Edexcel Level 3 Advanced Subsidiary GCE in Geography is designed for use in schools and colleges. It is part of a suite of AS/A Level qualifications offered by Pearson.

These sample assessment materials have been developed to support this qualification and will be used as the benchmark to develop the assessment students will take.





# General marking guidance

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- All candidates must receive the same treatment. Examiners must mark the last candidate in exactly the same way as they mark the first.
- 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.
- 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.
- For all questions marked using a levels based mark scheme, examiners should pay particular attention to the initial rubric which begins the indicative content section. This rubric details the Assessment Objective and where applicable strand emphasis that should be applied when making judgements within each band.

## How to award marks when level descriptions are used

### 1. Finding the right level

The first stage is to decide into which level the answer should be placed in. To do this, use a 'best-fit' approach, deciding which level most closely describes the quality of the answer. Answers can display characteristics from more than one level, and where this happens markers must use the guidance below and their professional judgement to decide which level is most appropriate.

For example, one stronger passage at L4 would not by itself merit a L4 mark, but it might be evidence to support a high L3 mark, unless there are substantial weaknesses in other areas. Similarly, an answer that fits best in L3 but which has some characteristics of L2 might be placed at the bottom of L3. An answer displaying some characteristics of L3 and some of L1 might be placed in L2.

### 2. Finding a mark within a level

After a level has been decided on, the next stage is to decide on the mark within the level. The instructions below tell you how to reward responses within a level. However, where a level has specific guidance about how to place an answer within a level, always follow that guidance.

#### Levels containing 2 marks only

Start with the presumption that the work will be at the top of the level. Move down to the lower mark if the work only just meets the requirements of the level.

### **Levels containing 3 or more marks**

Markers should be prepared to use the full range of marks available in a level and not restrict marks to the middle. Markers should start at the middle of the level (or the upper-middle mark if there is an even number of marks) and then move the mark up or down to find the best mark. To do this, they should take into account how far the answer meets the requirements of the level:

- If it meets the requirements *fully*, markers should be prepared to award full marks within the level. The top mark in the level is used for answers that are as good as can realistically be expected within that level
- If it only *barely* meets the requirements of the level, markers should consider awarding marks at the bottom of the level. The bottom mark in the level is used for answers that are the weakest that can be expected within that level
- The middle marks of the level are used for answers that have a *reasonable* match to the descriptor. This might represent a balance between some characteristics of the level that are fully met and others that are only barely met.

Write your name here

Surname

Other names

**Pearson Edexcel  
Level 3 GCE**

Centre Number

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Candidate Number

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# Geography

## Advanced Subsidiary Paper 1

Sample assessment material for first teaching  
September 2016  
**Time: 1 hour 45 minutes**

Paper Reference

**8GE0/01**

**You must have:**

Ruler, calculator, Resource Booklet (enclosed)

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 **and EITHER** Section B **OR** Section C.
- Answer the questions in the spaces provided  
– *there may be more space than you need.*
- Calculators may be used.
- Any **calculations** must show all stages of **working out** and a **clear answer**.

### Information

- The total mark for this paper is 90.
- The marks for **each** question are shown in brackets  
– *use this as a guide as to how much time to spend on each question.*

### Advice

- Read each question carefully before you start to answer it.
- Check your answers if you have time at the end.

Turn over ►

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**PEARSON**

Answer Section A and EITHER Section B OR Section C.

SECTION A: TECTONIC PROCESSES AND HAZARDS

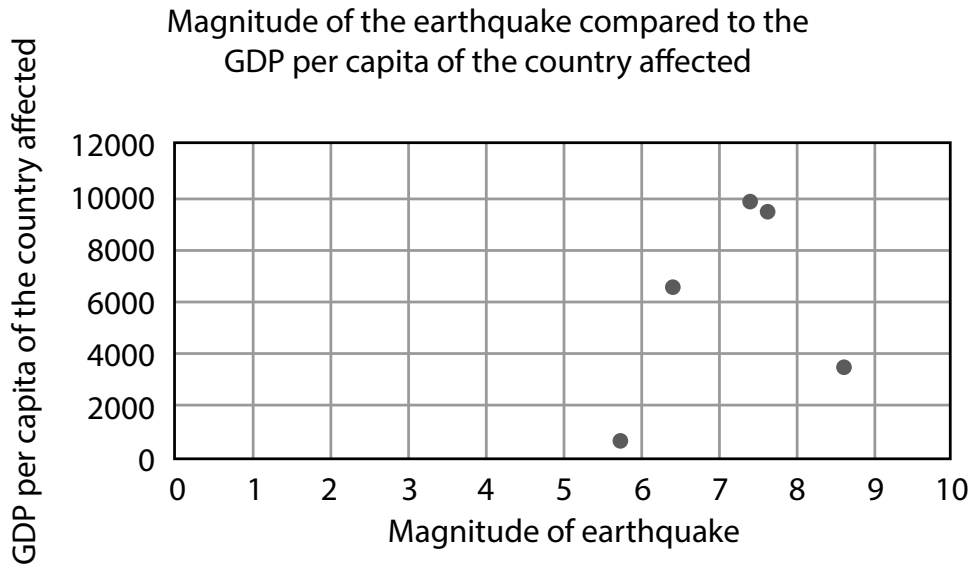
Answer ALL questions. Write your answers in the spaces provided.

You must use the Resource Booklet provided.

- 1 (a) Name **one** scale used to measure earthquake magnitude. (1)

(b) Study Figure 1 in the Resource Booklet.

- (i) Complete the scatter graph by adding the data for the earthquake of Sichun-Yunnan in China and then add a line of best fit. (2)



- (ii) Suggest **one** reason why the more powerful earthquakes shown in Figure 1 did not cause the most deaths. (3)

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(c) Explain **two** reasons why the number of reported earthquakes has risen since 1960.

(4)

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(d) Explain the causes of tsunamis.

(6)

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(e) Assess the significance of earthquake hazard profiles in relation to the effectiveness of management strategies.

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(Total for Question 1 = 28 marks)

**TOTAL FOR SECTION A = 28 MARKS**

## SECTION B: GLACIATED LANDSCAPES AND CHANGE

**Do not answer Section B (Glaciated Landscape and Change) if you have answered Section C (Coastal Landscape and Change).**

**If you answer Section B put a cross in the box  .**

**You must use the Resource Booklet provided.**

- 2 (a) State **one** weathering process that occurs in glaciated upland areas. (1)

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(b) Study Figure 2 in the Resource Booklet.

- (i) Give the six figure grid reference of the summit of Helvellyn. (1)

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- (ii) Calculate the area of Red Tarn to the nearest m<sup>2</sup>. (1)

- A** 10,000
- B** 110,000
- C** 125,000
- D** 90,000

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(iii) Explain **one** process that has created Nethermost Cove at grid reference 349144.

(3)

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(c) Explain the formation of **two** ice contact depositional features.

(4)

Feature 1 .....

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Feature 1 .....

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(d) Explain the formation of landforms caused by ice sheet scouring.

(6)

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(e) Assess the importance of global warming in influencing the rate of ablation of glaciers.

(12)

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**(Total for Question 2 = 28 marks)**

3 (a) Study Figure 3 in the Resource Booklet.

The student collected sediment size and roundness data at two locations to investigate the differences between glacial and fluvio-glacial deposits as part of fieldwork.

- (i) Using information from Figure 3C, identify **one** difference between the shape of the sediment found at the two fieldwork sites.

(1)

The student carried out a t-test on the difference in the sediment size at sites A and B. The details are shown below.

<b>Null hypothesis:</b> there is no significant difference between the mean size of sediment found at site A and site B.				
<b>Hypothesis:</b> there is a significant difference between the mean size of sediment found at site A and site B.				
Standard deviation site A	Standard deviation site B	Difference in means	T-test score	Critical value at 90% confidence level
1.6	3.3	15.3	5.9	1.9

- (ii) Which hypothesis should the student accept?

(1)

- (iii) State **one** reason for accepting the hypothesis given in your answer to 3(a)(ii).

(1)

(iv) Suggest **one** reason why the deposits measured at site A are different from those measured at site B.

(2)

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(b) The student collected the data shown during a one-day field trip in summer.

Explain **two** ways in which the student could improve their study by collecting further data.

(4)

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To answer this question, use your knowledge and understanding from across the course of study, along with the information in Figure 4.

- 4 Study Figure 4 in the Resource Booklet.

Evaluate the relative importance of tectonic and glacial processes in generating the hazard at the Vatnajökull ice sheet.

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**(Total for Question 4 = 16 marks)**

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**TOTAL FOR SECTION B = 62 MARKS**

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**SECTION C: COASTAL LANDSCAPES AND CHANGE**

**Do not answer Section C (Coastal Landscapes and Change) if you have answered Section B (Glaciated Landscapes and Change).**

**If you answer Section C put a cross in the box  .**

**You must use the Resource Booklet provided.**

- 5 (a) Name **one** weathering process that occurs at a coast. (1)

(b) Study Figure 5 in the Resource Booklet.

- (i) State the six figure grid reference of the eastern most point of Hurst Castle Spit. (1)

- (ii) Calculate the areal extent of the salt marsh shown on the map to the nearest km<sup>2</sup>. (1)

- A** 1.0 km
- B** 2.0 km
- C** 3.0 km
- D** 4.0 km

- (iii) Suggest one reason for the differences in the characteristics of the sediment found at A and the sediment found at B. (3)

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(c) Explain **two** processes in the formation of offshore bars.

(4)

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(d) Explain how geological structure affects the development of coastal landforms.

(6)

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(e) Assess the importance of lithology in influencing the rate of coastal recession.

(12)

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(Total for Question 5 = 28 marks)

6 (a) Study Figure 6 in the Resource Booklet.

At site 1 (a groyne), two transects were taken to investigate its impact on the sediment cell as part of fieldwork.

The student collected data on the size of the beach sediment and on the gradient of the beach.

- (i) Using information from Figure 6C, identify **one** difference in the beach characteristics found at the two transects.

(1)

The student carried out a t-test on the difference in sediment size at Transects A and B. The details are shown below.

<b>Null hypothesis:</b> there is no significant difference between the mean size of sediment found at Transect A and Transect B.				
<b>Hypothesis:</b> there is a significant difference between the mean size of sediment found at Transect A and Transect B.				
Standard deviation	Standard deviation	Difference in means	T-test score	Critical value at 90% confidence level
Transect A	Transect B			
2.1	0.9	5.3	3.3	1.9

- (ii) Which hypothesis should the student accept?

(1)

- (iii) State **one** reason for accepting the hypothesis given in your answer to 6(a)(ii).

(1)

(iv) Suggest **one** reason why the deposits measured at transect A are different from those measured at transect B.

(2)

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(b) The student undertook the transects during a one-day field trip in summer.

Explain **two** ways in which the student could improve their study by collecting further data.

(4)

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To answer this question use your knowledge and understanding from across the course of study, along with the information in Figure 7.

7 Study Figure 7 in the Resource Booklet.

Evaluate the relative importance of the human and physical geography of the coasts and the characteristics of the tsunami event in determining its impact.

(16)

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**(Total for Question 7 = 16 marks)**

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**TOTAL FOR SECTION C = 62 MARKS**  
**TOTAL FOR PAPER = 90 MARKS**

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# Pearson Edexcel Level 3 GCE

## Geography

Advanced Subsidiary

Paper 1

Sample assessment material for first teaching  
September 2016

**Resource Booklet**

Paper Reference

**8GE0/01**

**Do not return this Resource Booklet with the question paper.**

*Turn over* ►

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**PEARSON**

## SECTION A: TECTONIC PROCESSES AND HAZARDS

The following resource relates to Question 1.

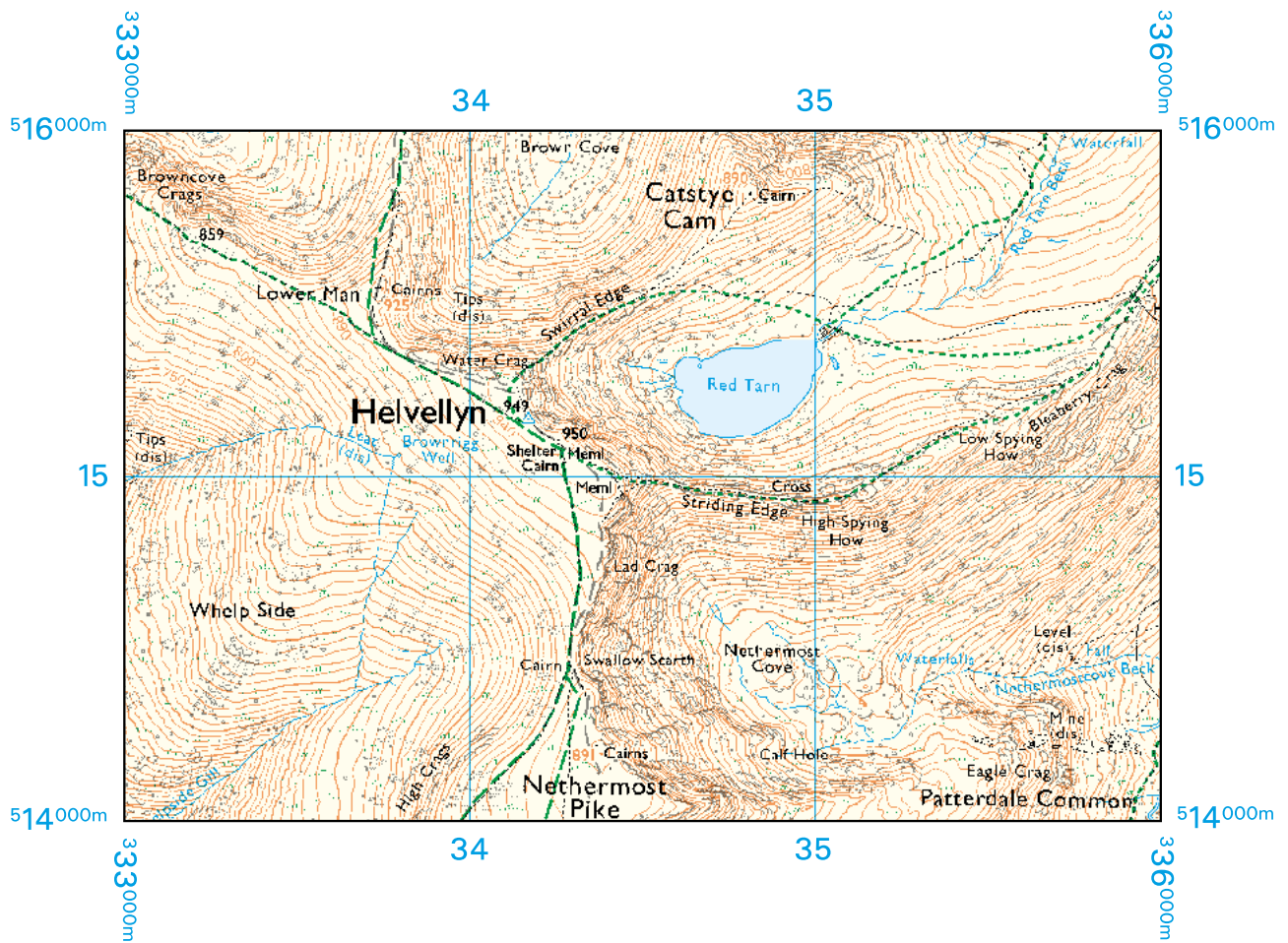
Magnitude of earthquake	Region	Gross Domestic Product (GDP) per capita in \$	Confirmed number of deaths
8.6	Coastal Northern Sumatra, Indonesia	3551	10
7.6	Costa Rica	9442	2
7.4	Oaxaca, Mexico	9817	1
6.4	North west Iran	6578	306
5.7	Hindu Kush, Afghanistan	664	75
5.5	Sichun-Yunnan, China	6092	81

(Source: [earthquake.usg.gov/earthquakes/eqarchives/year/2012/2012\\_deaths.php](http://earthquake.usg.gov/earthquakes/eqarchives/year/2012/2012_deaths.php))

**Figure 1: A table giving worldwide deaths from selected earthquakes in 2012**

## SECTION B: GLACIATED LANDSCAPES AND CHANGE

The following resource relates to Question 2.



(Source: Extract produced by Ordnance Survey 2015.  
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**Figure 2: A 1:25000 scale map extract of a relict glaciated upland area in England**

The following resource relates to Question 3.

Figure 3: Results of a student investigation into sediment size and roundness data.

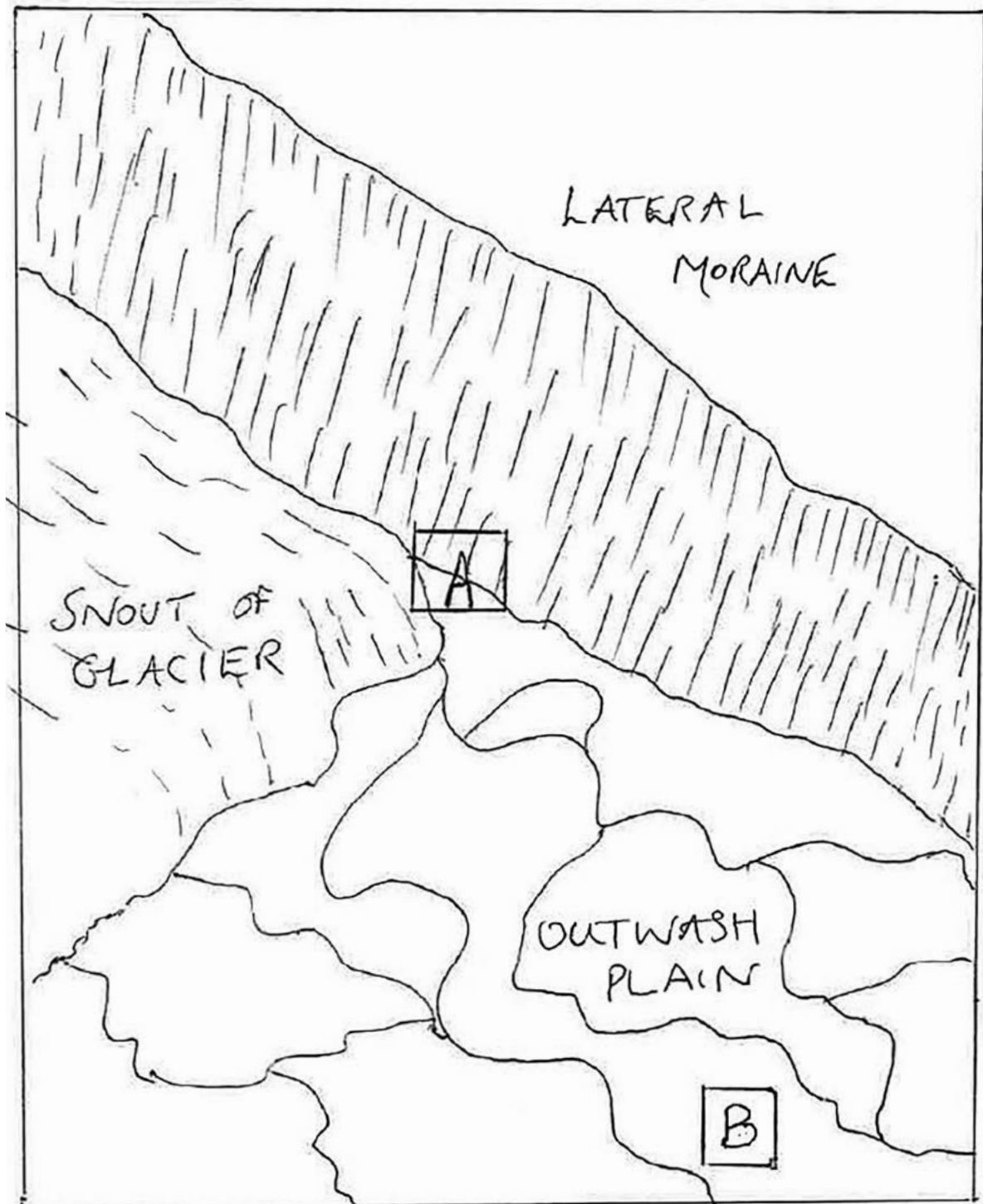
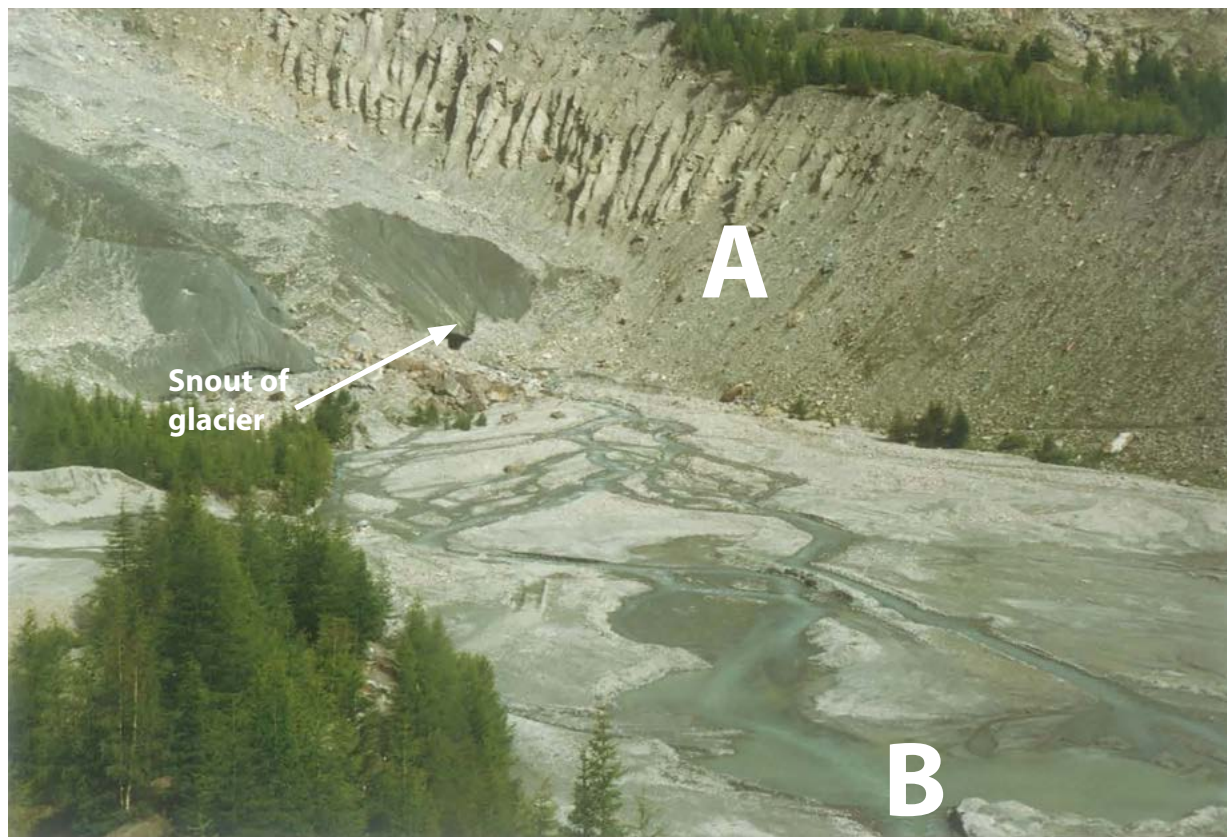


Figure 3A: A field sketch of an outwash plain of a still active glacier (Spielboden Glacier, Switzerland)



(Source: Mark Crundwell)

**Figure 3B: A digital photograph of the snout of the Spielboden Glacier, Switzerland**

	<b>Mean sediment size</b>	<b>Average sediment shape (Cailleux index) Greater R values equate to greater roundness.</b>	<b>Distance from snout of glacier</b>
<b>Site A</b>	17.4 cm	160	2 m
<b>Site B</b>	2.1 cm	755	380 m

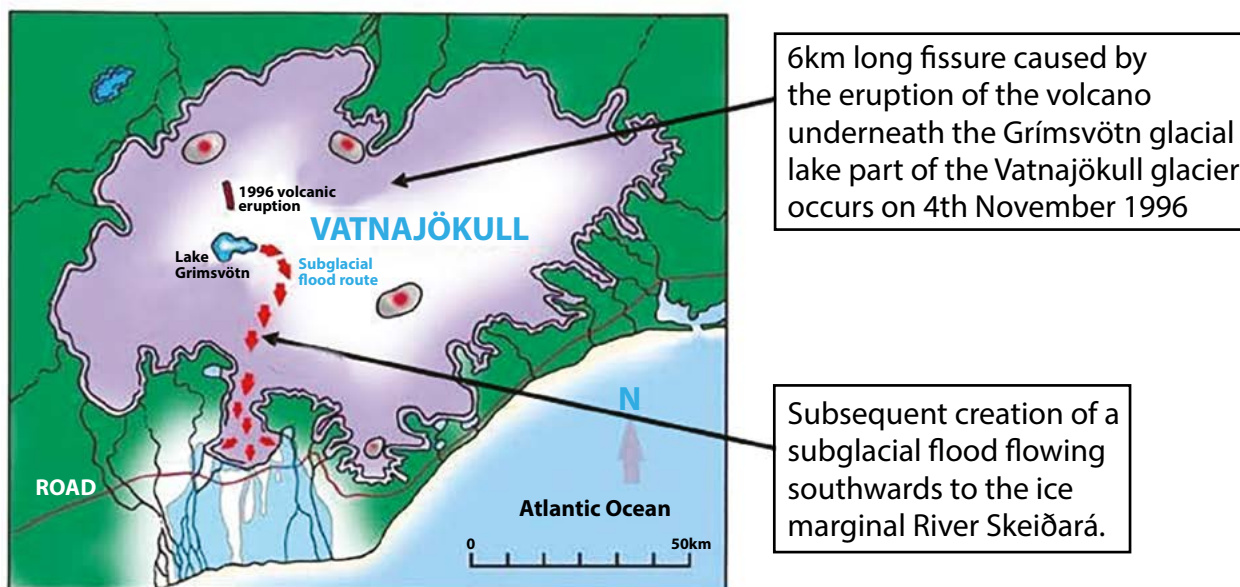
**Figure 3C: A table showing data of student's results**

The following resources relate to Question 4.

**Figure 4: Information relating to the glacial outburst flood of the Vatnajökull ice sheet, Iceland 1996.**

Date	Time	Discharge of River Skeiðará in cubic ms-1	Notes
3/11	12.00pm	250	Normal river discharge.
4/11	21.30 pm	250	Start of Eruption under Vatnajökull ice cap.
5/11	8.00 am	3,500	Eruption now estimated to beat peak.
5/11	10.00 pm	4000	Icebergs observed breaking from snout of glacier.
5/11	13.00 hours	15,000	Power lines and telephone cables cut.
5/11	18.00 pm	25,000	Skeiðará bridge washed away.
5/11	21.30 pm	45,000	Many large icebergs in excess of 200 tons noted.
6/11	9.00 am	3,000	3km <sup>3</sup> of water and ash have flowed out in last 27 hours.
7/11	12.00 pm	450	Jökulhlaup officially declared over.

**Figure 4A: A time line of the Jökulhlaup of 1996.**

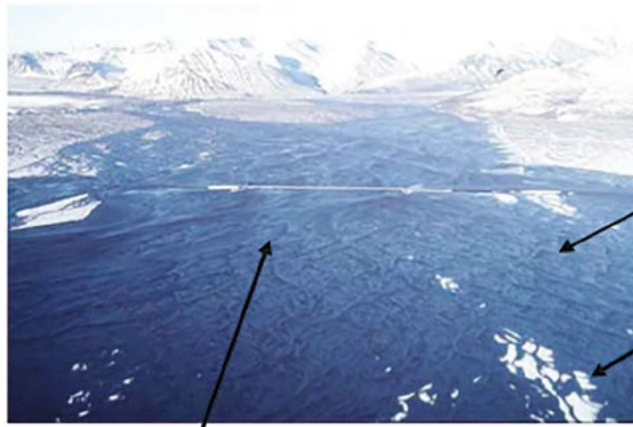


Key:  Volcanoes

(Source: <https://answersingenesis.org/geology/catastrophism/icelands-recent-mega-flood/>)

**Figure 4B: A map showing the location of the glacial outburst flood of the Vatnajökull ice sheet, Iceland 1996.**





As well as flood water the glacial outburst also carried 185 million tons of silt and ash.

Iceblocks which have broken from the snout of the glacier can be seen being carried down with the flow.

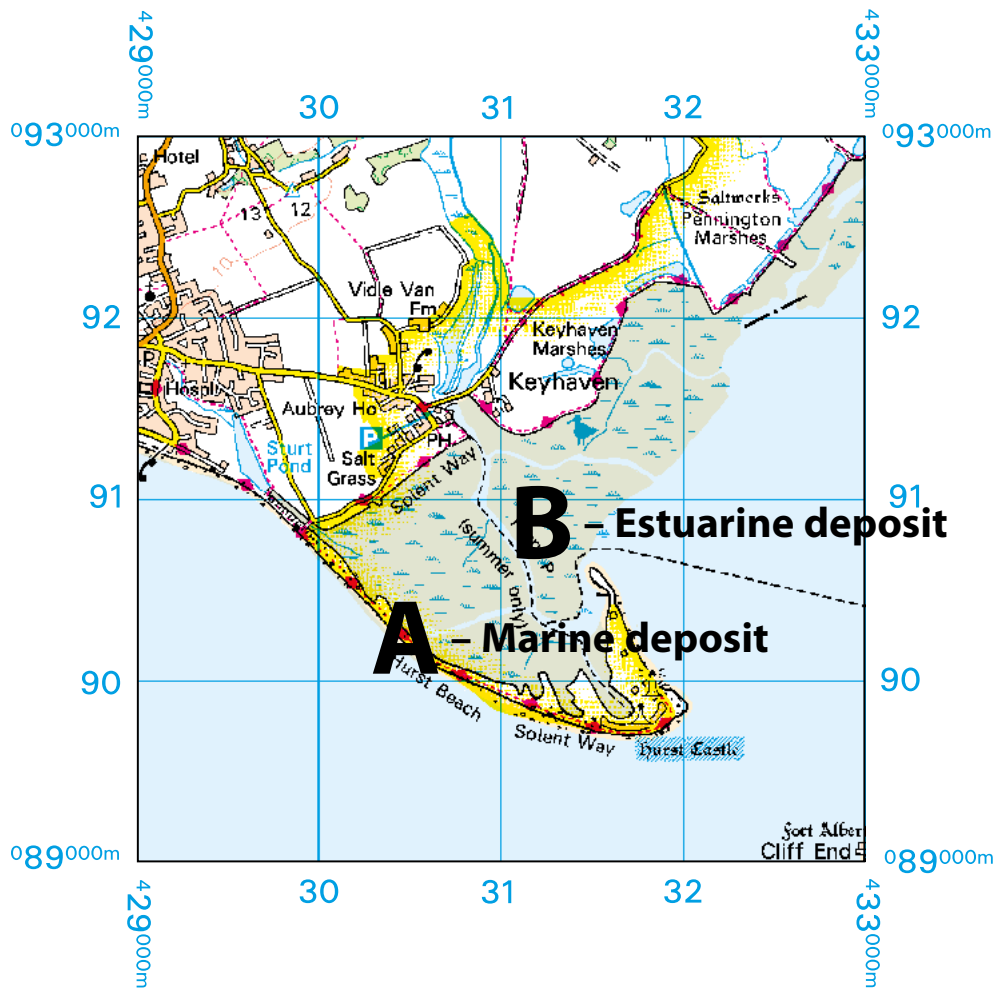
Maximum outflow from the subglacial flood in to the River Skeiðará estimated to be 45,000 cubic ms-1 – second largest flow of water apart from River Amazon.

(Source: Photo by M.T. Gudmundsson, University of Iceland)

**Figure 4C: Photograph looking northwards towards the glacial outburst flood of the Vatnajökull ice sheet, Iceland 1996.**

**SECTION C: COASTAL LANDSCAPES AND CHANGE**

The following resource relates to Question 5.



(Source: Extract produced by Ordnance Survey 2015.  
© Crown copyright 2014. All rights reserved)

**Figure 5: A 1:50000 scale map extract showing Hurst Castle, a coastal landform on the south coast of England**

The following resource relates to Question 6

Figure 6: Results of student investigation into sediment size for two beach transacts.

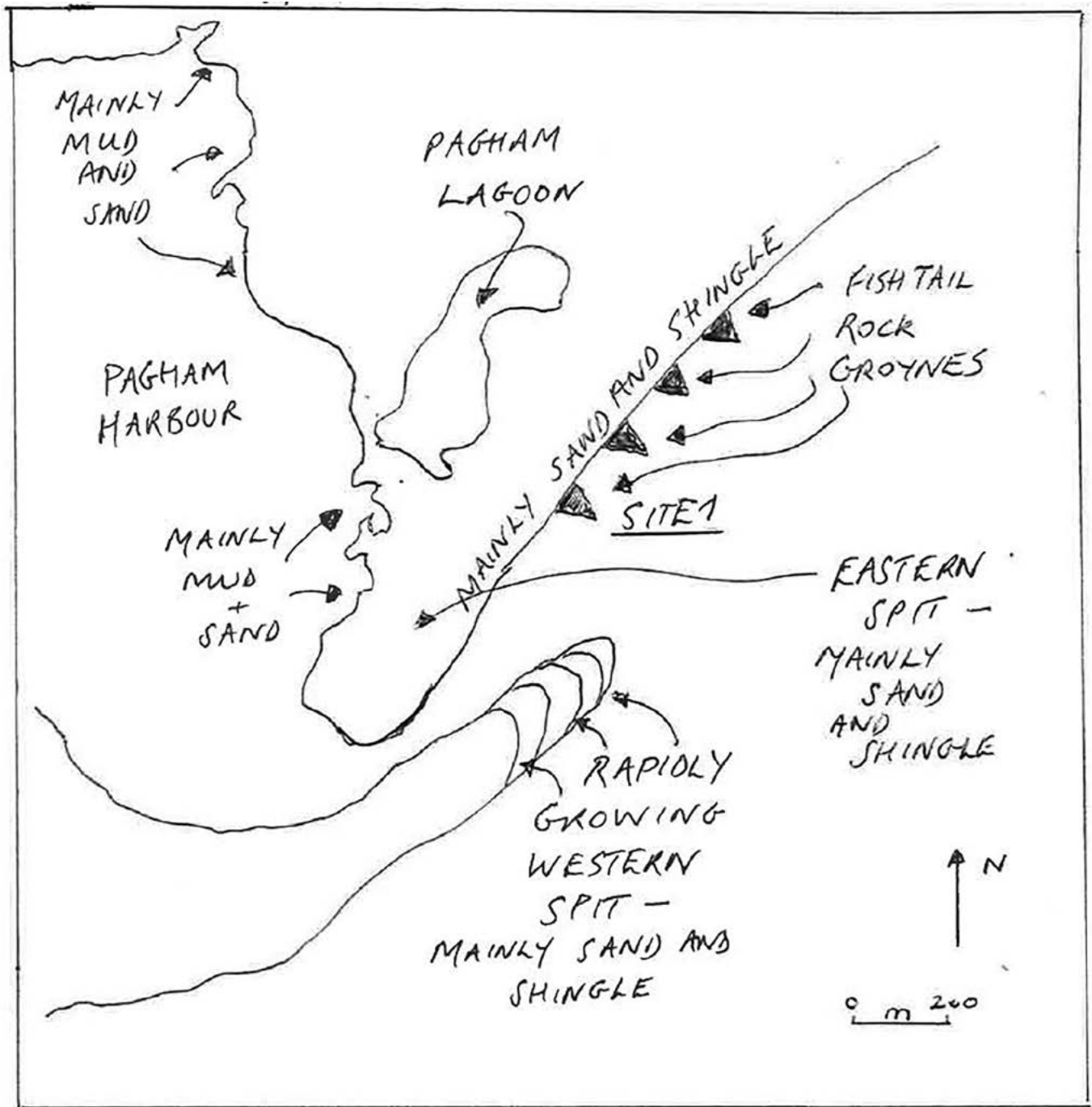
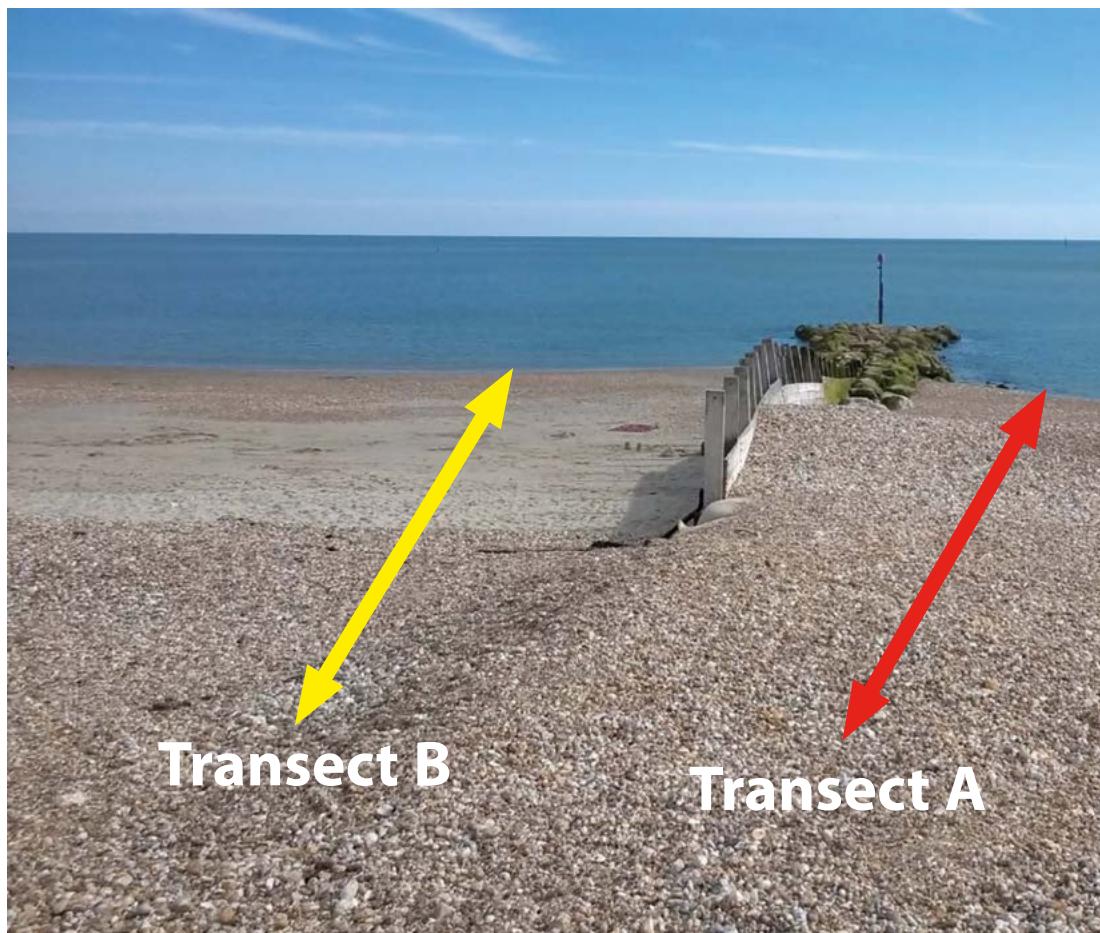


Figure 6A: A student's hand-drawn sketch map of their study area



(Source: Photo – Mark Crundwell)

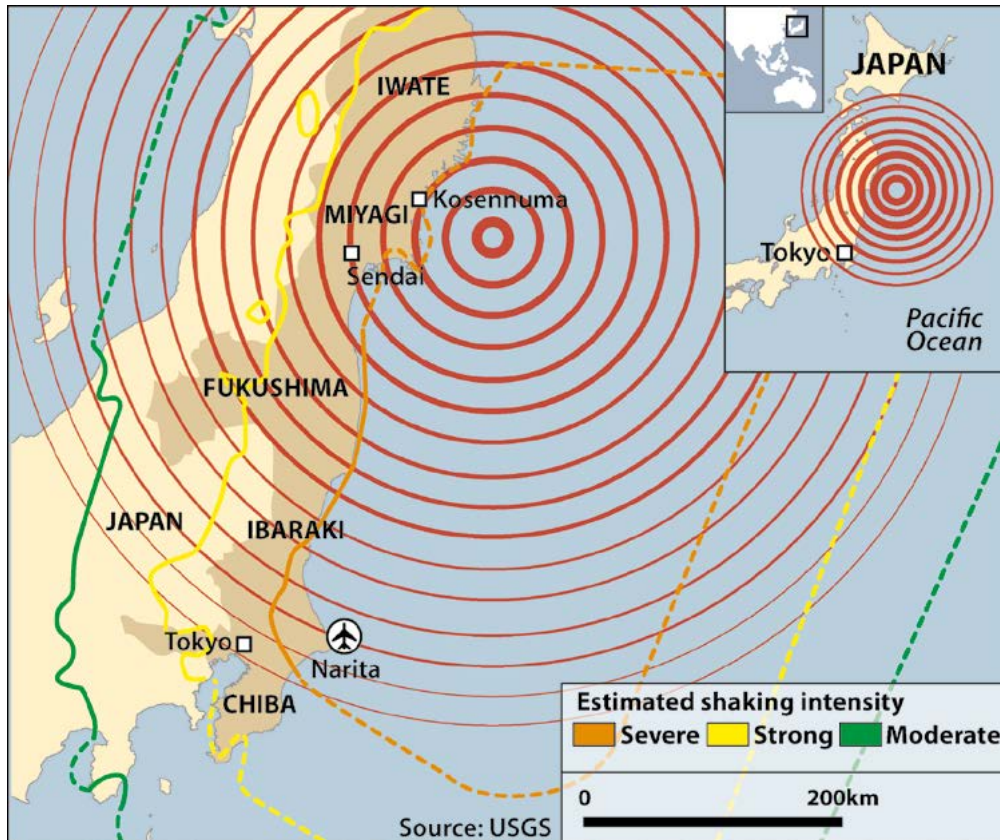
**Figure 6B: A digital photograph of the location of two beach transects**

<b>Characteristics of the two beach profiles</b>	<b>Average sediment size</b>	<b>Average beach gradient</b>	<b>Cross-sectional area of the beach</b>
<b>Transect A</b>	7.4 cm	10.6 degrees	12.12 m <sup>2</sup>
<b>Transect B</b>	2.1 cm	5.1 degrees	6.02 m <sup>2</sup>

**Figure 6C: A table showing data collected by the student**

The following resources relate to Question 7.

**Figure 7: Information relating to the Sendai tsunami.**



(source: © USGS)

**Figure 7A: Map showing areas affected by the earthquake.**

Information on the Tohoku Earthquake

Magnitude – 9.0 MMS (the most powerful earthquake event in Japanese history)

Epicentre – 70km east of Miyagi

Tsunami impact – on Miyagi in 10 minutes, Iwate in 30 minutes and Ibaraki in 1 hour after the earthquake.

Area of Japan	Deaths	Missing	Economic losses in \$billion	Tsunami height in metres
Iwate	888	159	82	8.5
Miyagi (including Kesenuma and Sendaik)	4214	877	145	7.6
Ibaraki	27	0	8	4.2

**Figure 7B: Data relating to effects of the tsunami.**



Iwate – a rocky coastline with steep cliffs



Miyagi (Kesenuma) – a coastal plain with a high population density



Ibaraki – a 10m high tsunami wall protecting low lying areas

(Source: '© Keisuke Iwamoto/Getty Images)

**Figure 7C: Photographs of coastal locations affected by the tsunami.**

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## Paper 1 mark scheme

Question number	Answer	Mark
1(a)	<p style="text-align: center;"><b>A01 (1 mark)</b></p> <p>Award <b>1</b> mark for a correctly identified scale from the following:</p> <ul style="list-style-type: none"> <li>• Modified Mercalli (MM) (accept Mercalli)</li> <li>• Moment Magnitude Scale (Mw)</li> <li>• Richter</li> </ul>	<b>(1)</b>

Question number	Answer	Mark														
1(b)(i)	<p style="text-align: center;"><b>A03 (2 marks)</b></p> <p>Award <b>1</b> mark for the correctly plotted point and <b>1</b> mark for a correctly drawn line of best fit (allow within range shown).</p> <div style="text-align: center;"> <p>The scatter plot shows a positive correlation between earthquake magnitude and GDP per capita. The data points are approximately as follows:</p> <table border="1"> <thead> <tr> <th>Magnitude of earthquake</th> <th>GDP per capita of the country affected</th> </tr> </thead> <tbody> <tr> <td>5.5</td> <td>6500</td> </tr> <tr> <td>6.5</td> <td>7000</td> </tr> <tr> <td>7.5</td> <td>9500</td> </tr> <tr> <td>7.8</td> <td>9000</td> </tr> <tr> <td>8.5</td> <td>3500</td> </tr> <tr> <td>6.0</td> <td>800</td> </tr> </tbody> </table> </div>	Magnitude of earthquake	GDP per capita of the country affected	5.5	6500	6.5	7000	7.5	9500	7.8	9000	8.5	3500	6.0	800	<b>(2)</b>
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Question number	Answer	Mark
1(b)(ii)	<p style="text-align: center;"><b>AO1 (2 marks)/AO2 (1 mark)</b></p> <p>Award <b>1</b> mark for analysing the resource to identify a possible reason for the death toll and a further <b>2</b> marks for justifying the possible reason, for example:</p> <ul style="list-style-type: none"> <li>• some regions where most powerful earthquakes occur might have better transport links (1) and so aid/help takes little time to arrive (1), decreasing the likelihood that injured people become fatalities (1)</li> <li>• some regions might be richer and more developed than average for country (1) so possibly good infrastructure because of development (1) as well as aseismic buildings decreasing fatalities (1)</li> <li>• some regions might have a lower population density (1) so fewer people are exposed to the primary and secondary hazards of an earthquake (1) and less chance of being trapped by landslides (1) or collapsing buildings. Accept any other appropriate response.</li> </ul>	<b>(3)</b>

Question number	Answer	Mark
1(c)	<p style="text-align: center;"><b>AO1 (4 marks)</b></p> <p>For each reason, award <b>1</b> mark for identifying a reason for the increase in the number of reported earthquakes, and a further mark for an appropriate expansion. For example:</p> <ul style="list-style-type: none"> <li>• increase in the number of recording stations (1) which means more earthquakes are detected which previously might have been missed in remote areas (1)</li> <li>• higher population densities (1), which leads to more reporting because areas are better 'covered' (1)</li> <li>• better (more reliable and accurate) detection equipment (1) so smaller magnitude earthquakes are detected which previously might have been missed (1).</li> </ul> <p>Accept any other appropriate response.</p>	<b>(4)</b>

Question number	Answer
1(d)	<p style="text-align: center;"><b>AO1 (6 marks)</b></p> <p><b>Marking instructions</b></p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p><b>Indicative content guidance</b></p> <p>The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include:</p> <ul style="list-style-type: none"> <li>• tsunami waves are caused by the displacement of large quantities (columns) of water</li> <li>• earthquakes displace water when movement causes the seabed to thrust upwards undersea landslides displace water when material falls from a continental shelf on to the seabed</li> <li>• volcanic eruptions displace water when material ejected from the volcano falls into the sea</li> <li>• landslides displace water when large quantities of water are displaced by land falling into the sea</li> <li>• the displaced water becomes tsunami waves and as the waves reach shallower water in coastal areas (as the topography of the seabed changes) the waves become higher</li> <li>• in shallower water the friction between the tsunami wave and the seabed increases and the tsunami wave slows down, decreasing wavelength but increasing wave height.</li> </ul>

Level	Mark	Descriptor
	0	No rewardable material.
<b>Level 1</b>	<b>1–2</b>	<ul style="list-style-type: none"> <li>• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1)</li> <li>• Understanding addresses a narrow range of geographical ideas, which lack detail. (AO1)</li> </ul>
<b>Level 2</b>	<b>3–4</b>	<ul style="list-style-type: none"> <li>• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1)</li> <li>• Understanding addresses a range of geographical ideas, which are not fully detailed and/or developed. (AO1)</li> </ul>
<b>Level 3</b>	<b>5–6</b>	<ul style="list-style-type: none"> <li>• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1)</li> <li>• Understanding addresses a broad range of geographical ideas, which are detailed and fully developed. (AO1)</li> </ul>

Question number	Answer
1(e)	<p style="text-align: center;"><b>AO1 (3 marks)/AO2 (9 marks)</b></p> <p><b>Marking instructions</b></p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Responses that demonstrate <b>only</b> AO1 without any AO2 should be awarded marks as follows:</p> <ul style="list-style-type: none"> <li>• Level 1 AO1 performance: 1 mark</li> <li>• Level 2 AO1 performance: 2 marks</li> <li>• Level 3 AO1 performance: 3 marks.</li> </ul> <p><b>Indicative content guidance</b></p> <p>The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include:</p> <p><b>AO1</b></p> <ul style="list-style-type: none"> <li>• hazard profiles relate to the magnitude, speed of onset, areal extent, duration, frequency and spatial predictability of earthquakes</li> <li>• management strategies include modifying the event through land-use zoning and hazard-resistant design</li> <li>• management strategies include modifying the vulnerability and resilience of a population through education and community preparedness</li> <li>• management strategies include modifying the loss which includes emergency, short- and longer-term aid and insurance, and the actions of affected communities themselves</li> </ul> <p><b>AO2</b></p> <ul style="list-style-type: none"> <li>• the magnitude of an earthquake can be the most important factor in determining the success of modifying the event management strategies as even in MEDC that have invested heavily, such approaches cannot cope with mega earthquake events as the Tohoku earthquake in 2011 demonstrated</li> <li>• in contrast, smaller earthquakes can be managed more effectively, even with basic aseismic buildings such as beams and columns, such as the reduced impacts in Chile</li> <li>• the areal extent of an earthquake can also be a vital factor as it not only determines the number of people affected but also, crucially, can determine the success of modifying the loss, as the larger the area the more difficult it is for the existing emergency services to reduce the loss of the earthquake event, as the Sichuan earthquake of China that devastated a large area demonstrated</li> <li>• conversely, a small areal extent allows the emergency services to reduce the loss by concentrating resources in a smaller area as the Christchurch earthquake of 2011 demonstrated</li> <li>• the frequency of earthquakes is also a key factor in determining the success of modifying the vulnerability of the population as the more frequent the earthquake the more likely the community is likely to be</li> </ul>

Question number	Answer
	<p>educated and aware of the hazard threat as demonstrated by the relatively low impacts of the San Francisco 1989 and Los Angeles 1994 earthquake events showed</p> <ul style="list-style-type: none"> <li>• conversely, a low frequency can reduce the awareness of the hazard risk as shown in the Kobe earthquake of 1995 which was an area chosen by Japanese planners to resettle survivors of the Tokyo earthquake of 1923 due to the low number of recorded earthquakes in the area. The subsequent earthquake highlighted the failure of the management strategies in the Kobe region</li> <li>• the level of economic development is, however, a vital factor as it determines whether areas can afford to implement all three types of strategies as the example of Haiti 2010 shows.</li> </ul>

Level	Mark	Descriptor
	0	No rewardable material.
<b>Level 1</b>	<b>1–4</b>	<ul style="list-style-type: none"> <li>• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1)</li> <li>• Applies knowledge and understanding of geographical information/ideas, making limited logical connections/relationships. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to produce an interpretation with limited relevance and/or support. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to make unsupported or generic judgements about the significance of few factors, leading to an argument is unbalanced or lacks coherence. (AO2)</li> </ul>
<b>Level 2</b>	<b>5–8</b>	<ul style="list-style-type: none"> <li>• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1)</li> <li>• Applies knowledge and understanding of geographical information/ideas logically, making some relevant connections/relationships. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to produce a partial but coherent interpretation that is mostly relevant and supported by evidence. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to make judgements about the significance of some factors, to produce an argument that may be unbalanced or partially coherent. (AO2)</li> </ul>
<b>Level 3</b>	<b>9–12</b>	<ul style="list-style-type: none"> <li>• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1)</li> <li>• Applies knowledge and understanding of geographical information/ideas logically, making relevant connections/relationships. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to produce a full and coherent interpretation that is relevant and supported by evidence. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to make supported judgements about the significance of factors throughout the response, leading to a balanced and coherent argument. (AO2)</li> </ul>

Question number	Answer	Mark
2(a)	<p style="text-align: center;"><b>A01 (1 mark)</b></p> <p>Award <b>1</b> mark for any correct physical or chemical weathering process from the following:</p> <ul style="list-style-type: none"> <li>• freeze-thaw (congelifraction)</li> <li>• exfoliation</li> <li>• solution</li> <li>• hydrolysis.</li> </ul> <p>Accept any other appropriate response. Do not accept non-weathering processes (e.g. landslides/slumping/solifluction etc.)</p>	<b>(1)</b>

Question number	Answer	Mark
2(b)(i)	<p style="text-align: center;"><b>A03 (1 mark)</b></p> <p>Accept any of the following:</p> <ul style="list-style-type: none"> <li>• 341 151</li> <li>• 341 152</li> <li>• 342 151</li> <li>• 342 152</li> </ul>	<b>(1)</b>

Question number	Answer	Mark
2(b)(ii)	<p style="text-align: center;"><b>A03 (1 mark)</b></p> <p>C</p>	<b>(1)</b>

Question number	Answer	Mark
2(b)(iii)	<p style="text-align: center;"><b>AO1 (2 marks)/AO2 (1 mark)</b></p> <p>Award <b>1</b> mark for analysing the resource to identify a characteristic feature of a cirque/corrie and a further <b>2</b> marks for explaining the process that has created this feature, for example:</p> <ul style="list-style-type: none"> <li>• the steep back wall could be created through cycles of freezing and melting, frost shattering (1) occurs above the ice line, creating angular material (1); this angular material is then transported via crevasses or the bergschrund to the base of the cirque glacier where it provides material for erosional process of abrasion (1)</li> <li>• the steep back wall could also be created by the erosional process of plucking and quarrying at the back wall of the cirque (1) and parts of the glacier freeze onto the frost-shattered rock (1) and subsequent rotational sliding 'plucks' part of the back wall creating a steep backwall (1)</li> <li>• the over-deepened bowl could be created through the enhanced dissolving of CO<sub>2</sub> in cold conditions (1), the water at the base of the cirque glacier becomes acidic (1), solution/carbonation weathering then occurs at the base of the cirque glacier, preparing the rock for the erosional process of quarrying (1)</li> <li>• the lip could be created by the rotational sliding of the glacier (1) 'bulldozes' or 'quarries' the weathered base of the cirque, creating an over-deepened bowl (1) and the rotational sliding of the glacier entrains the frost-shattered angular material and abrades the lip of the cirque (1).</li> </ul> <p>Accept any other appropriate response.</p>	(3)



Question number	Answer	Mark
2(c)	<p style="text-align: center;"><b>AO1 (4 marks)</b></p> <p>For each reason, award <b>1</b> mark for identifying a basic reason for the creation of ice contact depositional feature and a further mark expansion up to a maximum <b>2</b> marks each. For example:</p> <ul style="list-style-type: none"> <li>• lateral moraine – Weathering creates material that moves through mass movement (1) onto the glacier forming a lateral moraine. When ice melts it deposits this material as unsorted angular morainic material at the side of a valley (1)</li> <li>• medial moraines - When two glaciers meet the lateral moraines join together (1) to form a medial moraine. When ice melts it deposits this material as unsorted angular morainic material in the middle of a valley (1)</li> <li>• morainic material at the snout of a glacier is deposited (1) and can be reworked by further advances and retreats as a push or recessional moraine (1)</li> <li>• Drumlins - the advance of a glacier over till (1) molds the till into egg shaped hills known as drumlins (1).</li> </ul>	<b>(4)</b>

Question number	Answer
2(d)	<p style="text-align: center;"><b>A01 (6 marks)</b></p> <p><b>Marking instructions</b> Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p><b>Indicative content guidance</b> The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include:</p> <ul style="list-style-type: none"> <li>• ice sheets scoring happens when ice sheets are moving slowly through basal sliding and deformation and so move material over large areas</li> <li>• this can then lead to the process of abrasion as debris is dragged over a variety of surfaces</li> <li>• in addition, the processes of quarrying and plucking occurs as regelation takes place</li> <li>• the main landforms created are basins, knock and lochan and roches moutonnées</li> <li>• basins are created where large ice sheets take advantage of differential rates of erosion of rock, deeply eroding the weaker rock to create basins which are subsequently filled by water, such as the Great Lakes and other lake basins on the Canadian Shield</li> <li>• knock and lochan topology occurs as the ice sheet advances it preferentially erodes through ice sheet, scouring areas of dense jointing more than areas without jointing, creating the ice scoured basin</li> <li>• harder areas of rock are left as upstanding ridges, sometimes displaying the characteristics of roches moutonnées.</li> </ul> <p>Accept micro features such as glacial groves, striations, chatter marks and glacial polishing.</p>

<b>Level</b>	<b>Mark</b>	<b>Descriptor</b>
	0	No rewardable material.
<b>Level 1</b>	<b>1–2</b>	<ul style="list-style-type: none"> <li>• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1)</li> <li>• Understanding addresses a narrow range of geographical ideas, which lack detail. (AO1)</li> </ul>
<b>Level 2</b>	<b>3–4</b>	<ul style="list-style-type: none"> <li>• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1)</li> <li>• Understanding addresses a range of geographical ideas, which are not fully detailed and/or developed. (AO1)</li> </ul>
<b>Level 3</b>	<b>5–6</b>	<ul style="list-style-type: none"> <li>• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1)</li> <li>• Understanding addresses a broad range of geographical ideas, which are detailed and fully developed. (AO1)</li> </ul>

Question number	Answer
2(e)	<p style="text-align: center;"><b>AO1 (3 marks)/AO2 (9 marks)</b></p> <p><b>Marking instructions</b></p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Responses that demonstrate <b>only</b> AO1 without any AO2 should be awarded marks as follows:</p> <ul style="list-style-type: none"> <li>• Level 1 AO1 performance: 1 mark</li> <li>• Level 2 AO1 performance: 2 marks</li> <li>• Level 3 AO1 performance: 3 marks.</li> </ul> <p><b>Indicative content guidance</b></p> <p>The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include:</p> <p><b>AO1</b></p> <ul style="list-style-type: none"> <li>• the process of ablation include melting, calving, evaporation and avalanches</li> <li>• the rate of ablation is affected by temperature, altitude, aspect and rate of glacier movement, as well as tectonic processes</li> <li>• global warming can influence ablation rates by affecting the temperature and precipitation type and amount</li> </ul> <p><b>AO2</b></p> <ul style="list-style-type: none"> <li>• on a long-term temporal scale, recent global warming is only a small part of the change in temperatures over the last 10,000 years and can be seen as only part of the cause of a change in the rate of ablation</li> <li>• yet, in the last 100 years global warming is thought to have played a key role in the increased rate of ablation from both warm- and cold-based glaciers</li> <li>• on a world scale in temperate glaciers, temperature is the key factor with higher temperatures leading to greater ablation. Global warming is therefore a key factor in raising the temperature experienced by temperate glaciers and therefore directly increasing the rate of melting, evaporation and avalanches, leading to the retreat of many Alpine, Andinian and Himalayan glaciers</li> <li>• on a world scale in cold-based glaciers such as in Greenland and Antarctica, global warming is also a vital factor in indirectly affecting the rate of ablation as it increases the rate of calving, increases fracturing and loss of mass through creation of icebergs</li> <li>• on a meso scale, global warming will increase the altitude of the equilibrium line of a glacier and so increase the rate of ablation from the glacier system</li> <li>• yet on a short-term temporal scale the natural variation in winter and summer temperatures are the key factors in determining the equilibrium line and so are more important in determining the rate of ablation</li> <li>• similarly, on a micro-scale aspect is a key factor with north-facing northern hemisphere glaciers experiencing a slower rate of ablation than south-facing glaciers of the same altitude</li> </ul>

Question number	Answer
	<ul style="list-style-type: none"><li>• in glacial areas underlain by volcanoes, tectonic activity plays a far more significant role as demonstrated by the ablation of some Icelandic glaciers.</li></ul>

<b>Level</b>	<b>Mark</b>	<b>Descriptor</b>
	0	No rewardable material.
<b>Level 1</b>	<b>1–4</b>	<ul style="list-style-type: none"> <li>• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1)</li> <li>• Applies knowledge and understanding of geographical information/ideas, making limited logical connections/relationships. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to produce an interpretation with limited relevance and/or support. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to make unsupported or generic judgements about the significance of few factors, leading to an argument is unbalanced or lacks coherence. (AO2)</li> </ul>
<b>Level 2</b>	<b>5–8</b>	<ul style="list-style-type: none"> <li>• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1)</li> <li>• Applies knowledge and understanding of geographical information/ideas logically, making some relevant connections/relationships. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to produce a partial but coherent interpretation that is mostly relevant and supported by evidence. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to make judgements about the significance of some factors, to produce an argument that may be unbalanced or partially coherent. (AO2)</li> </ul>
<b>Level 3</b>	<b>9–12</b>	<ul style="list-style-type: none"> <li>• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1)</li> <li>• Applies knowledge and understanding of geographical information/ideas logically, making relevant connections/relationships. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to produce a full and coherent interpretation that is relevant and supported by evidence. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to make supported judgements about the significance of factors throughout the response, leading to a balanced and coherent argument. (AO2)</li> </ul>

Question number	Answer	Mark
3(a)(i)	<p style="text-align: center;"><b>A03 (1 mark)</b></p> <p>Award <b>1</b> mark for a comparative statement about the sediment at A (lateral moraine) and B (outwash plain):</p> <ul style="list-style-type: none"> <li>• A more angular than B</li> <li>• B is rounder than A</li> </ul> <p>Accept any other appropriate response.</p>	(1)

Question number	Answer	Mark
3(a)(ii)	<p style="text-align: center;"><b>A03 (1 mark)</b></p> <p>Award 1 mark for the accepting the correct hypothesis.</p> <p><b>Hypothesis:</b> there is a significant difference between the mean size of sediment found at site A and site B.</p>	(1)

Question number	Answer	Mark
3(a)(iii)	<p style="text-align: center;"><b>A03 (1 mark)</b></p> <p>Award <b>1</b> mark for a reason that identifies that the t-test score is greater than the critical value</p> <p>Do not accept reasons that justify the null hypothesis</p>	(1)

Question number	Answer	Mark
3(a)(iv)	<p style="text-align: center;"><b>A03 (2 marks)</b></p> <p>Award <b>1</b> mark for identifying a reason why deposits at site A and B are different and a further <b>1</b> mark for justification of why this is the case, for example:</p> <ul style="list-style-type: none"> <li>• A is close to the snout of the glacier/is likely to be glacial material while B is on the outwash plain/is a fluvio-glacial deposit (1) and so the sediment samples for A will show evidence of freeze-thaw while those for B will show evidence of fluvial (water) processes (1).</li> </ul> <p>Accept any other appropriate response.</p>	(2)

Question number	Answer	Mark
3(b)	<p style="text-align: center;"><b>A03 (4 marks)</b></p> <p>For each way, award up to <b>1</b> mark for stating the type/nature/source of the additional data/information and a further mark for how the data/information improves the overall study, for example:</p> <ul style="list-style-type: none"> <li>the student could return at a different time of year to collect more data (1). This would give a better context for how the glacial system might change in different seasons (1)</li> <li>the student could collect more data at different sites using information from the sketch map (1). This would give improved spatial coverage and a greater number of fieldwork sites (1)</li> <li>the student could use additional (primary) fieldwork approaches linked to the glacial transect (1). This would allow a greater range of primary data would improve understanding of glacial processes/movement of glaciers (1)</li> <li>the student could use more secondary (published) data from additional research sources (1). This would allow a greater understanding of wider glacial processes, including relic processes particularly those linked to post glacial and fluvio-glacial deposits (1)</li> </ul> <p>Accept any other appropriate response.</p>	(4)

Question number	Answer
3(c)	<p style="text-align: center;"><b>A03 (9 marks)</b></p> <p><b>Marking instructions</b></p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p><b>Indicative content guidance</b></p> <p>Content depends on students' choice of field research and the conclusions drawn. Assessment should include the following:</p> <ul style="list-style-type: none"> <li>results should be clearly outlined with some supportive quantitative data</li> <li>both primary data and secondary data should be identified</li> <li>links with conclusions should be clear</li> <li>conclusions should be clearly explained with appropriate links to the data gathered</li> <li>qualifications should be evident about the strength of the relationship between the data.</li> </ul> <p>All conclusions are likely to be partial and tentative given the limited range of primary data gathered.</p>



<b>Level</b>	<b>Mark</b>	<b>Descriptor</b>
	0	No rewardable material.
<b>Level 1</b>	<b>1–3</b>	<ul style="list-style-type: none"> <li>Shows evidence that fieldwork investigation skills used may not have been fully appropriate or effective for the investigation of the geographical questions/issue. (AO3)</li> <li>Considers the fieldwork investigation process/data/evidence, with limited relevant connections and/or judgements. (AO3)</li> <li>Argument about the investigation is simplistic and/or generic. (AO3)</li> </ul>
<b>Level 2</b>	<b>4–6</b>	<ul style="list-style-type: none"> <li>Shows evidence that fieldwork investigation skills used were largely appropriate and effective for the investigation of the geographical questions/issue. (AO3)</li> <li>Critically considers the fieldwork investigation process/data/evidence in order to make some relevant connections and valid judgements. (AO3)</li> <li>Argument about the investigation may have unbalanced consideration of factors, but is mostly coherent. (AO3)</li> </ul>
<b>Level 3</b>	<b>7–9</b>	<ul style="list-style-type: none"> <li>Shows evidence that fieldwork investigation skills used were appropriate and effective for the investigation of the geographical questions/issue. (AO3)</li> <li>Critically considers the fieldwork investigation process/data/evidence in order to make relevant connections and judgements that are supported by evidence. (AO3)</li> <li>Argument about the investigation includes balanced consideration of factors and is fully developed and coherent. (AO3)</li> </ul>

Question number	Answer
4	<p style="text-align: center;"><b>AO1 (4 marks)/AO2 (12 marks)</b></p> <p><b>Marking instructions</b></p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Responses that demonstrate <b>only</b> AO1 without any AO2 should be awarded marks as follows:</p> <ul style="list-style-type: none"> <li>• Level 1 AO1 performance: 1 mark</li> <li>• Level 2 AO1 performance: 2 marks</li> <li>• Level 3 AO1 performance: 3 marks</li> <li>• Level 4 AO1 performance: 4 marks</li> </ul> <p><b>Indicative content guidance</b></p> <p>The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include:</p> <p><b>AO1</b></p> <ul style="list-style-type: none"> <li>• volcanoes cause ash falls and secondary hazards such as jökulhlaup</li> <li>• the process of ablation (melting, calving, evaporation and avalanches), and reasons for variation in rate of ablation</li> <li>• the processes of water movement within the glacial system are supraglacial, englacial and subglacial flows</li> </ul> <p><b>AO2</b></p> <ul style="list-style-type: none"> <li>• to begin with, the glacial processes of ablation is the key process explaining the discharge of the proglacial river before the volcanic eruption on 3/11 melting the overlying ice. As it is winter (November) there is little ablation due to the cold temperatures and most will be surface melting. This means that the main glacial process will be supraglacial flow with less englacial and subglacial flows</li> <li>• the volcanic activity that starts on the 4/11, however, acts as the trigger to enhance the rate of ablation, particularly at the base of the glacier. This means that in contrast to the flow on the 3/11, on 4/11 the increased base temperature is the key factor as it will increase the rate of ablation, particularly subglacial flows leading to a higher discharge (table and map)</li> <li>• yet, despite this increased ablation, it is glacial processes that are the key process in determining the lag between the eruption (4/11) and the peak flow (5/11). This is because the eruption creates a supraglacial lake (map) and this water then moves through the slower glacial processes of limited supraglacial flow and then englacial and subglacial flow, leading to the snout of the glacier (photo)</li> <li>• the increased water in the ice-dammed lake in the Lake Grímsvötn volcano caldera (map) is now likely to have broken and so increased the amount of meltwater and ash contained in the meltwater. This breach of the ice dam is the key process in allowing the ash that subsequently</li> </ul>

Question number	Answer
	<p>swells the jökulhlaup in the lowland plains</p> <ul style="list-style-type: none"> <li>• glacial processes are also the dominant process in the next stage of jökulhlaup, as the increased supraglacial flow widens the existing crevasses on the surface of the glacier and so contributes to the calving of the ice blocks (photo and table) which causes great damage to the transport infrastructure due to the density of the ice blocks</li> <li>• yet this latter-stage jökulhlaup is also still being affected by a combination of the volcanic processes and glacial processes as the ash created at the mouth of the volcano is mixed with the melted water and then carried supraglacially, englacially and subglacially to the snout of the glacier and the outwash plain which are key in increasing the total volume of the which then leads to the damage noted in the table</li> <li>• overall, although tectonic processes were the trigger for the rapid ablation, it is probably a combination of tectonic and glacial processes that then determine the subsequent jökulhlaup.</li> </ul>

Level	Mark	Descriptor
	0	No rewardable material.
<b>Level 1</b>	<b>1–4</b>	<ul style="list-style-type: none"> <li>• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1)</li> <li>• Applies knowledge and understanding of geographical information/ideas, making limited and rarely logical connections/relationships, to produce an interpretation with limited relevance and/or support. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to produce an unsupported or generic conclusion, drawn from an argument that is unbalanced or lacks coherence. (AO2)</li> <li>• Limited synthesis of geographical ideas from across the course of study. (AO2)</li> </ul>
<b>Level 2</b>	<b>5–8</b>	<ul style="list-style-type: none"> <li>• Demonstrates geographical knowledge and understanding, which is occasionally relevant and may include some inaccuracies. (AO1)</li> <li>• Applies knowledge and understanding of geographical information/ideas with limited but logical connections/relationships to produce a partial interpretation that is supported by some evidence but has limited coherence. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to come to a conclusion, partially supported by an unbalanced argument with limited coherence. (AO2)</li> <li>• Argument partially synthesises some geographical ideas from across the course of study, but lacks meaningful connections. (AO2)</li> </ul>
<b>Level 3</b>	<b>9–12</b>	<ul style="list-style-type: none"> <li>• Demonstrates geographical knowledge and understanding, which is mostly relevant and accurate. (AO1)</li> <li>• Applies knowledge and understanding of geographical information/ideas to find some logical and relevant connections/relationships to produce a partial but coherent interpretation that is supported by some evidence. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to come to a conclusion, largely supported by an argument that may be unbalanced or partially coherent. (AO2)</li> <li>• Argument synthesises some geographical ideas from across the course of study, making some meaningful connections. (AO2)</li> </ul>
<b>Level 4</b>	<b>13–16</b>	<ul style="list-style-type: none"> <li>• Demonstrates accurate and relevant geographical knowledge</li> </ul>

		<p>and understanding throughout. (AO1)</p> <ul style="list-style-type: none"><li>• Applies knowledge and understanding of geographical information/ideas to find fully logical and relevant connections/relationships to produce a full and coherent interpretation that is supported by evidence. (AO2)</li><li>• Applies knowledge and understanding of geographical information/ideas to come to a rational, substantiated conclusion, fully supported by a balanced argument that is drawn together coherently. (AO2)</li><li>• Argument comprehensively and meaningfully synthesises geographical ideas from across the course of study throughout the response. (AO2)</li></ul>
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Question number	Answer	Mark
5(a)	<p style="text-align: center;"><b>A01 (1 mark)</b></p> <p>Award <b>1</b> mark for any correct physical, chemical or biological weathering process, from the following:</p> <ul style="list-style-type: none"> <li>• freeze-thaw (congelifraction)</li> <li>• solution</li> <li>• hydrolysis</li> <li>• root wedging.</li> </ul> <p>Accept any other appropriate response. Do not accept non-weathering processes (e.g. landslides/slumping etc.).</p>	<b>(1)</b>

Question number	Answer	Mark
5(b)(i)	<p style="text-align: center;"><b>A03 (1 mark)</b></p> <p>Accept any of the following:</p> <ul style="list-style-type: none"> <li>• 320 897</li> <li>• 320 898</li> <li>• 320 899</li> </ul>	<b>(1)</b>

Question number	Answer	Mark
5(b)(ii)	<p style="text-align: center;"><b>A03 (1 mark)</b></p> <p>B - 2.0 km</p>	<b>(1)</b>

Question number	Answer	Mark
5(b)(iii)	<p style="text-align: center;"><b>A01 (2 marks)/A02 (1 mark)</b></p> <p>Award <b>1</b> mark for using map evidence to identify a difference between the sediment characteristics of A and B and a further <b>2</b> marks for explaining why this is the case.</p> <ul style="list-style-type: none"> <li>• Site A is likely to be larger (1)/or more angular (1) as it is derived from mass movement (1)/or erosion (1) from the coast and then transported along the coast through longshore drift (1)/or currents (1)/or tides (1).</li> <li>• Site B is likely to smaller (1) as it is a fluvial deposit (1) and so transported by a river and then deposited through flocculation (1).</li> </ul> <p>Accept any other appropriate response.</p>	<b>(3)</b>

Question number	Answer	Mark
5(c)	<p style="text-align: center;"><b>AO1 (4 marks)</b></p> <p>For each process, award <b>1</b> mark for identifying the process and a further mark for an explaining how it forms offshore bars, for example:</p> <ul style="list-style-type: none"> <li>• offshore bars can be created when waves approach the shore and break on a submerged bar (1) depositing the larger material that they are carrying and so accrete vertically (1)</li> <li>• offshore bars are created when sediment being carried along the coast through longshore drift (1) enters a low-energy part of the sediment cell (1) and so is deposited in submerged bars parallel to the shore (1)</li> <li>• channel-mouth bars are formed where rivers enter the sea, resulting in a drop in river velocity (1) leading to the deposition of river bed load (1).</li> </ul> <p>Accept any other appropriate response.</p>	<b>(4)</b>

Question number	Answer
5(d)	<p style="text-align: center;"><b>AO1 (6 marks)</b></p> <p><b>Marking instructions</b></p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p><b>Indicative content guidance</b></p> <p>The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include:</p> <ul style="list-style-type: none"> <li>• geological structure can refer to concordant and discordant coasts</li> <li>• geological structure can also refer to the lithology and structure of rocks</li> <li>• concordant coasts are where the geology runs parallel to the coast and is associated with landforms such as coves as well as Dalmatian and Haff type coastlines</li> <li>• in some cases, such as at Lulworth Cove, the band of resistant rock can be exploited by fluvial erosion</li> <li>• complex depositional features such as spits are more likely to be found on concordant coasts where longshore drift can operate</li> <li>• discordant coasts are where the geology runs at right angles to the coast and creates landforms such as bays and headlands reflecting variations in rock resistance</li> <li>• the horizontal bedding of resistant rocks such as sandstone leads to vertical cliffs</li> <li>• the exact profile of vertical cliffs can also be determined by the joint pattern of the rock, as well-jointed granite or limestone creating blocky profiles.</li> </ul>

<b>Level</b>	<b>Mark</b>	<b>Descriptor</b>
	0	No rewardable material.
<b>Level 1</b>	<b>1–2</b>	<ul style="list-style-type: none"> <li>• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1)</li> <li>• Understanding addresses a narrow range of geographical ideas, which lack detail. (AO1)</li> </ul>
<b>Level 2</b>	<b>3–4</b>	<ul style="list-style-type: none"> <li>• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1)</li> <li>• Understanding addresses a range of geographical ideas, which are not fully detailed and/or developed. (AO1)</li> </ul>
<b>Level 3</b>	<b>5–6</b>	<ul style="list-style-type: none"> <li>• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1)</li> <li>• Understanding addresses a broad range of geographical ideas, which are detailed and fully developed. (AO1)</li> </ul>



Question number	Answer
5(e)	<p style="text-align: center;"><b>AO1 (3 marks)/AO2 (9 marks)</b></p> <p><b>Marking instructions</b></p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Responses that demonstrate <b>only</b> AO1 without any AO2 should be awarded marks as follows:</p> <ul style="list-style-type: none"> <li>• Level 1 AO1 performance: 1 mark</li> <li>• Level 2 AO1 performance: 2 marks</li> <li>• Level 3 AO1 performance: 3 marks.</li> </ul> <p><b>Indicative content guidance</b></p> <p>The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include:</p> <p><b>AO1</b></p> <ul style="list-style-type: none"> <li>• lithology (igneous, sedimentary, metamorphic) and unconsolidated material geology can determine the rate of coastal recession</li> <li>• lithology also affects geological structure and strata and so can determine the rate of coastal recession</li> <li>• lithology also affects sub-aerial processes of mass movement and weathering and so can determine the rate of coastal recession</li> <li>• human actions can affect both marine and subaerial processes and both increase and decrease the rate of coastal recession</li> <li>• rates of recession are not constant and vary in both the short- and long term</li> </ul> <p><b>AO2</b></p> <ul style="list-style-type: none"> <li>• on a macro scale, lithology is the dominant factor as metamorphic and igneous rocks have a lower rate of coastal recession than sedimentary and unconsolidated rock types because the resistance of such rocks resist marine erosion</li> <li>• on a meso scale, the indirect influence of lithology on geological structure and strata is key in determining coastal recession as the pattern of jointing and faulting can either promote or reduces subaerial processes such as weathering and mass movement. Similarly, the indirect effect of lithology on geological strata, such as layers of permeable/impermeable rocks, also largely determines the rate of coastal recession as it can raise pore water pressure leading to rapid mass movement</li> <li>• on a micro scale, humans can be the key determinate of the rate of coastal recession because they can both directly and indirectly reduce the marine and subaerial processes that cause coastal recession through a range of hard and soft engineering approaches</li> <li>• humans can also, however, stabilise the coastline through the</li> </ul>

Question number	Answer
	<p>development of vegetation such as sand dunes and salt marshes and so reduce the rate of coastal recession as well increase the rate of coastal recession through interference either intentionally or unintentionally in physical processes and systems such as in terminal groyne syndrome or dredging</p> <ul style="list-style-type: none"> <li>• yet, while humans can influence the rate of coastal recession on short timescales, lithology and marine factors such tides, seasons, weather systems and the occurrence of storms play are more important part in determining the long-term rates of coastal recession</li> <li>• however, lithology plays a vital role in determining whether human action is taken or is successful in determining the rate of coastal recession as some areas due to their lithology and/or their geological structure are physically or economically impossible to manage through either hard or soft engineering</li> </ul>

Level	Mark	Descriptor
	0	No rewardable material.
<b>Level 1</b>	<b>1–4</b>	<ul style="list-style-type: none"> <li>• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1)</li> <li>• Applies knowledge and understanding of geographical information/ideas, making limited logical connections/relationships. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to produce an interpretation with limited relevance and/or support. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to make unsupported or generic judgements about the significance of few factors, leading to an argument is unbalanced or lacks coherence. (AO2)</li> </ul>
<b>Level 2</b>	<b>5–8</b>	<ul style="list-style-type: none"> <li>• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1)</li> <li>• Applies knowledge and understanding of geographical information/ideas logically, making some relevant connections/relationships. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to produce a partial but coherent interpretation that is mostly relevant and supported by evidence. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to make judgements about the significance of some factors, to produce an argument that may be unbalanced or partially coherent. (AO2)</li> </ul>
<b>Level 3</b>	<b>9–12</b>	<ul style="list-style-type: none"> <li>• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1)</li> <li>• Applies knowledge and understanding of geographical information/ideas logically, making relevant connections/relationships. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to produce a full and coherent interpretation that is relevant and supported by evidence. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to make supported judgements about the significance of factors throughout the response, leading to a balanced and coherent argument. (AO2)</li> </ul>

Question number	Answer	Mark
6(a)(i)	<p style="text-align: center;"><b>A03 (1 mark)</b></p> <p>Award 1 mark for correct identification of difference but answer must use a comparative word.</p> <p>Any one from:</p> <ul style="list-style-type: none"> <li>• Transect A has a steeper gradient <b>(1)</b></li> <li>• Transect A has a larger area <b>(1)</b>.</li> </ul> <p>Accept any other appropriate response.</p>	<b>(1)</b>

Question number	Answer	Mark
6(a)(ii)	<p style="text-align: center;"><b>A03 (1 mark)</b></p> <p>Award 1 mark for the accepting the correct hypothesis.</p> <p><b>Hypothesis:</b> there is a significant difference between the mean size of sediment found at site A and site B.</p>	<b>(1)</b>

Question number	Answer	Mark
6(a)(iii)	<p style="text-align: center;"><b>A03 (1 mark)</b></p> <p>Award <b>1</b> mark for a reason that identifies that the t-test score is greater than the critical value</p> <p>Do not accept reasons that justify the null hypothesis</p>	<b>(1)</b>

Question number	Answer	Mark
6(a)(iv)	<p style="text-align: center;"><b>A03 (2 marks)</b></p> <p>Award <b>1</b> mark for identifying a reason for differences and a further mark for justifying why this is the case, up to a maximum of <b>2</b> marks.</p> <ul style="list-style-type: none"> <li>• A has larger sediment/pebbles (1) which will maintain a steeper angle of repose/encourage constructive waves/maintain higher percolation rate (1)</li> <li>• B which is more sandy/smaller sediment (1) and so has a lower angle of repose/lower percolation rate/will encourage destructive waves (1)</li> <li>• the groyne is selectively stopping sediment at transect A (1), which causes the larger sediment to build along the beach being trapped by the groyne (1).</li> </ul>	<b>(2)</b>

Question number	Answer	Mark
6(b)	<p style="text-align: center;"><b>A03 (4 marks)</b></p> <p>Award up to <b>1</b> mark for stating the type/nature/source of the additional data/information and a further mark for how the data/information improves the overall study up to a maximum of <b>2</b> marks each.</p> <ul style="list-style-type: none"> <li>• The student could return at a different time of year to collect more data (1). This would give a better context for how the beach or coastal system might change in different seasons (1).</li> <li>• The student could collect data at different sites along the coast using information from the sketch map (1). This would give improved spatial coverage and a greater number of fieldwork sites (1).</li> <li>• The student could use additional (primary) fieldwork approaches linked to the beach transect (1). This would allow a greater range of primary data would improve understanding of beach processes (1).</li> <li>• The student could use more secondary (published) data from additional research sources (1). This would allow a greater understanding of wider coastal processes particularly those linked to coastal management and sediment cell operation (1).</li> </ul> <p>Accept any other appropriate response.</p>	(4)

Question number	Answer
6(c)	<p style="text-align: center;"><b>A03 (9 marks)</b></p> <p><b>Marking instructions</b></p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>No marks for stating research question, but this should be used as the context for the answer.</p> <p><b>Indicative content guidance</b></p> <p>Content depends on students' choice of field research and the conclusions drawn. Assessment should include the following:</p> <ul style="list-style-type: none"> <li>• results should be clearly outlined with some supportive quantitative data</li> <li>• both primary data and secondary data should be identified</li> <li>• links with conclusions should be clear</li> <li>• conclusions should be clearly explained with appropriate links to the data gathered</li> <li>• qualifications should be evident about the strength of the relationship between the data.</li> </ul> <p>All conclusions are likely to be partial and tentative given the limited range of primary data gathered.</p>

<b>Level</b>	<b>Mark</b>	<b>Descriptor</b>
	0	No rewardable material.
<b>Level 1</b>	<b>1–3</b>	<ul style="list-style-type: none"> <li>Shows evidence that fieldwork investigation skills used may not have been fully appropriate or effective for the investigation of the geographical questions/issue. (AO3)</li> <li>Considers the fieldwork investigation process/data/evidence, with limited relevant connections and/or judgements. (AO3)</li> <li>Argument about the investigation is simplistic and/or generic. (AO3)</li> </ul>
<b>Level 2</b>	<b>4–6</b>	<ul style="list-style-type: none"> <li>Shows evidence that fieldwork investigation skills used were largely appropriate and effective for the investigation of the geographical questions/issue. (AO3)</li> <li>Critically considers the fieldwork investigation process/data/evidence in order to make some relevant connections and valid judgements. (AO3)</li> <li>Argument about the investigation may have unbalanced consideration of factors, but is mostly coherent. (AO3)</li> </ul>
<b>Level 3</b>	<b>7–9</b>	<ul style="list-style-type: none"> <li>Shows evidence that fieldwork investigation skills used were appropriate and effective for the investigation of the geographical questions/issue. (AO3)</li> <li>Critically considers the fieldwork investigation process/data/evidence in order to make relevant connections and judgements that are supported by evidence. (AO3)</li> <li>Argument about the investigation includes balanced consideration of factors and is fully developed and coherent. (AO3)</li> </ul>

Question number	Answer
7	<p style="text-align: center;"><b>AO1 (4 marks)/AO2 (12 marks)</b></p> <p><b>Marking instructions</b></p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Responses that demonstrate <b>only</b> AO1 without any AO2 should be awarded marks as follows:</p> <ul style="list-style-type: none"> <li>• Level 1 AO1 performance: 1 mark</li> <li>• Level 2 AO1 performance: 2 marks</li> <li>• Level 3 AO1 performance: 3 marks</li> <li>• Level 4 AO1 performance: 4 marks</li> </ul> <p><b>Indicative content guidance</b></p> <p>The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include:</p> <p><b>AO1</b></p> <ul style="list-style-type: none"> <li>• rocky coastlines and coastal plains (sandy coastline and estuarine coasts) have distinct physical characteristics which can reduce or increase their vulnerability to tsunami events</li> <li>• the characteristics of the tsunami event can be considered through their magnitude, speed of onset and areal extent, duration, frequency, and spatial predictability</li> <li>• hazard events in developed countries show the interaction of physical factors and the significance of context in influencing the scale of disaster</li> </ul> <p><b>AO2</b></p> <ul style="list-style-type: none"> <li>• rocky coastlines with steep cliffs offer a natural protection against tsunami (as shown in photo 1) and as a result even though Iwate had the highest tsunami wave of 8.5 m (table) it suffered far fewer social and economic impacts than Miyagi (table) as Miyagi is a coastal plain</li> <li>• yet the earthquake did not produce only tsunami waves, there was also ground shaking and as a result most of the prefecture of Iwate was subjected to strong ground shaking (map) and which would have caused economic impacts as there would have inevitably been some loss of buildings</li> <li>• in contrast, lowland coastal plains are more vulnerable to tsunami as not only do they not have a cliffed coastline but because of their easier access to the coast they are more likely to be developed and so have a higher population density (as shown in photo 2). This means, therefore, that despite having a lower tsunami wave (table) there were far higher social and economic impacts (table)</li> <li>• although Japan had invested in tsunami walls in Miyagi, they were not high enough to save areas such as Kesenuma which suggest that the physical characteristic of the coastline, coupled with the characteristic of the tsunami event combined to overcome the ability of the country to modify the event in this case and so reduce the impacts</li> <li>• yet not all coastal plains are vulnerable to the tsunami. In Ibaraki the use of tsunami walls to modify the event (photo), coupled with the fact</li> </ul>



Question number	Answer
	<p>that the characteristic of the tsunami event was far lower (table) meant that the impacts were far lower (table). The population in this area, however, might also have greater time to prepare for the hazard and evacuate lowland areas as the area is further from the epifocus/centre of the earthquake (map) and so the speed of onset would have been far lower</p> <ul style="list-style-type: none"> <li>• overall, the nature of the coastline is key as cliffed coastlines are far less vulnerable than coastal plains to the tsunami hazard. Yet the characteristic of the tsunami event in terms of the magnitude and the speed of onset are vital in determining the impacts on coastal plains.</li> </ul>

Level	Mark	Descriptor
	<b>0</b>	No rewardable material.
<b>Level 1</b>	<b>1–4</b>	<ul style="list-style-type: none"> <li>• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1)</li> <li>• Applies knowledge and understanding of geographical information/ideas, making limited and rarely logical connections/relationships, to produce an interpretation with limited relevance and/or support. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to produce an unsupported or generic conclusion, drawn from an argument that is unbalanced or lacks coherence. (AO2)</li> <li>• Limited synthesis of geographical ideas from across the course of study. (AO2)</li> </ul>
<b>Level 2</b>	<b>5–8</b>	<ul style="list-style-type: none"> <li>• Demonstrates geographical knowledge and understanding, which is occasionally relevant and may include some inaccuracies. (AO1)</li> <li>• Applies knowledge and understanding of geographical information/ideas with limited but logical connections/relationships to produce a partial interpretation that is supported by some evidence but has limited coherence. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to come to a conclusion, partially supported by an unbalanced argument with limited coherence. (AO2)</li> <li>• Argument partially synthesises some geographical ideas from across the course of study, but lacks meaningful connections. (AO2)</li> </ul>
<b>Level 3</b>	<b>9–12</b>	<ul style="list-style-type: none"> <li>• Demonstrates geographical knowledge and understanding, which is mostly relevant and accurate. (AO1)</li> <li>• Applies knowledge and understanding of geographical information/ideas to find some logical and relevant connections/relationships to produce a partial but coherent interpretation that is supported by some evidence. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to come to a conclusion, largely supported by an argument that may be unbalanced or partially coherent. (AO2)</li> <li>• Argument synthesises some geographical ideas from across the course of study, making some meaningful connections. (AO2)</li> </ul>
<b>Level 4</b>	<b>13–16</b>	<ul style="list-style-type: none"> <li>• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1)</li> </ul>

		<ul style="list-style-type: none"><li>• Applies knowledge and understanding of geographical information/ideas to find fully logical and relevant connections/relationships to produce a full and coherent interpretation that is supported by evidence. (AO2)</li><li>• Applies knowledge and understanding of geographical information/ideas to come to a rational, substantiated conclusion, fully supported by a balanced argument that is drawn together coherently. (AO2)</li><li>• Argument comprehensively and meaningfully synthesises geographical ideas from across the course of study throughout the response. (AO2)</li></ul>
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Write your name here

Surname

Other names

**Pearson Edexcel  
Level 3 GCE**

Centre Number

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Candidate Number

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# Geography

## Advanced Subsidiary Paper 2

Sample assessment material for first teaching  
September 2016  
**Time: 1 hour 45 minutes**

Paper Reference

**8GE0/02**

**You must have:**

Ruler, calculator, Resource Booklet (enclosed)

Total Marks

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### 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 and **EITHER** Section B **OR** Section C.
- Answer the questions in the spaces provided  
– *there may be more space than you need.*
- Calculators may be used.
- Any **calculations** must show all stages of **working out** and a **clear answer**.

### Information

- The total mark for this paper is 90.
- The marks for **each** question are shown in brackets  
– *use this as a guide as to how much time to spend on each question.*

### Advice

- Read each question carefully before you start to answer it.
- Check your answers if you have time at the end.

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**Answer Section A and EITHER Section B OR Section C.**

**Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.**

**SECTION A: GLOBALISATION**

**Answer ALL questions. Write your answers in the spaces provided.**

**You must use the Resource Booklet provided.**

**1 (a)** Define 'global shift'.

(1)

(b) (i) Study Figure 1 in the Resource Booklet.

Calculate how much cheaper material costs are in Bangladesh than in the USA.

Show your working.

(1)

Answer = \$ .....

(ii) Which of the following statements is correct?

Place a ☒ in the correct box.

(1)

- A** Shirts produced in Bangladesh are 10 times cheaper than in the USA
- B** Laundry costs are approximately 27% cheaper in Bangladesh than in the USA
- C** Labour contributes approximately 6% of total production costs in Bangladesh
- D** Material costs make up the largest proportion of costs in both countries

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**(Total for Question 1 = 28 marks)**

**TOTAL FOR SECTION A = 28 MARKS**

## SECTION B: REGENERATING PLACES

**Do not answer Section B (Regenerating Places) if you have answered Section C (Diverse Places).**

**If you answer Section B put a cross in the box  .**

**You must use the Resource Booklet provided.**

**2 (a)** In which employment sector is tourism?

Place a  in the correct box.

(1)

- A** Primary
- B** Secondary
- C** Tertiary
- D** Quaternary

**(b)** Study the data below from the National Parks Authority in the UK for 2014 for selected National Parks. A student has begun a calculation of Spearman's Rank Correlation between Visitor Days and Visitor Spend.

**(i)** Complete the table for Dartmoor.

(2)

National Parks	Visitor days per year (million)	Rank	Visitor spend per year (£ million)	Rank	Difference (d)	d <sup>2</sup>
Broads	15.5	2	568	2	0	0
Cairngorms	3.1	7.5	185	8	0.5	0.25
Dartmoor	3.1	7.5	111	9		
Exmoor	2	9	85	10	1	1
Lake District	24	1	1146	1	0	0
Northumberland	1.7	10	190	7	-3	9
Peak District	11.8	5	541	3	-2	4
Pembrokeshire Coast	13	3	498	4	1	1
Snowdonia	10.4	6	396	6	0	0
Yorkshire Dales	12.6	4	400	5	1	1

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(ii) Study Figure 2 in the Resource Booklet.

Suggest **one** reason for the growth of employment in tourism in some regions.

(3)

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(c) Explain **two** reasons why there are variations in people's attachment to rural places.

(4)

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**(Total for Question 2 = 28 marks)**

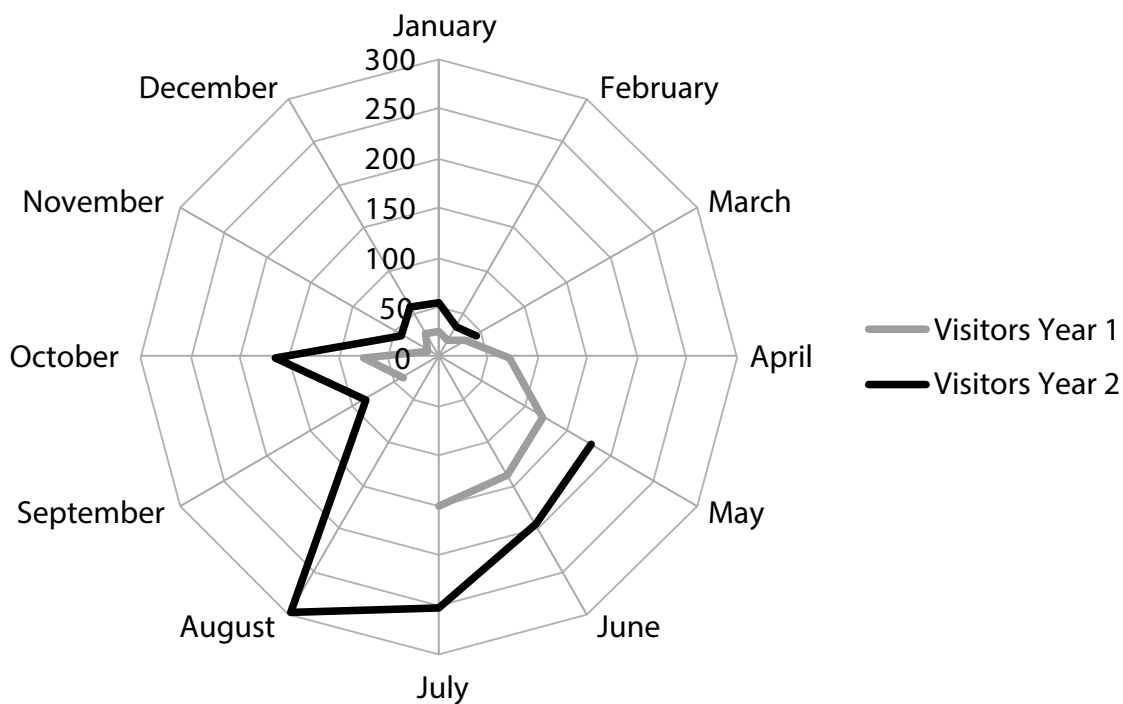
- 3 Study Figure A below, which presents secondary data obtained from a farm park as part of fieldwork.

The student collected secondary data on visitor numbers to Oak Tree farm park, to investigate the success of a rural regeneration strategy.

- (a) (i) Complete the diagram by adding the following data for year 1 and year 2 and finishing the lines.

(1)

Year 1	August	150 visitors
Year 2	April	98 visitors



**Figure A: Diagram showing visitor numbers to Oak Tree Farm Park in year 1 and year 2, obtained from the farm park.**

(ii) The student grouped the data to compare visitor numbers in four periods of Year 2, (January to March, April to June, July to September and October to December) and decided to carry out a chi-squared test to see if the observed numbers were as expected in a random pattern.

State **two** reasons why this was an appropriate test to use.

(2)

1 .....

2 .....

(iii) Give **two** possible reasons for the change in visitor numbers from year 1 to year 2.

(1)

1 .....

2 .....

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(iv) Identify an appropriate alternative graphical method for displaying the visitor data.

Explain **one** strength and **one** weakness of this method for presenting this data.

(4)

Alternative graphical method .....

Strength

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Weakness

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(Total for Question 4 = 16 marks)

**TOTAL FOR SECTION B = 62 MARKS**

### SECTION C: DIVERSE PLACES

Do not answer Section C (Diverse Places) if you have answered Section B (Regenerating Places).

If you answer Section C put a cross in the box .

You must use the Resource Booklet provided.

5 (a) Which is the correct definition of 'population structure'?

Place a  in the correct box.

(1)

- A Gender composition of a population
- B Gender and age composition of a population
- C Number of people per square kilometre
- D Exponential growth of a population

(b) Study Figure 5 in the Resource Booklet.

(i) Describe the distribution of crimes recorded within a one-mile radius of Bristol city centre.

(2)

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(ii) Suggest **one** reason why crime rates vary within this area of Bristol.

(3)

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(e) Study Figure 6 in the Resource Booklet.

Assess the extent to which the information in Figure 6 shows that the two wards in Blackpool have different population characteristics.

(12)

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(Total for Question 5 = 28 marks)

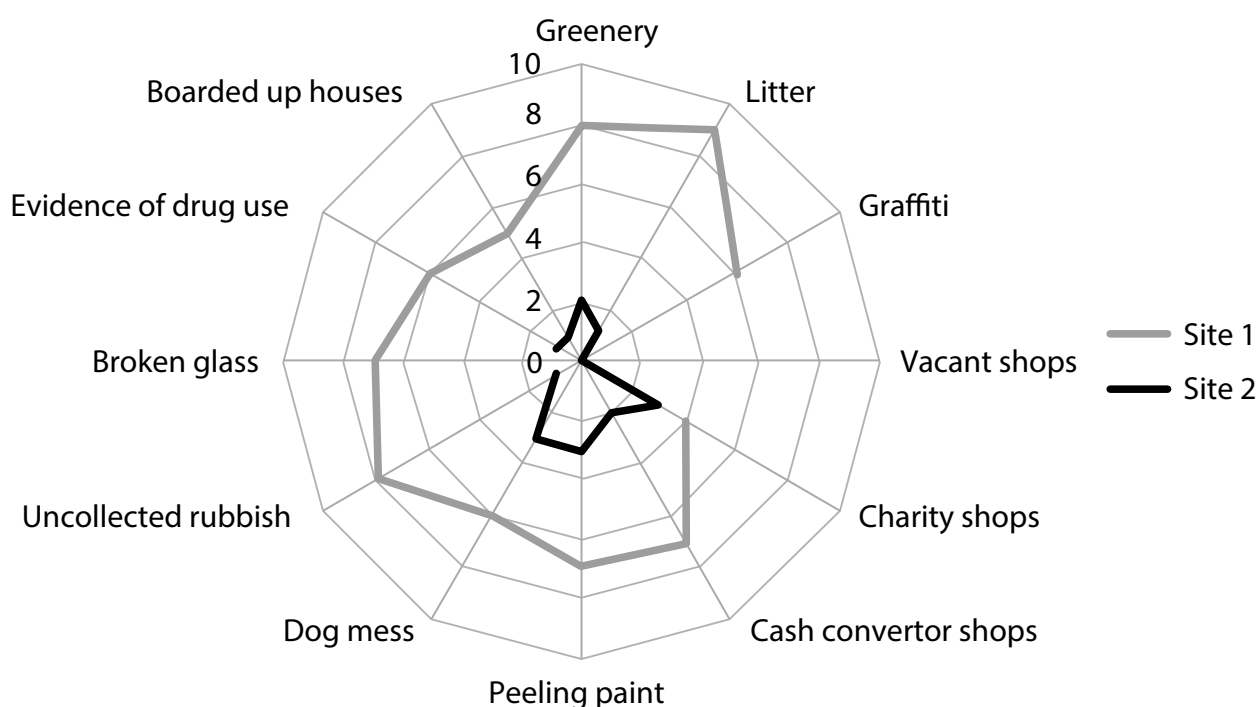
- 6 Study Figure B below, which presents data collected on a field trip to two sites in a local area as part of fieldwork. Each site was scored 1–10 for ten different criteria.

**High score/10 is 'good' for each criterion.**

The student collected primary data on the environmental quality of two sites to investigate areas that have the potential for improvement.

- (a) (i) Complete the diagram by adding the following data and finishing the lines: (1)

Site 1	Vacant shops	4
Site 2	Broken glass	3



**Figure B: Diagram showing environmental quality scores for two sites in the local area.**

- (ii) The student wanted to analyse their environmental quality scores, and decided the chi-squared test was **not** appropriate.

State **two** reasons why this type of data is not appropriate for chi-squared analysis.

(2)

1 .....

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2 .....

.....



(iii) Give **two** possible reasons for the differences between Site 1 and Site 2.

(2)

1 .....

.....

2 .....

.....

(iv) Identify an appropriate alternative graphical method for displaying this data.

Explain **one** strength and **one** weakness of this method for presenting this data.

(4)

Alternative graphical method .....

Strength

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Weakness

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**(Total for Question 7 = 16 marks)**

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**TOTAL FOR SECTION C = 62 MARKS**

**TOTAL FOR PAPER = 90 MARKS**

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# Pearson Edexcel Level 3 GCE

## Geography

Advanced Subsidiary

Paper 2

Sample assessment material for first teaching  
September 2016

**Resource Booklet**

Paper Reference

**8GEO/02**

**Do not return this Resource Booklet with the question paper.**

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**SECTION A: GLOBALISATION**

The following resource relates to Question 1



(Source: <http://edition.cnn.com/2013/05/02/world/asia/bangladesh-us-tshirt/>)

**Figure 1**

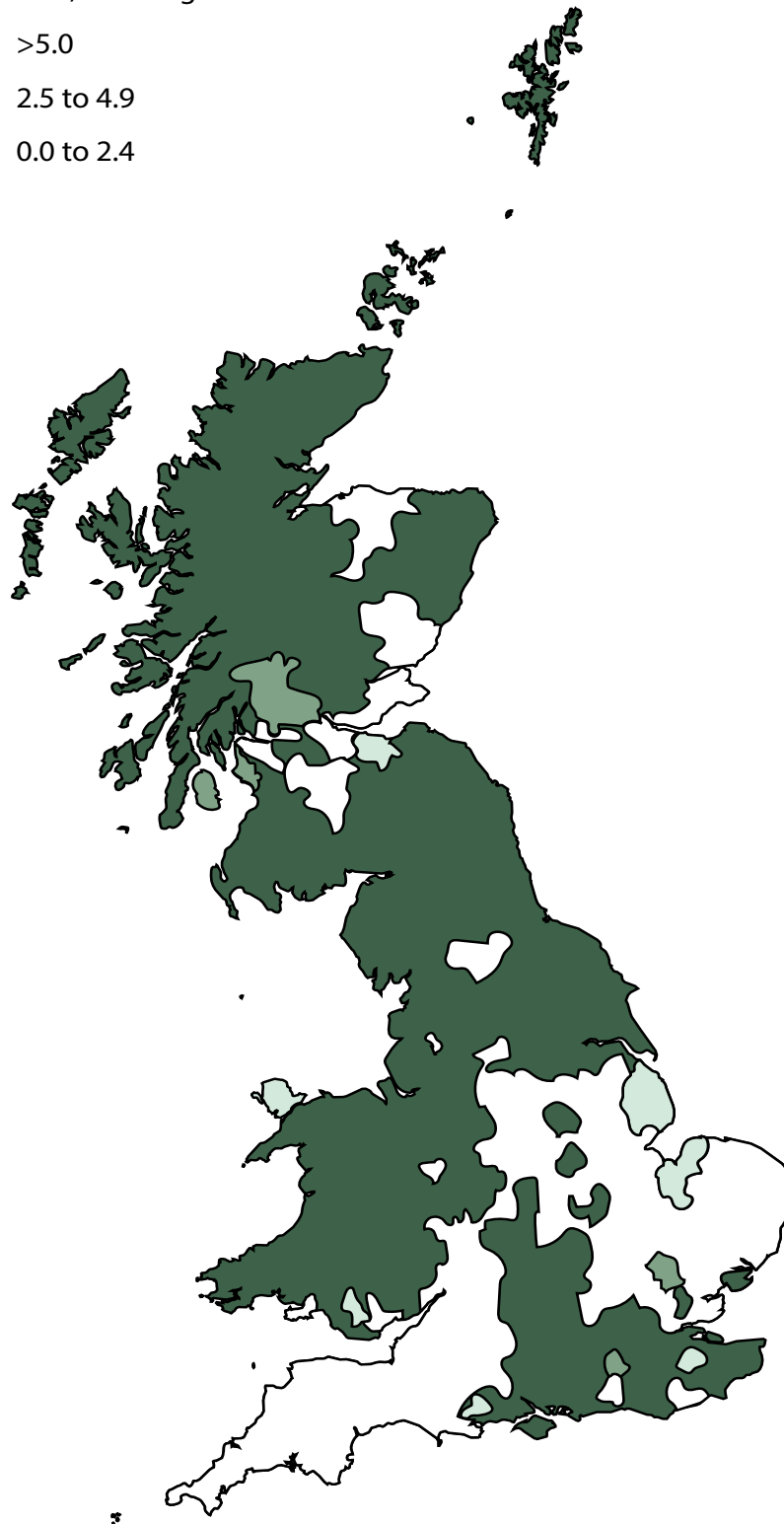
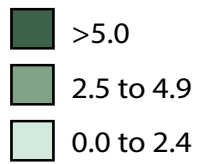
**A diagram showing costs of T-shirt production in the USA and in Bangladesh**

## SECTION B: REGENERATING PLACES

The following resource relates to Question 2

### Change in tourism employment

2010–12, % change



(Source: 'Leaving the Cornish pasties behind', © *The Economist*)

**Figure 2**

**A map showing changes in tourism employment from 2010–2012**

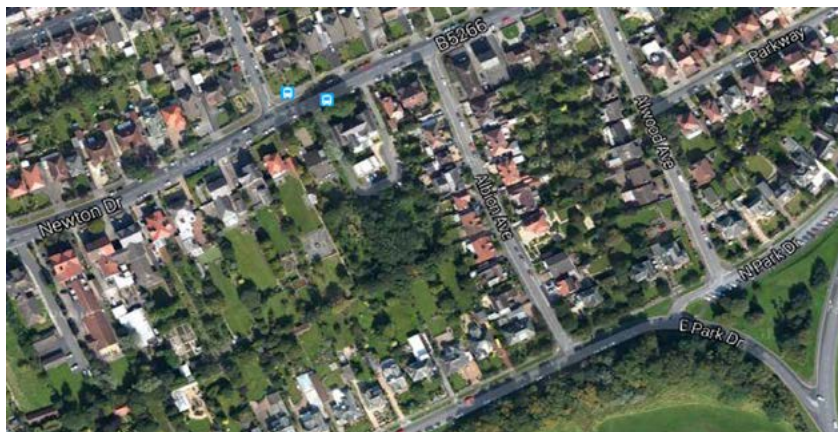
**The following resources relate to Question 2**



(Source: Map data ©2015 Google Imagery ©2015, DigitalGlobe, Getmapping plc, Infoterra Ltd & Bluesky, The GeoInformation Group)

Data about Claremont ward (Blackpool town centre)

Population density (people per hectare)	Full-time employed	Very good general health	No car in household	Rented housing	16+ with 5+ GC-SEs Grade A*-C	Rank in Index of Deprivation Survey (2010)
65	27%	27%	60%	61%	17%	23/32,482



(Source: Map data ©2015 Google Imagery ©2015, DigitalGlobe, Getmapping plc, Infoterra Ltd & Bluesky, The GeoInformation Group)

Data about Layton ward (Blackpool suburbs)

Population density (people per hectare)	Full-time employed	Very good general health	No car in household	Rented housing	16+ with 5+ GC-SEs Grade A*-C	Rank in Index of Deprivation Survey (2010)
52	38%	52%	35%	32%	25%	4,587/32,482

**Figure 3**

**Data from 2011 census for two contrasting wards in Blackpool, north-west coast of the UK**



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**FIGURE 4 BEGINS ON THE NEXT PAGE.**

The following resources relate to Question 4.

Figure 4: Resources about Dyson and Malmesbury (a UK rural town)

Key facts about Dyson

**dyson**

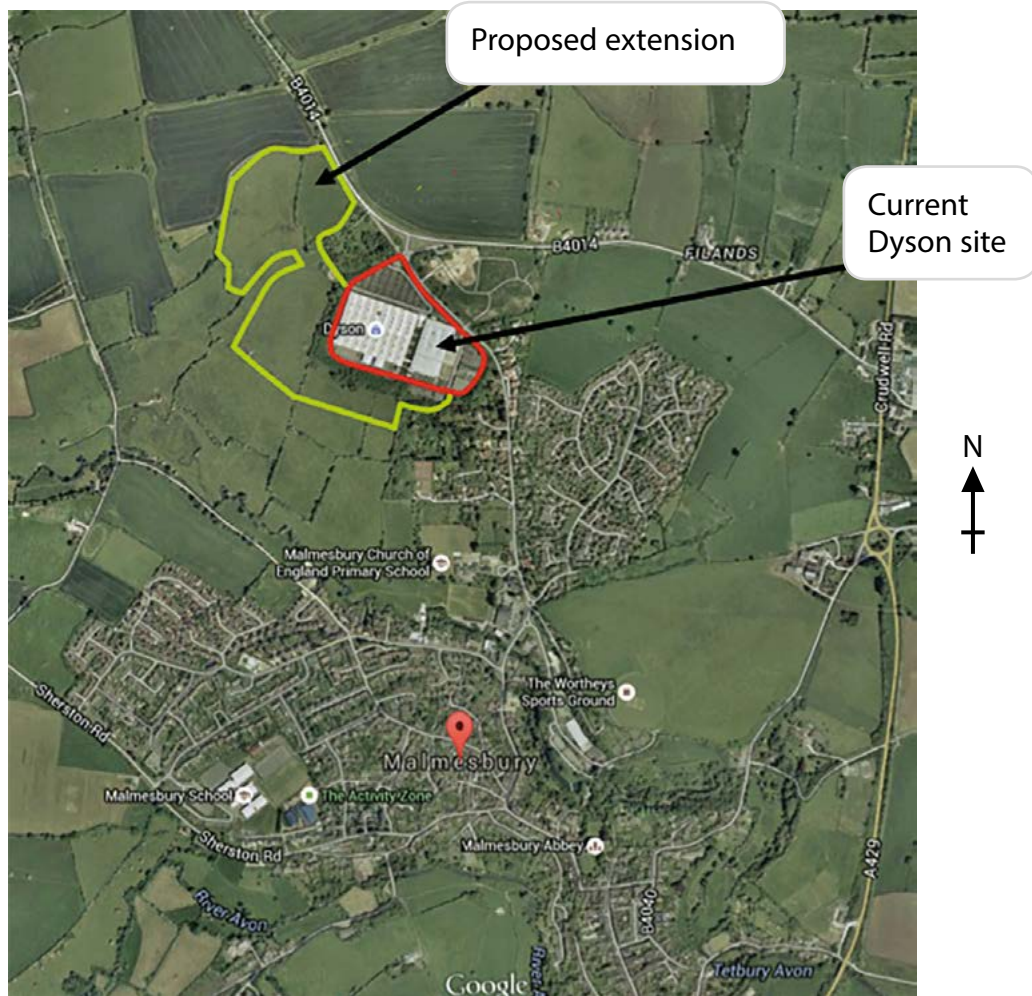
- A TNC founded by a UK engineer.
- Employs more than 5,000 globally.
- 2015 turnover £1.5bn and £100m taxes paid in UK.
- 2015 Dyson gave £12m to a London university for engineering department.

Dyson and Malmesbury timeline



Opinions about Dyson’s plans for Malmesbury

View 1: Local town councillor	View 2: Malmesbury resident
<p>“There has already been a £4.4 million boost to the local economy from Dyson. The company already provides university bursaries for A Level Design students as well as a 3D printer for the school. Although much of north Wiltshire is better off, parts of Malmesbury have been in the bottom quartile for some Deprivation measures.”</p>	<p>“We are concerned over the effects of those 3000 new workers driving to the base. Workers come from as far away as Swindon, Bristol and Bath. The factory may have a number of environmental impacts during its construction and operation. It will inevitably have an impact on residential property values.”</p>

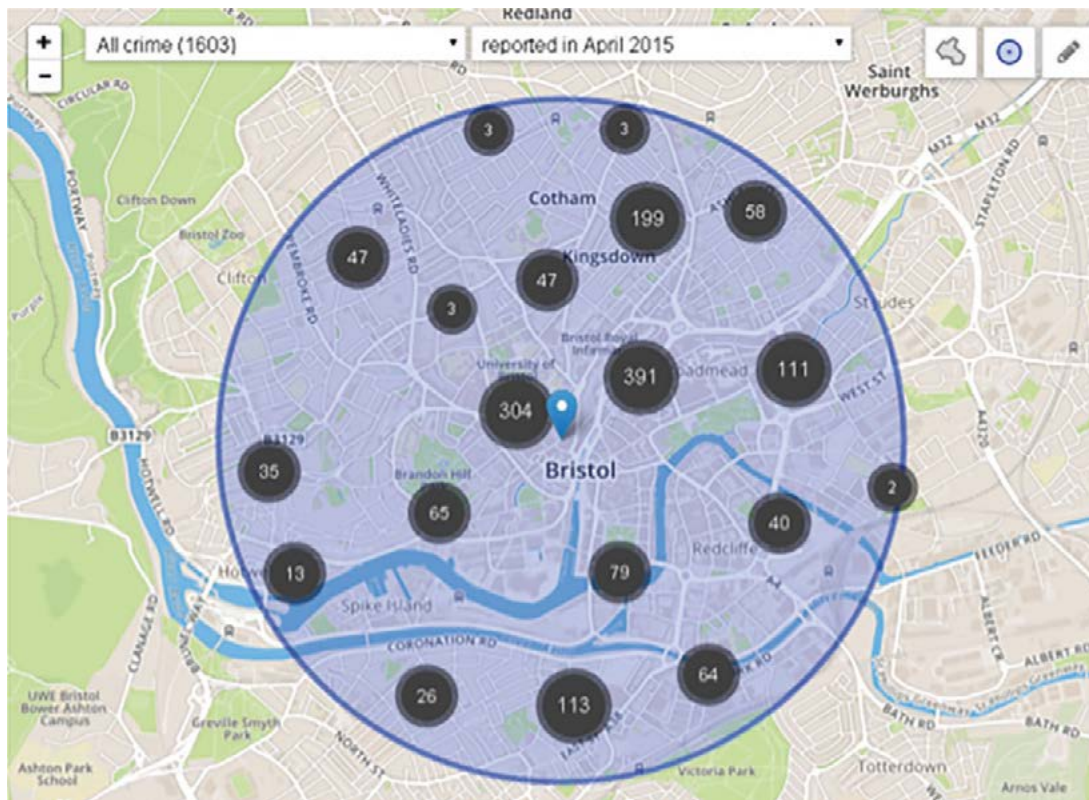


(Source: Map data © 2015 Google)

**Photo showing the location of the planned factory extension**

## SECTION C: DIVERSE PLACES

The following resource relates to Question 5.



Key:



1-mile radius from city centre



Bristol city centre



Number of crimes reported in Police Neighbourhood

**Figure 5: Map showing crime levels within 1 mile radius of Bristol city centre in one month**

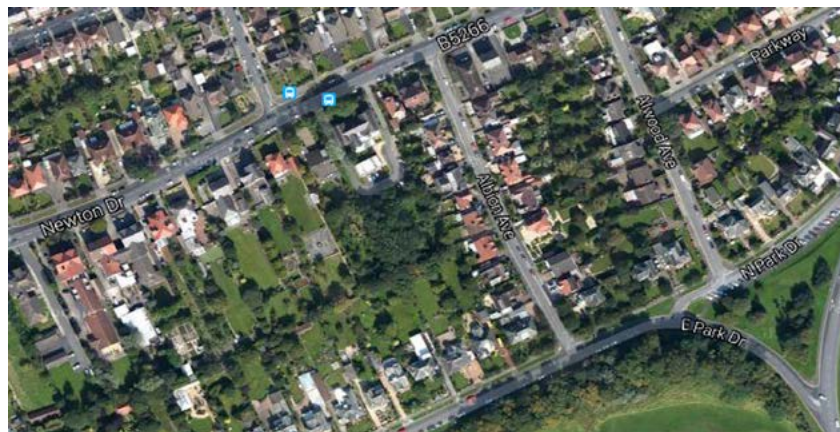
The following resources relate to Question 5.



(Source: Map data ©2015 Google Imagery ©2015 , DigitalGlobe, Getmapping plc, Infoterra Ltd & Bluesky, The GeoInformation Group)

Data about Claremont ward (Blackpool town centre)

Age 0–15	Age 60+	Female life expectancy (years)	No formal qualifications	Born in UK/ Ireland	Arrived in UK since 2000	Male/ female %
18.4%	19%	79	36%	91%	6%	54/46



(Source: Map data ©2015 Google Imagery ©2015 , DigitalGlobe, Getmapping plc, Infoterra Ltd & Bluesky, The GeoInformation Group)

Data about Layton ward (Blackpool suburbs)

Age 0–15	Age 60+	Female life expectancy (years)	No formal qualifications	Born in UK/ Ireland	Arrived in UK since 2000	Male/ female %
19.4%	22.7%	82	31%	94%	3%	47/53

**Figure 6: Data from 2011 census for two contrasting wards in Blackpool, north-west coast of the UK'**

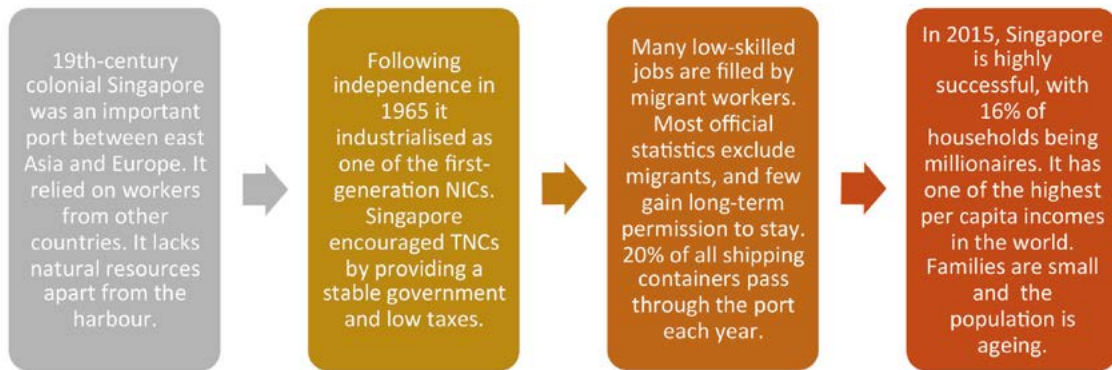
The following resources relate to Question 7.

Figure 7: Resources about Globalisation and Singapore

Fact file on Singapore’s population

Total Singapore population	5.47m		
Residents (Singapore citizens)	3.87m	Non-residents (migrants)	1.6m
% Residents aged 65+ in 2010	10%	Residents aged 65+ in 2020 (projected)	17%

Economic and social change in Singapore



Migrant population of Singapore in 2015

- Two in five of the population are migrants on temporary contracts and cannot change their jobs.
- Many pay a fee of \$3 000 to obtain a job, which they pay back as they work.
- Average migrant wages are \$700 a month and many work 14 hours a day, 6 days a week.
- Many migrants live in large dormitory settlements in converted factories or apartment blocks under construction, for which they pay \$200 a month.
- Most migrants are employed in construction, retail or domestic work.

Development data for 2014 for Singapore and countries that supply most of its migrant workers

	Singapore	India	Philippines	Bangladesh	China
GDP per capita (PPP US\$)*	\$82,800	\$5,900	\$7,000	\$3,400	\$12,900
% employed in agriculture (2014)	1.3 %	49 %	30 %	47 %	34 %

Airline and shipping connections from Singapore to selected locations



(Source: Imagery © 2015 NASA. TerraMetrics)

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## Paper 2 mark scheme

Question number	Answer	Mark
1(a)	<p style="text-align: center;"><b>AO1 (1 mark)</b></p> <p>Award <b>1</b> mark for correct definition, for example:</p> <ul style="list-style-type: none"> <li>• movement of the global economic centre of gravity to Asia (1)</li> <li>• outsourcing of manufacturing and service provision to Asia (accept China, Middle Income Countries) (1).</li> </ul> <p>Accept any other appropriate response.</p>	<b>(1)</b>

Question number	Answer	Mark
1(b)(i)	<p style="text-align: center;"><b>AO3 (1 mark)</b></p> <p>Answer: \$1.70</p> <p>Do not accept any other value.</p>	<b>(1)</b>

Question number	Answer	Mark
1(b)(ii)	<p style="text-align: center;"><b>AO3 (1 mark)</b></p> <p>C</p>	<b>(1)</b>

Question number	Answer	Mark
1(b)(iii)	<p style="text-align: center;"><b>AO1 (2 marks)/AO2 (1 mark)</b></p> <p>Award <b>1</b> mark for analysing the information to identify a possible reason for lower labour costs, and a further <b>2</b> marks for expansion, up to a possible <b>3</b> marks. For example:</p> <ul style="list-style-type: none"> <li>• lower cost of living (1) as housing/food costs are lower (1) so company can recruit workers on lower wages (1)</li> <li>• large numbers of workers available (1) as there are few other formal job opportunities/many work in informal employment (1) so factories can demand longer hours/fewer breaks which reduces costs (1)</li> <li>• non-unionised labour (1) as there are few government regulations (1) so there is no minimum wage (1)</li> <li>• fewer regulations/employment law in factories (1) so there is no sick pay/maternity pay (1) which means employers only pay for hours that are worked (1).</li> </ul> <p>Accept any other appropriate response.</p>	<b>(3)</b>

Question number	Answer	Mark
1(c)	<p style="text-align: center;"><b>AO1 (4 marks)</b></p> <p>For each way, award <b>1</b> mark for a change in transport, and a further <b>1</b> mark for expansion, up to a maximum <b>2</b> marks each. For example:</p> <ul style="list-style-type: none"> <li>• faster/cheaper trains/ships have resulted in decreased friction of distance (1) which results in apparent shrinking world with cultural/economic/social links (1)</li> <li>• containerisation of shipping has led to reductions in cost of shipping (1) so growth in global trade as it facilitates outsourcing/growth of TNCs and global supply chains (1)</li> <li>• reduction in cost of air flights as aircraft have become larger/more efficient (1) so promotion of tourism/business/migration travel for individuals (1).</li> </ul> <p>Accept any other appropriate response.</p>	(4)

Question number	Answer
1(d)	<p style="text-align: center;"><b>AO1 (6 marks)</b></p> <p><b>Marking instructions</b></p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p><b>Indicative content guidance</b></p> <p>The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include:</p> <ul style="list-style-type: none"> <li>• Globalisation is often thought to have exported the environmental negative externalities of production from developed to developing countries due to increased environmental regulations in developed countries such as the EU large combustion plant directive on NOX and SO2 emissions leading to the export of these gases to countries such as China</li> <li>• In addition, globalisation has led to the increased development of the natural resource base of developing countries such as the growth of palm-oil production in Indonesia which leads to loss of biodiversity, particularly in the habitat of the orangutan.</li> <li>• regulations may be less stringent and less likely to be enforced in developing countries leading to higher levels of air pollution – Taipei in Taiwan has one of the world’s highest levels of air pollution</li> <li>• Globalisation also increases the length of the production chain: each stage and transport between them can cause air/water/land pollution</li> <li>• pollution and damage to ecosystems may cause long-term problems to ecosystems and to people’s health. There are over 7000 factories in Mexico City which has led to levels of air pollution that are dangerous to human health on 2 out of 3 days as well as to damage to the local water courses.</li> </ul>

Level	Mark	Descriptor
	0	No rewardable material.
<b>Level 1</b>	<b>1–2</b>	<ul style="list-style-type: none"> <li>• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1)</li> <li>• Understanding addresses a narrow range of geographical ideas, which lack detail. (AO1)</li> </ul>
<b>Level 2</b>	<b>3–4</b>	<ul style="list-style-type: none"> <li>• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1)</li> <li>• Understanding addresses a range of geographical ideas, which are not fully detailed and/or developed. (AO1)</li> </ul>
<b>Level 3</b>	<b>5–6</b>	<ul style="list-style-type: none"> <li>• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1)</li> <li>• Understanding addresses a broad range of geographical ideas, which are detailed and fully developed. (AO1)</li> </ul>

Question number	Answer
1(e)	<p style="text-align: center;"><b>AO1 (3 marks)/AO2 (9 marks)</b></p> <p><b>Marking instructions</b></p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Responses that demonstrate <b>only</b> AO1 without any AO2 should be awarded marks as follows:</p> <ul style="list-style-type: none"> <li>• Level 1 AO1 performance: 1 mark</li> <li>• Level 2 AO1 performance: 2 marks</li> <li>• Level 3 AO1 performance: 3 marks.</li> </ul> <p><b>Indicative content guidance</b></p> <p>The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include:</p> <p><b>AO1</b></p> <ul style="list-style-type: none"> <li>• Globalisation can impact on culture through the sharing of ideas and values linked to consumption, trade, TNCs, migration, tourism, internet, social media, film, music, food, customs, clothing</li> <li>• Globalisation has therefore aided the creation of culturally mixed societies and thriving migrant diasporas in some locations, but social and political tensions have resulted elsewhere</li> <li>• Some groups seek to retain their cultural identity within countries and seek to retain control of culture whereas others embrace its cultural diversity</li> </ul> <p><b>AO2</b></p> <ul style="list-style-type: none"> <li>• Key cause of social tension has been the 'westernisation' of food/clothes/language seen, for example, by the spread of Coca Cola, Starbucks, and Levi etc. Impacts of western ideas on local tradition and culture are resisted by some individuals, groups or governments. For example: Hasidic Jewish community in Stamford Hill, London, or the First Nations movement in Canada. In these places, western ideas are contrary to deeply held beliefs.</li> <li>• Both diaspora and remote communities may seek to preserve their culture from the spread of western values (for example, Bengali community in London, Amish communities in USA) leading to social tension both within and between communities. Some younger members may have greater exposure to the forces of globalisation (including internet or travel for education) causing tensions with older, more conservative members.</li> <li>• Cultural globalisation can lead to political tension where the spread of the 'western culture' of democracy clashes with the political ideas of another country. This political tension is sometimes shown through the growth of localism, nationalism and political involvement where communities feel threatened. For example, in North Korea the political elite reject the cultural norms of a democratic 'westernized' society leading to tension between countries.</li> <li>• There can also be hidden tension within a country as younger members of the society who have been exposed to global forces (for example through education or use of the internet) seek similar democratic rights as other young people in other countries. Political</li> </ul>

	<p>tension is created between these young people and the ruling elite.</p> <ul style="list-style-type: none"> <li>• A key factor in both social and political tension is the access to the forces of globalisation (such as the internet), which can lead to other political tensions within a country if censorship exists, such as in China.</li> <li>• The spread of a global culture has been instrumental in developing awareness of opportunities for disadvantaged groups, such as the increase in the Paralympic movement, which can reduce tension.</li> <li>• Cultural globalisation is not always 'westernization' there are also what are termed 'reciprocal exchanges' where western countries adopt other cultural elements such as Bollywood, Sushi/Thai cuisine, Anime/Cartoons and Eastern religions such as Buddhism which does not result in social tensions.</li> <li>• It is often thought that it is the amount of exposure of the different groups to some of the forces of globalisation, regardless of the age of the people within the group, particularly the internet, which determines the degree of tension created such as the use of social media used (for example Twitter, Facebook) in the Arab Spring.</li> </ul> <p>Overall, cultural globalisation therefore influences some communities more deeply than others, depending on their exposure to media and travel. Therefore tensions develop more in some communities than others. Within a community, age seems to be a key factor as young people, who are generally more exposed to the forces of cultural globalisation, often embrace new cultural elements more readily than older, less well connected people. Communities borrow and incorporate cultural elements from each other, often creating hybrid cultural communities. Hybrid communities inevitably lead to a degree of tension but this will vary both spatially and over time.</p>
--	---

Level	Mark	Descriptor
	0	No rewardable material.
<b>Level 1</b>	<b>1–4</b>	<ul style="list-style-type: none"> <li>• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1)</li> <li>• Applies knowledge and understanding of geographical information/ideas, making limited logical connections/relationships. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to produce an interpretation with limited relevance and/or support. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to make unsupported or generic judgements about the significance of few factors, leading to an argument is unbalanced or lacks coherence. (AO2)</li> </ul>
<b>Level 2</b>	<b>5–8</b>	<ul style="list-style-type: none"> <li>• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1)</li> <li>• Applies knowledge and understanding of geographical information/ideas logically, making some relevant connections/relationships. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to produce a partial but coherent interpretation that is mostly relevant and supported by evidence. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to make judgements about the significance of some factors, to produce an argument that may be unbalanced or partially coherent. (AO2)</li> </ul>
<b>Level 3</b>	<b>9–12</b>	<ul style="list-style-type: none"> <li>• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1)</li> <li>• Applies knowledge and understanding of geographical information/ideas logically, making relevant connections/relationships. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to produce a full and coherent interpretation that is relevant and supported by evidence. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to make supported judgements about the significance of factors throughout the response, leading to a balanced and coherent argument. (AO2)</li> </ul>

Question number	Answer	Mark
2(a)	C AO1 (1 mark)	(1)

Question number	Answer	Mark
2(b)(I)	Difference (d) = 1.5 / d <sup>2</sup> = 2.25 AO3 (2 marks)	(2)

Question number	Answer	Mark
2(b)(ii)	<p><b>AO1 (2 marks)/AO2 (1 mark)</b></p> <p>Award <b>1</b> mark for analysing the resource to identify a region where tourism employment has grown, and a further <b>2</b> marks for expansion, up to a maximum <b>3</b> marks. For example:</p> <ul style="list-style-type: none"> <li>parts of the Scottish Highlands have seen rebranding and change of image of places (1) based on film or TV locations, farm parks, whisky tours (1), leading to growth in employment in bars/restaurants hotels etc. (1)</li> <li>in north Wales, adventure tourism has become more popular (1), linked to accessibility to densely populated areas in the Midlands and north-west (1) as walking/climbing/canoeing has created specialist employment in those sectors (1)</li> </ul> <p>Accept any other appropriate response.</p>	(3)

Question number	Answer	Mark
2(c)	<p style="text-align: center;"><b>AO1 (4 marks)</b></p> <p>For each reason, award <b>1</b> mark for an understanding of the variations in attachment to rural places, and a further <b>1</b> mark for expansion up to a maximum <b>2</b> marks each. For example:</p> <ul style="list-style-type: none"> <li>• Some residents have long-standing economic commitments to rural places/communities (1), which means they may want to preserve traditions/employment, particularly farming communities (1)</li> <li>• seasonal residents/ second-home owners have an idealised perception of rural places based on their own needs for access/peace (1) however their attachment is intermittent and they leave after a while (1)</li> <li>• older and younger residents may have different levels of attachment (1) as the young are likely to move away (e.g. for education) (1).</li> </ul> <p>Accept any other appropriate response.</p>	<b>(4)</b>

Question number	Answer
2(d)	<p style="text-align: center;"><b>AO1 (6 marks)</b></p> <p><b>Marking instructions</b></p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p><b>Indicative content guidance</b></p> <p>The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include:</p> <ul style="list-style-type: none"> <li>• decline in services occurs because of outmigration/changing lifestyles so less demand for both private and public services such as shops/pubs/schools/buses</li> <li>• this therefore increases deprivation in terms of access to services and may lead to further outmigration</li> <li>• the loss of services will impact differently on different age groups with the 18-25 and 65+ groups both likely to move to seek better access to services</li> <li>• decline/closure in one service may lead to decline in others as negative multiplier impacts, (e.g. school closure impacts on village shop)</li> <li>• social consequences include isolation of residents (loneliness, depression), lack of access to doctor/dentist leading to poorer health</li> <li>• economic consequences are an increase in the costs of living in rural areas as more money has to be spent on transport to obtain goods and services particularly in remote areas where internet companies charge a fee to deliver</li> <li>• public services also likely to be impacted by changing patterns of demand with further decline likely.</li> <li>• however, may lead to revival in community action (e.g. cooperative</li> </ul>



	ventures in retailing and transport).	
<b>Level</b>	<b>Mark</b>	<b>Descriptor</b>
	0	No rewardable material.
<b>Level 1</b>	<b>1–2</b>	<ul style="list-style-type: none"> <li>• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1)</li> <li>• Understanding addresses a narrow range of geographical ideas, which lack detail. (AO1)</li> </ul>
<b>Level 2</b>	<b>3–4</b>	<ul style="list-style-type: none"> <li>• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1)</li> <li>• Understanding addresses a range of geographical ideas, which are not fully detailed and/or developed. (AO1)</li> </ul>
<b>Level 3</b>	<b>5–6</b>	<ul style="list-style-type: none"> <li>• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1)</li> <li>• Understanding addresses a broad range of geographical ideas, which are detailed and fully developed. (AO1)</li> </ul>

Question number	Answer
2(e)	<p style="text-align: center;"><b>AO1 (3 marks)/AO2 (9 marks)</b></p> <p><b>Marking instructions</b></p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Responses that demonstrate <b>only</b> AO1 without any AO2 should be awarded marks as follows:</p> <ul style="list-style-type: none"> <li>• Level 1 AO1 performance: 1 mark</li> <li>• Level 2 AO1 performance: 2 marks</li> <li>• Level 3 AO1 performance: 3 marks.</li> </ul> <p><b>Indicative content guidance</b></p> <p>The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include:</p> <p><b>AO1</b></p> <ul style="list-style-type: none"> <li>• levels of deprivation are strongly influenced and assessed through economic activity and earnings</li> <li>• levels of deprivation are also assessed through social and environmental factors (health, education, quality of living environment)</li> <li>• levels of deprivation can also be assessed through numerous other quality of life indices (for example life expectancy, life satisfaction, work-life balance, quality of your environment)</li> </ul> <p><b>AO2</b></p> <ul style="list-style-type: none"> <li>• economic wellbeing is likely to be seen as the most important factor determining the level of deprivation, alongside the Rank in the Deprivation Survey. Here % in full-time employment is the nearest proxy for earnings, alongside car ownership and rented accommodation. The economic data therefore clearly shows that Layton appears to experience lower levels of deprivation compared to Claremont.</li> <li>• employment may influence access to private transport and tenure other key factors that determine deprivation. Furthermore car ownership may influence job opportunities in terms of travel. The employment data therefore clearly shows that Layton appears to experience lower levels of deprivation compared to Claremont</li> <li>• however, in town centres (Claremont) there may be access to public transport and parking problems so car ownership may be less desirable. Claremont may therefore appear not be as deprived in terms of access to transport as it is in terms of economic deprivation</li> <li>• yet deprivation is not only due to economic causes. Social deprivation can be assessed here through use of the education data, population density and 'Very good general health'. For example, the lower % in good health in Claremont may be explained by % smoking, obesity, poor diet and lack of exercise and so also is useful information in comparing the deprivation levels in the two wards.</li> <li>• in addition, the quality of living environment may be assessed through comparison of the open space seen in the photos which also shows that Layton appears to experience lower levels of deprivation compared to Claremont</li> </ul>

Question number	Answer
	<ul style="list-style-type: none"> <li>• the use of all of the data contribute to an understanding of deprivation as those people with poorer qualifications are likely to have lower lifetime earnings and those with poor health are less likely to be able to work or participate in other activities. High population density may result in higher risk of disease, overcrowding, lack of green play space or recreation space and possibly to crime or vandalism. However, this may not always be the case</li> <li>• economic and social factors are closely linked and may influence each other, so educational qualifications link to job opportunities, for example, and car ownership widens educational, leisure, social and employment opportunities</li> <li>• however, the nature of the data presented has limitations. The last census was in 2011 so the data are out of date and the characteristics of the areas are likely to have changed</li> <li>• numerous other sources of information would give a fuller picture, both quantitative (other categories such as earnings, unemployment, or past census information from 2001 or 1991 would show changes in the areas) and qualitative (interviews or questionnaires, environmental quality surveys, use of blogs or social media).</li> </ul> <p>A summary/conclusion is not required but may be included. The data appears to show that Claremont has a higher levels of deprivation than Layton but this may well be qualified by both the data selected in the figure as well as the fact that age or ethnicity may influence choice of where a person lives, so a young person may see a town-centre location as more desirable than a family would.</p>

Level	Mark	Descriptor
	0	No rewardable material.
<b>Level 1</b>	<b>1–4</b>	<ul style="list-style-type: none"> <li>• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1)</li> <li>• Applies knowledge and understanding of geographical information/ideas, making limited logical connections/relationships. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to produce an interpretation with limited relevance and/or support. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to make unsupported or generic judgements about the significance of few factors, leading to an argument is unbalanced or lacks coherence. (AO2)</li> </ul>
<b>Level 2</b>	<b>5–8</b>	<ul style="list-style-type: none"> <li>• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1)</li> <li>• Applies knowledge and understanding of geographical information/ideas logically, making some relevant connections/relationships. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to produce a partial but coherent interpretation that is mostly relevant and supported by evidence. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to make judgements about the significance of some factors, to produce an argument that may be unbalanced or partially coherent. (AO2)</li> </ul>
<b>Level 3</b>	<b>9–12</b>	<ul style="list-style-type: none"> <li>• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1)</li> <li>• Applies knowledge and understanding of geographical information/ideas logically, making relevant connections/relationships. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to produce a full and coherent interpretation that is relevant and supported by evidence. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to make supported judgements about the significance of factors throughout the response, leading to a balanced and coherent argument. (AO2)</li> </ul>

Question number	Answer	Mark
3(a)(i)	<p style="text-align: center;"><b>A03 (1 mark)</b></p> <p>Award <b>1</b> mark if each point is entered correctly and the line has been drawn correctly.</p> <p style="text-align: center;">No mark for one correct point only.</p>	(1)

Question number	Answer	Mark
3(a)(ii)	<p style="text-align: center;"><b>A03 (2 marks)</b></p> <p>Award <b>1</b> mark for each valid possible reason up to a maximum <b>2</b> marks OR award <b>1</b> mark for a valid reason, and a further <b>1</b> mark for expansion up to a maximum <b>2</b> marks. For example:</p> <ul style="list-style-type: none"> <li>• data is organised into categories (groups of months) (1)</li> <li>• data is displayed as frequencies (1)</li> <li>• total observed data is more than 20 (1)</li> <li>• expected data for each category is greater than 4 (1).</li> </ul>	(2)

Question number	Answer	Mark
3(a)(iii)	<p style="text-align: center;"><b>A03 (2 marks)</b></p> <p>Award <b>1</b> mark for each valid possible reason, up to a maximum <b>2</b> marks. For example:</p> <ul style="list-style-type: none"> <li>• new investment in activities (1)</li> <li>• more advertising such as use of Twitter, Facebook, radio, Visit England (1)</li> <li>• targeted market/Tourist Board featured (1)</li> <li>• higher profile on TripAdvisor or similar websites (1)</li> <li>• warmer temperatures/less rainfall at key times of the year (summer or Easter holidays) (1).</li> </ul> <p>Accept any other appropriate response.</p>	<b>(2)</b>

Question number	Indicative content	Mark
3(a)(iv)	<p style="text-align: center;"><b>A03 (4 marks)</b></p> <p>Award <b>1</b> mark for identification of an appropriate strength/weakness, and a further <b>1</b> mark for expansion, up to <b>2</b> marks each.</p> <ul style="list-style-type: none"> <li>• <i>Line graphs:</i> – <ul style="list-style-type: none"> <li>▪ <i>strengths:</i> - it represents continuous data (1), which shows change through the year (1).</li> <li>▪ <i>weaknesses:</i> - the data is discrete on a daily basis, not monthly (1) as it aggregates the data and may hide factors such as school holidays or special events at the farm park (1).</li> </ul> </li> <li>• <i>Bar graphs:</i> – <ul style="list-style-type: none"> <li>▪ <i>strengths:</i> - discrete data represented (1) can be used for comparison between the two years/with other locations (1).</li> <li>▪ <i>weaknesses:</i> <i>the data is discrete on a daily basis, not monthly (1) as it aggregates the data and may hide factors such as school holidays or special events at the farm park (1).</i></li> </ul> </li> </ul> <p>Do not allow 'easy/quick to draw' or similar reasons. Accept any other appropriate response or type of presentation method.</p>	<b>(4)</b>

Question number	Answer
3(b)	<p style="text-align: center;"><b>A03 (9 marks)</b></p> <p><b>Marking instructions</b></p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>No marks for stating research question, but this should be used as the context for the answer.</p> <p><b>Indicative content guidance</b></p> <p>Content depends on students' choices of field research and the conclusions drawn. Assessment should include the following:</p> <ul style="list-style-type: none"> <li>• ideas should cover secondary data researched (e.g. Census data, newspapers, maps, blogs, other published material such as <i>Geography Review</i> magazine or Geofile, DVDs or websites (e.g. Francis Frith, Old Maps, TripAdvisor)</li> <li>• choice of sources should be explained and assessed with reference to the field research question. A comparison of their relative merits may be included</li> <li>• credit assessment of choice and range of sources used if linked to methodology</li> <li>• credit assessment of bias and reliability of the source if appropriate</li> <li>• critical assessment of the effectiveness of the sources of primary methods used, with a judgement about their value, and degree to which the chosen secondary methods helped to investigate the research question.</li> </ul>

Level	Mark	Descriptor
	0	No rewardable material.
<b>Level 1</b>	<b>1–3</b>	<ul style="list-style-type: none"> <li>Shows evidence that fieldwork investigation skills used may not have been fully appropriate or effective for the investigation of the geographical questions/issue. (AO3)</li> <li>Considers the fieldwork investigation process/data/evidence, with limited relevant connections and/or judgements. (AO3)</li> <li>Argument about the investigation is simplistic and/or generic. (AO3)</li> </ul>
<b>Level 2</b>	<b>4–6</b>	<ul style="list-style-type: none"> <li>Shows evidence that fieldwork investigation skills used were largely appropriate and effective for the investigation of the geographical questions/issue. (AO3)</li> <li>Critically considers the fieldwork investigation process/data/evidence in order to make some relevant connections and valid judgements. (AO3)</li> <li>Argument about the investigation may have unbalanced consideration of factors, but is mostly coherent. (AO3)</li> </ul>
<b>Level 3</b>	<b>7–9</b>	<ul style="list-style-type: none"> <li>Shows evidence that fieldwork investigation skills used were appropriate and effective for the investigation of the geographical questions/issue. (AO3)</li> <li>Critically considers the fieldwork investigation process/data/evidence in order to make relevant connections and judgements that are supported by evidence. (AO3)</li> <li>Argument about the investigation includes balanced consideration of factors and is fully developed and coherent. (AO3)</li> </ul>



Question number	Answer
4	<p style="text-align: center;"><b>AO1 (4 marks)/AO2 (12 marks)</b></p> <p><b>Marking instructions</b></p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Responses that demonstrate <b>only</b> AO1 without any AO2 should be awarded marks as follows:</p> <ul style="list-style-type: none"> <li>• Level 1 AO1 performance: 1 mark</li> <li>• Level 2 AO1 performance: 2 marks</li> <li>• Level 3 AO1 performance: 3 marks</li> <li>• Level 4 AO1 performance: 4 marks</li> </ul> <p><b>Indicative content guidance</b></p> <p>The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include:</p> <p><b>AO1</b></p> <ul style="list-style-type: none"> <li>• TNCs shift their global locations according to profit, and availability of raw materials, sites and labour</li> <li>• HQ and R&amp;D provision of the TNC is often located in the source country and even the original town/city</li> <li>• a spiral of decline may follow relocation of TNCs elsewhere in the world, resulting in social and economic deprivation</li> <li>• conflict can occur between contrasting groups in a community like Malmesbury over regeneration priorities</li> </ul> <p><b>AO2</b></p> <ul style="list-style-type: none"> <li>• from the resources Dyson can be seen from the resources to have grown rapidly, and has made decisions to move around the world to facilitate production and profit (Resources 4.1 and 4.2)</li> <li>• the consequences of this for Malmesbury have been varied.</li> </ul> <p>Economic costs and benefits:</p> <ul style="list-style-type: none"> <li>• probably the most important benefit is the increase in direct employment levels as well as increases in the skill base built initially from 1993-2002, leading to higher employment levels as well as raising local incomes</li> <li>• this will lead to important 'economic multiplier effect' consequences for the supply chain, local businesses and the community further increasing employment levels and incomes. Potentially, these can again grow if Dyson reinvests further</li> <li>• there will be some marginal economic benefits as the UK government will have benefited from taxes and Malmesbury will also benefit from this through trickle-down economics</li> <li>• these economic benefits were reduced when Dyson relocated to Asia which will increase unemployment levels as well as reduce income levels leading to negative multipliers and the potential loss of further jobs</li> <li>• there will also be important impacts on house prices which may drop, or increase in future according to the decision that Dyson makes.</li> </ul>

Question number	Answer
	<p>Social costs and benefits:</p> <ul style="list-style-type: none"> <li>• perhaps the most important social impact is the reduction in levels of deprivation as the expansion of Dyson will help create highly-paid job opportunities for young</li> <li>• another key social benefit is the impact on the school of the presence of a TNC which could create the process of prestige through association encouraging the recruitment of a higher skilled workforce and / or a more committed cohort this in turn could raise educational attainment in the area increasing not only the income of local people but their employment prospects in KBI jobs</li> <li>• another important benefit is the links that Dyson provides for local people with London Universities</li> <li>• a key social cost is loss of direct employment leading to a spiral of decline and further job losses. This could lead to higher levels of deprivation which could have impacts on people's health as well as educational attainment</li> <li>• the loss of employment opportunities will lead to the possible out-migration of skilled labour as well as young people causing negative multiplier effects</li> <li>• some might argue that as the new site will create traffic problems increasing air pollution levels and so negatively impacting upon people's health. Evaluation may be using the structure suggested above, or may involve considering perspectives of different interest groups (residents/school and council are likely).</li> </ul>

Level	Mark	Descriptor
	0	No rewardable material.
<b>Level 1</b>	<b>1–4</b>	<ul style="list-style-type: none"> <li>• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1)</li> <li>• Applies knowledge and understanding of geographical information/ideas, making limited and rarely logical connections/relationships, to produce an interpretation with limited relevance and/or support. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to produce an unsupported or generic conclusion, drawn from an argument that is unbalanced or lacks coherence. (AO2)</li> <li>• Limited synthesis of geographical ideas from across the course of study. (AO2)</li> </ul>
<b>Level 2</b>	<b>5–8</b>	<ul style="list-style-type: none"> <li>• Demonstrates geographical knowledge and understanding, which is occasionally relevant and may include some inaccuracies. (AO1)</li> <li>• Applies knowledge and understanding of geographical information/ideas with limited but logical connections/relationships to produce a partial interpretation that is supported by some evidence but has limited coherence. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to come to a conclusion, partially supported by an unbalanced argument with limited coherence. (AO2)</li> <li>• Argument partially synthesises some geographical ideas from across the course of study, but lacks meaningful connections. (AO2)</li> </ul>
<b>Level 3</b>	<b>9–12</b>	<ul style="list-style-type: none"> <li>• Demonstrates geographical knowledge and understanding, which is mostly relevant and accurate. (AO1)</li> <li>• Applies knowledge and understanding of geographical information/ideas to find some logical and relevant connections/relationships to produce a partial but coherent interpretation that is supported by some evidence. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to come to a conclusion, largely supported by an argument that may be unbalanced or partially coherent. (AO2)</li> <li>• Argument synthesises some geographical ideas from across the course of study, making some meaningful connections. (AO2)</li> </ul>

<b>Level 4</b>	<b>13–16</b>	<ul style="list-style-type: none"> <li>• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1)</li> <li>• Applies knowledge and understanding of geographical information/ideas to find fully logical and relevant connections/relationships to produce a full and coherent interpretation that is supported by evidence. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to come to a rational, substantiated conclusion, fully supported by a balanced argument that is drawn together coherently. (AO2)</li> <li>• Argument comprehensively and meaningfully synthesises geographical ideas from across the course of study throughout the response. (AO2)</li> </ul>
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Question number	Answer	Mark
5(a)	B <b>AO1 (1 mark)</b>	<b>(1)</b>

Question number	Answer	Mark
5(b)(i)	<b>AO3 (2 marks)</b> Award the <b>2</b> marks as follows: <ul style="list-style-type: none"> <li>highest near city centre or University of Bristol and Broadmead, and towards north-east and south <b>(1)</b></li> <li>lower towards the west and away from city centre <b>(1)</b>.</li> </ul>	<b>(2)</b>

Question number	Answer	Mark
5(b)(ii)	<b>AO1 (2 marks)/AO2 (1 mark)</b> Award <b>1</b> mark for interpreting the resource to identify a valid reason for high/low crime rates, and a further <b>2</b> marks for expansion, up to a maximum <b>3</b> marks. <ul style="list-style-type: none"> <li>High crime rates in centre where population density may be highest (1), this means that there are large numbers of visitors and/or more police (1) so more arrests (1).</li> <li>Lower crime rates in suburbs, although variable, reflect differences in levels of deprivation or gated communities (1) which could be explained by lower population densities (1) and/or levels of policing (1).</li> </ul> Accept any other appropriate response.	<b>(3)</b>

Question number	Answer	Mark
5(c)	<p style="text-align: center;"><b>AO1 (4 marks)</b></p> <p>For each reason, award <b>1</b> mark for choice of locations for residence for migrants, and a further <b>1</b> mark for expansion, up to a maximum <b>2</b> marks each. For example:</p> <ul style="list-style-type: none"> <li>• migrants may have limited resources for access to housing (1), so joining family members will take migrants into particular areas (1)</li> <li>• migrants may have jobs associated with particular industries/sectors (1), so live in accommodation provided by employer (1)</li> <li>• migrants often need support (e.g. because of limited language skills) from earlier 'pioneers' (1), and thus migrant communities tend to evolve around these early entrants changing the communities as a consequence (1)</li> <li>• new arrivals might have distinctive diets and belief systems (1) so prefer to live with others from same culture, resulting in clustering (1)</li> <li>• local authorities may provide accommodation for refugees in distinctive areas (1) so the segregation can be imposed by the state but also by 'informal' processes (1)</li> <li>• housing tends to be segregated by value in most cities (1) so poorer (and wealthier) migrants will gravitate to these places and thus transform them into distinctive areas (1)</li> <li>• a positive feedback loop can operate in which areas become increasingly attractive (1) as the services in the retail, religious and community services develop to serve distinctive communities (1).</li> </ul>	<b>(4)</b>

Question number	Answer
5(d)	<p style="text-align: center;"><b>AO1 (6 marks)</b></p> <p><b>Marking instructions</b> Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p><b>Indicative content guidance</b> The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include:</p> <ul style="list-style-type: none"> <li>• there is a continuum of rural places according to their accessibility to larger towns and cities and this impacts on their age structure</li> <li>• rural places closer to cities are likely to have a large working population for commuter access – this will increase age groups of 25-40 and also the very young as commuting villages are convenient places to live for urban workers but are expensive so tend to have older residents who may have children.</li> <li>• Rural areas that have high house prices will reduce the numbers in 15-25 as it is too expensive for these people to afford the housing that is available.</li> <li>• less-accessible remote villages have few employment opportunities so suffer out-migration of the young (15-30), leaving a 'legacy' population that tends to be older (45+)</li> <li>• rural places also vary economically, offering a range of employment opportunities (farming, tourism, small businesses), which will impact on their age structure with greater numbers in 15-40 range than commuter or declining rural areas</li> <li>• other rural communities attract retirement migrants and thus have older populations (60+).</li> </ul>

Level	Mark	Descriptor
	0	No rewardable material.
<b>Level 1</b>	<b>1–2</b>	<ul style="list-style-type: none"> <li>• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1)</li> <li>• Understanding addresses a narrow range of geographical ideas, which lack detail. (AO1)</li> </ul>
<b>Level 2</b>	<b>3–4</b>	<ul style="list-style-type: none"> <li>• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1)</li> <li>• Understanding addresses a range of geographical ideas, which are not fully detailed and/or developed. (AO1)</li> </ul>
<b>Level 3</b>	<b>5–6</b>	<ul style="list-style-type: none"> <li>• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1)</li> <li>• Understanding addresses a broad range of geographical ideas, which are detailed and fully developed. (AO1)</li> </ul>

Question number	Answer
5(e)	<p style="text-align: center;"><b>AO1 (3 marks)/AO2 (9 marks)</b></p> <p><b>Marking instructions</b></p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Responses that demonstrate <b>only</b> AO1 without any AO2 should be awarded marks as follows:</p> <ul style="list-style-type: none"> <li>• Level 1 AO1 performance: 1 mark</li> <li>• Level 2 AO1 performance: 2 marks</li> <li>• Level 3 AO1 performance: 3 marks.</li> </ul> <p><b>Indicative content guidance</b></p> <p>The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include:</p> <p><b>AO1</b></p> <ul style="list-style-type: none"> <li>• population characteristics can include structure, gender, education, cultural diversity, employment, marital status, religion</li> <li>• population characteristics can also be assessed through numerous other criteria such as dynamics, mortality and fertility rates, migration (internal and international)</li> <li>• these vary within and between settlements, and may change over time</li> </ul> <p><b>AO2</b></p> <ul style="list-style-type: none"> <li>• the data is useful in comparing population characteristics of the two areas as</li> <li>• the differences in the population characteristics in the two areas are clearly shown through the use of the data on gender and age categories which shows that Claremont (town centre) has fewer older people than Layton, as well as fewer children and there are more males in Claremont than in Layton</li> <li>• in addition another key population characteristic – that of ethnicity is also clearly shown by the data highlighting that Claremont has a more ethnically diverse population than Layton</li> <li>• The life expectancy is a key factor in showing the dynamics of the population and this data clearly shows a higher life expectancy in Layton than in Claremont which may be linked to the gender structure of the two areas as women tend to live longer and have a greater number in Layton than in Claremont</li> <li>• the birth of place data also clearly shows the differences in the characteristics of the area as Claremont has a higher number than Layton- this will also support the other data as age and ethnicity/length of time in the UK may influence where a person lives. Migrants are likely to live in places where other migrants cluster, sharing accommodation with family/contacts, particularly in the first years of migration</li> <li>• this data has limitations. The last census was in 2011 so the data are out of date and the characteristics of the areas are likely to have changed</li> <li>• numerous other sources of information would give a fuller picture,</li> </ul>



Question number	Answer
	<p>both quantitative (other categories such as fertility rates, disability levels, or place of birth, as well as past census information from 2001 or 1991 to show changes in the areas) and qualitative (interviews or questionnaires, use of blogs or social media).</p> <p>A summary/conclusion is not required but may be included. Claremont appears to have fewer 60+, and also fewer children, so must have more working-age people. However, without employment data, further conclusions are difficult. It has more migrants and is likely to have a more diverse ethnicity. This may well be qualified. For example, age or ethnicity may influence choice of where a person lives, so a young person may see a town-centre location as more desirable than a family might.</p>

Level	Mark	Descriptor
	0	No rewardable material.
<b>Level 1</b>	<b>1–4</b>	<ul style="list-style-type: none"> <li>• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1)</li> <li>• Applies knowledge and understanding of geographical information/ideas, making limited logical connections/relationships. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to produce an interpretation with limited relevance and/or support. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to make unsupported or generic judgements about the significance of few factors, leading to an argument is unbalanced or lacks coherence. (AO2)</li> </ul>
<b>Level 2</b>	<b>5–8</b>	<ul style="list-style-type: none"> <li>• Demonstrates geographical knowledge and understanding, which is mostly relevant and may include some inaccuracies. (AO1)</li> <li>• Applies knowledge and understanding of geographical information/ideas logically, making some relevant connections/relationships. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to produce a partial but coherent interpretation that is mostly relevant and supported by evidence. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to make judgements about the significance of some factors, to produce an argument that may be unbalanced or partially coherent. (AO2)</li> </ul>
<b>Level 3</b>	<b>9–12</b>	<ul style="list-style-type: none"> <li>• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1)</li> <li>• Applies knowledge and understanding of geographical information/ideas logically, making relevant connections/relationships. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to produce a full and coherent interpretation that is relevant and supported by evidence. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to make supported judgements about the significance of factors throughout the response, leading to a balanced and coherent argument. (AO2)</li> </ul>

Question number	Answer	Mark
6(a)(i)	<p style="text-align: center;"><b>A03 (1 mark)</b></p> <p>Award <b>1</b> mark if each point is entered correctly.</p> <div style="text-align: center;"> </div> <p>No mark for one correct point only.</p>	(1)

Question number	Answer	Mark
6(a)(ii)	<p style="text-align: center;"><b>A03 (2 marks)</b></p> <p>Award <b>1</b> marks for identifying a limitation, and a further <b>1</b> mark for expansion, up to a maximum <b>2</b> marks. For example:</p> <ul style="list-style-type: none"> <li>• as the data is marked out of 10, in effect it is a % score, not a frequency <b>(1)</b></li> <li>• data is not in categories <b>(1)</b></li> <li>• some of the scores are less than 4 <b>(1)</b>.</li> </ul>	(2)

Question number	Answer	Mark
6(a)(iii)	<p style="text-align: center;"><b>A03 (2 marks)</b></p> <p>Award <b>1</b> mark for each valid possible reason up to a maximum of <b>2</b> marks.</p> <ul style="list-style-type: none"> <li>• More investment in site 2 (1).</li> <li>• More money spent on services/clearing litter (1).</li> <li>• More 'pride' in area, linked to perceptions of local people.</li> <li>• Community group activity (1).</li> <li>• Spiral of decline in area 1 and may suggest reason (1).</li> </ul> <p>Accept any other appropriate response.</p>	<b>(2)</b>

Question number	Indicative content	Mark
6(a)(iv)	<p style="text-align: center;"><b>A03 (4 marks)</b></p> <p>Award <b>1</b> mark for identification of an appropriate strength/weakness, and a further <b>1</b> mark for expansion up to a maximum <b>2</b> marks each.</p> <ul style="list-style-type: none"> <li>• <i>Line graphs:</i> – <ul style="list-style-type: none"> <li>▪ <i>strengths:</i> Two areas can be shown on one graph (1) so enables comparison between areas (1).</li> <li>▪ <i>weaknesses:</i> there is no real relationship between the sets of data (1) so it may not be useful to present them together on a continuous line (1).</li> </ul> </li> <li>• <i>Bar graphs:</i> – <ul style="list-style-type: none"> <li>▪ <i>strengths:</i> discrete data represented (1) can be used for comparison between the two areas /with other locations (1).</li> <li>▪ <i>weaknesses:</i> Several sets of data to include so multiple graphs will be needed (1) which would make comparison between the areas difficult to distinguish (1).</li> </ul> </li> </ul> <p>Do not allow 'easy/quick to draw' or similar reasons. Accept any other appropriate response or type of presentation method.</p>	<b>(4)</b>

Question number	Indicative content
6(b)	<p style="text-align: center;"><b>A03 (9 marks)</b></p> <p><b>Marking instructions</b></p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>No marks for stating research question, but this should be used as the context for the answer.</p> <p><b>Indicative content guidance</b></p> <p>Content depends on students' choice of field research and the conclusions drawn. Assessment should include the following:</p> <ul style="list-style-type: none"> <li>• ideas should cover secondary data researched (e.g. census data, newspapers, maps, blogs), other published material such as <i>Geography Review</i> magazine or Geofile, DVDs or websites (e.g. Francis Frith, Old Maps, Trip Advisor)</li> <li>• choice of sources should be explained and assessed with reference to the field research question. A comparison of their relative merits may be included</li> <li>• credit assessment of choice and range of sources used if linked to methodology</li> <li>• credit assessment of bias and reliability of the source if appropriate</li> <li>• critical assessment of the effectiveness of the sources of primary methods used, with a judgement about their value, and degree to which the chosen secondary methods helped to investigate the research question.</li> </ul>

<b>Level</b>	<b>Mark</b>	<b>Descriptor</b>
	0	No rewardable material.
<b>Level 1</b>	<b>1–3</b>	<ul style="list-style-type: none"> <li>Shows evidence that fieldwork investigation skills used may not have been fully appropriate or effective for the investigation of the geographical questions/issue. (AO3)</li> <li>Considers the fieldwork investigation process/data/evidence, with limited relevant connections and/or judgements. (AO3)</li> <li>Argument about the investigation is simplistic and/or generic. (AO3)</li> </ul>
<b>Level 2</b>	<b>4–6</b>	<ul style="list-style-type: none"> <li>Shows evidence that fieldwork investigation skills used were largely appropriate and effective for the investigation of the geographical questions/issue. (AO3)</li> <li>Critically considers the fieldwork investigation process/data/evidence in order to make some relevant connections and valid judgements. (AO3)</li> <li>Argument about the investigation may have unbalanced consideration of factors, but is mostly coherent. (AO3)</li> </ul>
<b>Level 3</b>	<b>7–9</b>	<ul style="list-style-type: none"> <li>Shows evidence that fieldwork investigation skills used were appropriate and effective for the investigation of the geographical questions/issue. (AO3)</li> <li>Critically considers the fieldwork investigation process/data/evidence in order to make relevant connections and judgements that are supported by evidence. (AO3)</li> <li>Argument about the investigation includes balanced consideration of factors and is fully developed and coherent. (AO3)</li> </ul>

Question number	Answer
7	<p style="text-align: center;"><b>AO1 (4 marks)/AO2 (12 marks)</b></p> <p><b>Marking instructions</b></p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below.</p> <p>Responses that demonstrate <b>only</b> AO1 without any AO2 should be awarded marks as follows:</p> <ul style="list-style-type: none"> <li>• Level 1 AO1 performance: 1 mark</li> <li>• Level 2 AO1 performance: 2 marks</li> <li>• Level 3 AO1 performance: 3 marks</li> <li>• Level 4 AO1 performance: 4 marks</li> </ul> <p><b>Indicative content guidance</b></p> <p>The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include:</p> <p><b>AO1</b></p> <ul style="list-style-type: none"> <li>• global hubs are 'winners' in the globalised world, highly connected and the focus of global flows</li> <li>• global hubs often have developed due to their geographical position in terms of trade routes and / or proximity to other global hubs</li> <li>• political decision making as well as historical factors have helped some areas benefit</li> <li>• economic migration has increased and shaped the demographics and culture of places</li> </ul> <p><b>AO2</b></p> <ul style="list-style-type: none"> <li>• Singapore can be seen to have thrived as a global hub from Figure 7.2 (Timeline) and 7.4 (Development data)</li> </ul> <p>geographical location:</p> <ul style="list-style-type: none"> <li>• the harbour on the tip of the Malay peninsula was an important reason for the growth of Singapore in the nineteenth century as it was on the key trade routes linking British colonial territories, so lack of domestic resources was not a limiting factor</li> <li>• Singapore's significant role in global trade and so its continued importance as a global hub was aided by the geographical location of Singapore with relatively fast connections by sea and air to Australia, Europe and the USA after independence</li> <li>• Singapore's geographical position has also been crucial in maintaining its status as a global hub as globalisation gathered pace as it lies between two of the BRIC's – India and China.</li> </ul> <p>migration:</p> <ul style="list-style-type: none"> <li>• Singapore has always had a small native population and so a crucial factor in maintaining its global hub status has been migration from other Asian countries</li> <li>• Another key reason for Singapore's global hub status is that migrants provide crucial labour for job sectors where Singaporeans are unwilling to work</li> <li>• migration is also vital in maintaining Singapore's global hub status as its ageing population is revealed in Figure 7.3, and, again, migrants help meet the need for young workers. This is likely to grow in the</li> </ul>

	<p>future as the dependency ratios continue to worsen, so could be argued as essential in maintaining Singapore's 'hub' status</p> <ul style="list-style-type: none"> <li>• yet migration and geographical position are integrated, as effective transport networks facilitate the movement of workers from surrounding countries.</li> </ul>
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Level	Mark	Descriptor
	0	No rewardable material.
<b>Level 1</b>	<b>1–4</b>	<ul style="list-style-type: none"> <li>• Demonstrates isolated elements of geographical knowledge and understanding, some of which may be inaccurate or irrelevant. (AO1)</li> <li>• Applies knowledge and understanding of geographical information/ideas, making limited and rarely logical connections/relationships, to produce an interpretation with limited relevance and/or support. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to produce an unsupported or generic conclusion, drawn from an argument that is unbalanced or lacks coherence. (AO2)</li> <li>• Limited synthesis of geographical ideas from across the course of study. (AO2)</li> </ul>
<b>Level 2</b>	<b>5–8</b>	<ul style="list-style-type: none"> <li>• Demonstrates geographical knowledge and understanding, which is occasionally relevant and may include some inaccuracies. (AO1)</li> <li>• Applies knowledge and understanding of geographical information/ideas with limited but logical connections/relationships to produce a partial interpretation that is supported by some evidence but has limited coherence. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to come to a conclusion, partially supported by an unbalanced argument with limited coherence. (AO2)</li> <li>• Argument partially synthesises some geographical ideas from across the course of study, but lacks meaningful connections. (AO2)</li> </ul>



<b>Level 3</b>	<b>9–12</b>	<ul style="list-style-type: none"> <li>• Demonstrates geographical knowledge and understanding, which is mostly relevant and accurate. (AO1)</li> <li>• Applies knowledge and understanding of geographical information/ideas to find some logical and relevant connections/relationships to produce a partial but coherent interpretation that is supported by some evidence. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to come to a conclusion, largely supported by an argument that may be unbalanced or partially coherent. (AO2)</li> <li>• Argument synthesises some geographical ideas from across the course of study, making some meaningful connections. (AO2)</li> </ul>
<b>Level 4</b>	<b>13–16</b>	<ul style="list-style-type: none"> <li>• Demonstrates accurate and relevant geographical knowledge and understanding throughout. (AO1)</li> <li>• Applies knowledge and understanding of geographical information/ideas to find fully logical and relevant connections/relationships to produce a full and coherent interpretation that is supported by evidence. (AO2)</li> <li>• Applies knowledge and understanding of geographical information/ideas to come to a rational, substantiated conclusion, fully supported by a balanced argument that is drawn together coherently. (AO2)</li> <li>• Argument comprehensively and meaningfully synthesises geographical ideas from across the course of study throughout the response. (AO2)</li> </ul>

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