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# **GCSE MARKING SCHEME**

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**SUMMER 2018**

**GEOGRAPHY - UNIT 1 (NEW)  
3110U10-1**

## **INTRODUCTION**

This marking scheme was used by WJEC for the 2018 examination. It was finalised after detailed discussion at examiners' conferences by all the examiners involved in the assessment. The conference was held shortly after the paper was taken so that reference could be made to the full range of candidates' responses, with photocopied scripts forming the basis of discussion. The aim of the conference was to ensure that the marking scheme was interpreted and applied in the same way by all examiners.

It is hoped that this information will be of assistance to centres but it is recognised at the same time that, without the benefit of participation in the examiners' conference, teachers may have different views on certain matters of detail or interpretation.

WJEC regrets that it cannot enter into any discussion or correspondence about this marking scheme.

# WJEC GCSE GEOGRAPHY - UNIT 1

## SUMMER 2018 MARK SCHEME

### Instructions for examiners of GCSE Geography when applying the marking scheme

#### 1 Positive marking

It should be remembered that learners are writing under examination conditions and credit should be given for what the learner writes, rather than adopting the approach of penalising him/her for any omissions. It should be possible for a very good response to achieve full marks and a very poor one to achieve zero marks. Marks should not be deducted for a less than perfect answer if it satisfies the criteria of the mark scheme.

GCSE Geography marking schemes are presented in a common format as shown below:

3 (a) (i) Describe the location of the island of Lefkada.		AO1.1	AO1.2	AO2	AO3	SPAG	Total
<p>Credit up to <b>two</b> valid statements based on map evidence.</p> <p>Credit accurate use of compass points max 1.</p> <p>Credit accurate use of scale line max 1.</p>	<p>In western Greece (1) In Ionian Sea (1) north of Cephalonia (1) 275km (+/-10) from Athens (1) 280km (+/-10) from Thesaloniki (1)</p>				2		2

This box contains the sub-question.

The columns to the right indicate the assessment objective(s) targeted by the question and its mark tariff.

This box contains the rationale i.e. it explains the principles that must be applied when marking each sub-question. The examiner must apply this rationale when applying the marking scheme to the response.

This box contains the candidates' expected responses for point-based marking. For some sub-questions, those with a closed question, this box will indicate the only response that is acceptable. For more open ended sub-questions this box will illustrate a number of likely responses that are credit worthy. It may be that this list will be extended at the examiner's conference after actual scripts have been read. For banded mark schemes this box contains indicative content. For further details see below under Banded mark schemes Stage 2.

## 2 Tick marking

Low tariff questions should be marked using a points-based system. Each credit worthy response should be ticked in red pen. The number of ticks **must** equal the mark awarded for the sub-question. The mark scheme should be applied precisely using the expected outcomes box as a guide to the responses that are acceptable. Do **not** use crosses to indicate answers that are incorrect. If the candidate has not attempted the question then the examiner should strike through the available dotted lines with a diagonal line.

## 3 Banded mark schemes

Banded mark schemes are divided so that each band has a relevant descriptor. The descriptor for the band provides a description of the performance level for that band. Each band contains a range of marks. Examiners should first read and annotate a learner's answer to pick out the evidence that is being assessed in that question. **Do not use ticks** on the candidate's response. Once the annotation is complete, the mark scheme can be applied. This is done as a two stage process.

### Stage 1 – Deciding on the band

When deciding on a band, the answer should be viewed holistically. Beginning at the lowest band, examiners should look at the learner's answer and check whether it matches the descriptor for that band. Examiners should look at the descriptor for that band and see if it matches the qualities shown in the learner's answer. If the descriptor at the lowest band is satisfied, examiners should move up to the next band and repeat this process for each band until the descriptor matches the answer.

If an answer covers different aspects of different bands within the mark scheme, a 'best fit' approach should be adopted to decide on the band and then the learner's response should be used to decide on the mark within the band. For instance if a response is mainly in band 2 but with a limited amount of band 3 content, the answer would be placed in band 2, but the mark awarded would be close to the top of band 2 as a result of the band 3 content.

Examiners should not seek to mark candidates down as a result of small omissions in minor areas of an answer.

### Stage 2 – Deciding on the mark

Once the band has been decided, examiners can then assign a mark. During standardising (marking conference), detailed advice from the Principal Examiner on the qualities of each mark band will be given. Examiners will then receive examples of answers in each mark band that have been awarded a mark by the Principal Examiner. Examiners should mark the examples and compare their marks with those of the Principal Examiner.

When marking, examiners can use these examples to decide whether a learner's response is of a superior, inferior or comparable standard to the example. Examiners are reminded of the need to revisit the answer as they apply the mark scheme in order to confirm that the band and the mark allocated is appropriate to the response provided.

Indicative content is also provided for banded mark schemes. Indicative content is not exhaustive, and any other valid points must be credited. In order to reach the highest bands of the mark scheme a learner need not cover all of the points mentioned in the indicative content but must meet the requirements of the highest mark band. Where a response is not creditworthy, that is contains nothing of any significance to the mark scheme, or where no response has been provided, no marks should be awarded.

## 4 Assessing Writing

The quality of writing is assessed through two separate strands:

- (i) Communicating and organising
- (ii) Writing accurately

**(i) Communicating and organising** is assessed in items that have a tariff of 6, 8 or 10. These responses should be viewed holistically when deciding on a mark band (see stage 1 above). The definitions below clarify what is meant by the terminology in these descriptors.

**Meaning:** to have clarity the text must be legible. The meaning of statements should be clear and not require re-reading to make sense.

**Purpose:** the response should take into account what is required by the question. For example, evaluation requires consideration of pros/cons or the justification of a decision may be assisted by arguments. A suitable tone is adopted for reporting on scientific investigation in Unit 3.

**Structure:** well-planned responses have an overall structure with use of paragraphs to indicate portions of the response such as introduction, main arguments and conclusion. Chains of reasoning provide a logical structure within paragraphs. Signposting links sections together and is used to assist the reader.

**(ii) Writing accurately** takes into account the candidate's use of specialist language. It also takes into account the accuracy of the candidate's spelling, punctuation and grammar. This assessment is restricted to specific items (one item in each unit). The descriptors for writing accurately are printed in the mark scheme for each relevant item. In applying these descriptors learners may only receive marks for responses that are in the context of the demands of the question; that is, where learners have made a genuine attempt to answer the question.

## 5 Marking Core and Options questions

**Core Themes**            Mark **both** questions

**Options Themes**      Learners are instructed to answer **one** question. If the candidate has responded to both questions then the examiner must mark both questions. Award the higher mark that has been attained.

## SECTION A (Core Themes)

### Core Theme 1, Question 1

(a) Study the OS map extract below. The map has a scale of 1:25 000. (i) Give the four figure grid reference where the river reaches the sea in Three Cliffs Bay. Tick the correct answer in the box below.		AO1.1	AO1.2	AO2	AO3	SPaG	<b>Total</b>
Credit this response only, however indicated. No marks if more than one answer given.	5387 (1)				1		<b>1</b>

(a) (ii) Give the width of Three Cliffs Bay from Great Tor to Shire Combe. Tick the correct answer in the box below.		AO1.1	AO1.2	AO2	AO3	SPaG	<b>Total</b>
Credit this response only, however indicated. No marks if more than one answer given.	1.3 km (1)				1		<b>1</b>

(a) (iii) Describe the relief (shape of the land) in box A shown on the map. Use evidence from the map.		AO1.1	AO1.2	AO2	AO3	SPAG	<b>Total</b>
					4		<b>4</b>
Use the descriptors below, working upwards from the lowest band.							
<b>Band</b>	<b>Marks</b>	<b>Descriptor</b>					
<b>2</b>	3-4	Good description with changing pattern communicated well. Use of map evidence supports description. Meaning is unambiguous. The response has purpose, is organised and well structured.					
<b>1</b>	1-2	Simple descriptive statements communicated in a basic way with little linkage between points. No map evidence to support points made. Meaning is clear. Statements are linked by a basic structure.					
	0	Award 0 marks if the answer is incorrect or wholly irrelevant.					
		Candidates should show understanding of contour patterns and other relief features such as the cliff and the beach which help to describe the shape of the land.  At the top level there must be map evidence in the form of height, reference to spacing or value of contours, or a grid reference. Descriptive comments will include higher and steep in north with contours close together and gentle slopes to south with contours widely spaced. Flat on beach with steep cliffs at top of beach. Note also the candidate's ability to communicate their observations of map evidence as described in the AO3 descriptor.					

(b) Study the photograph below. (i) What makes this landscape distinctive? Use evidence from the photograph.			AO1.1	AO1.2	AO2	AO3	SPAG	<b>Total</b>
					3			<b>3</b>
Use the descriptors below, working upwards from the lowest band.			<p>Candidates should use their knowledge and understanding of landscapes to describe the distinctive features of the landscape in the photo. At the lower level, candidates will make simple qualitative statements relating to relief or aesthetic appeal. In the higher level, candidates will need to refer to <b>features</b> which make the landscape <b>distinctive</b> from others. This might include identification of upland and reference to land use, culture, geology or vegetation. For example, they might refer to upland sheep farming and rough grazing land. They might identify the limitations of the landscape for farming other than sheep grazing and they could identify the rock type in the wall as limestone. Reference to heather moorland might also suggest perceptive analysis. Clearly with only three marks at stake, there is no requirement to go into detail on more than one of these and full marks could be obtained with detailed description of one.</p>					
<b>Band</b>	<b>Marks</b>	<b>Descriptor</b>						
<b>2</b>	2-3	Good interpretation/description which identifies features which make the landscape distinctive, including land use, culture, geology or vegetation. Evidence used from photo to support answer.						
<b>1</b>	1	Valid statements that are not elaborated.						
	0	Award 0 marks if the answer is incorrect or wholly irrelevant.						

(b) (ii) Landscapes are often affected by people. Describe <b>one</b> negative impact of people on a landscape you have studied.		AO1.1	AO1.2	AO2	AO3	SPAG	<b>Total</b>
		3					<b>3</b>
Answer should develop one impact only. Credit the impact (1 mark) and then one mark for each valid description/elaboration to a maximum of two additional marks. <b>Do not credit reference to two impacts.</b> Answer must specify a studied landscape for full marks. This could be identified by a landscape type or a place/region. However, do not award a specific mark for identification.	Content will depend on landscape studied. Examples <b>might include</b> :  <b>National Park/mountain/Snowdonia/Brecon Beacons</b> Footpath erosion (1) removal of vegetation/topsoil (1) by trampling (1) exceeding carrying capacity (1) habitat loss (1) building/development (1)  <b>Coast/Gower/Pembrokeshire</b> Overcrowding (1) honeypot effect (1) litter (1) visual pollution (1) traffic congestion (1) carrying capacity (1)						

(c) (i) Select the most appropriate graphical method of presenting the data shown in the table. Tick the correct answer from the box below.		AO1.1	AO1.2	AO2	AO3	SPAG	<b>Total</b>
Credit this response only, however indicated. No marks if more than one answer given.	Pie chart (1)				1		<b>1</b>

(c) (ii) Select one of the methods you have not chosen. State why it is unsuitable.		AO1.1	AO1.2	AO2	AO3	SPAG	<b>Total</b>
					1		<b>1</b>
Credit one response only.	Scattergraph – for finding relationship between two datasets (1) Line graph – for recording continuous/time related data (1) relationship between two variables (1) Histogram - used to present frequency and magnitude of continuous data (1) For any - because it is not suitable for recording percentage data (1)						



(c) (iii) Study the photograph below. Evaluate <b>one or more</b> strategies for managing landscapes in Wales.			AO1.1	AO1.2	AO2	AO3	SPAG	Total
					6			6
Use the descriptors below, working upwards from the lowest band.			<p>Responses should apply knowledge and understanding to one or more strategies used to manage landscapes and attempt to evaluate their relative merits. Arguments should be based on evidence and at the top level there should be a clear statement of the characteristics of a successful strategy compared with its disadvantages or with the deficiencies of others. Note that candidates can evaluate just one strategy or compare more than one with each other. Either way could lead to level 3 depending on the sophistication of the evaluation. Clearly the context will depend on the nature of landscapes studied but expect to see reference to national parks either as a strategy in their own right or to various management strategies within national parks. Reference could also be made to SSSIs. Evaluations may be based on economic factors such as cost in relation to perceived benefits or on sustainability issues.</p> <p>Remember that you are not awarding marks for factual content and the answer must be assessed on the candidate's ability to evaluate strategies. As a guide, look for balance between advantages and disadvantages at the top band and focus on one or other of these in band 2.</p>					
<b>Band</b>	<b>Marks</b>	<b>Descriptor</b>						
<b>3</b>	5-6	<p>Good evaluation of one or more strategies for management of landscapes showing clear ability to evaluate and present evidence to justify points made. Answer is balanced between advantages and disadvantages of one strategy or is able to give reasoned evaluation of two or more strategies against each other.</p> <p>Meaning is clear. Response has purpose, is organised and well structured.</p>						
<b>2</b>	3-4	<p>Some evaluation of one or more strategies for managing landscapes but may lack evidence and/or objectivity. Imbalanced between advantages and disadvantages of one strategy or between different strategies if more than one is considered.</p> <p>Meaning is generally clear. The response is structured.</p>						
<b>1</b>	1-2	<p>Valid statements lack depth/breadth and with only limited evaluation.</p> <p>Meaning may lack clarity in parts. Statements are linked by a basic structure.</p>						
	0	Award 0 marks if the answer is incorrect or wholly irrelevant.						

(d) (i) Describe the process of hydraulic action in a river channel.		AO1.1	AO1.2	AO2	AO3	SPAG	<b>Total</b>
Credit one mark for each valid point. Reserve one mark for reference to energy of water.	Erosion (1) force/power/energy of water (1) compresses air into cracks (1) on river bed/banks (1)	2					<b>2</b>

(d) (ii) Explain why geology and river processes interact to form waterfalls. You may use an annotated diagram to help your answer.		AO1.1	AO1.2	AO2	AO3	SPAG	<b>Total</b>
			6				<b>6</b>

Use the descriptors below, working upwards from the lowest band.

Band	Marks	Descriptor
3	5-6	Thorough understanding of the interrelationship between processes and geology to create the landform. Explanation is detailed. Meaning is clear. Response has purpose, is organised and well structured.
2	3-4	Some understanding of processes and/or geology but lacking in detail and explanation not complete or the answer is imbalanced. However, the answer has some merit. Meaning is generally clear. The response is structured.
1	1-2	Valid statements showing limited or basic understanding. Meaning may lack clarity in parts. Statements are linked by a basic structure.
	0	Award 0 marks if the answer is incorrect or wholly irrelevant.

The answer might be given in the form of a labelled or annotated diagram or a combination of this and prose. Where this happens, accept both but do not double credit. Response should demonstrate understanding of the formation of a waterfall and the ability to explain this with reference to the interrelationships between erosion processes and geology. At the top level there will be reference to processes such as hydraulic action and abrasion with an explanation of their role in eroding material on the hard (cap) rock above softer rock and the creation of a plunge pool in the softer rock. Very good responses may refer to particular rock types but good explanation should gain access to level 3 even without this. The level 2 answer might name processes but give little explanation of their impact and not fully relate these to differential erosion.

			5	6	9	8		<b>28</b>
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**End of Question 1**

### Core Theme 2, Question 2

(a) Study the population pyramids below. (i) Give the percentage of the UK population aged 50-54 in 1950. Tick the correct answer in the box below.		AO1.1	AO1.2	AO2	AO3	SPaG	<b>Total</b>
Credit this response only, however indicated. No marks if more than one answer given.	6.3 (1)				1		<b>1</b>

(a) (ii) Calculate the difference in percentage of people aged 70-74 between 1950 and 2016 by completing the table.		AO1.1	AO1.2	AO2	AO3	SPaG	<b>Total</b>
Award one mark for each correct answer. Allow $\pm 0.1\%$ for tolerance in reading the graph for first mark.  Award second mark for accuracy of calculation <u>whatever</u> the figure given for 1950. No requirement for % symbol.	3.3 ( $\pm 0.1\%$ ) (1)  1.1 (1)				2		<b>2</b>

(a) (iii) Use the population pyramids to give <b>one</b> other way in which the structure of UK population has changed.		AO1.1	AO1.2	AO2	AO3	SPaG	<b>Total</b>
Credit one valid change.	Fewer younger/children (1) Lower birth rate (1) Fewer in middle ages (1) Difference quantified in any age group (1)				1		<b>1</b>

(iv) Describe two ways in which an ageing population has created challenges for the UK.		AO1.1	AO1.2	AO2	AO3	SPAG	Total
Credit two statements with further marks awarded for elaboration i.e  (2 + 2) (1+1+1) +1 Look for economic, health or social challenges for initial points. Credit development points only if they take answer further.	Economic: Pressure on public transport (1) labour market gaps (1) fewer tax payers (1) impact on pension funds (1) pressure on taxpayers (1) or other service (1)  Health: health service (1) social care (1)  Social: social housing (1) larger dependent population (1) increase in retirement age (1) political power (1) influence policy (1) declining fertility rate (1) replacement population (1)  Development (max 1 per valid challenge identified)	4					4

(b) Study the map below.  (i) Describe the distribution of urban areas in Wales.		AO1.1	AO1.2	AO2	AO3	SPAG	Total
Credit up to two valid statements, each for one mark.	More concentrated in south (1) some/fewer in north Wales (1) hardly any in mid-Wales (1)				2		2

(b) (ii) Give the meaning of the following terms by choosing from the definitions in the box below. Write the correct letter in each box.		AO1.1	AO1.2	AO2	AO3	SPAG	Total
Credit only these answers for one mark each.	D (1)  A (1)	2					

(b) (iii) Explain why people in rural areas of Wales may have less access to services now than in the past.		AO1.1	AO1.2	AO2	AO3	SPAG	<b>Total</b>	
			6				<b>6</b>	
Use the descriptors below, working upwards from the lowest band.		<p>This question focuses on the challenges presented to rural communities as services become concentrated in urban areas and the sphere of influence of urban areas extends further. Some of this pressure is created by increased commuting leading to low daytime rural populations as residents increasingly look to the urban centre for service provision and the increase in second homes which remain unoccupied for long periods. Candidates may also refer to the ageing of rural areas as younger residents move away, again reducing demand for service provision. This is illustrated by the closure of post offices and shops which cannot remain viable and the reduction in provision of key social services such as health as smaller cottage hospitals are closed and these become concentrated in the urban areas which achieve economies of scale. Schools may also become less viable and smaller schools forced to close. There will be an associated impact on other social services such as community centres and public transport etc.</p>						
<b>Band</b>	<b>Marks</b>							<b>Descriptor</b>
<b>3</b>	5-6							Good understanding of pressures facing rural communities for service provision and their causes. Explanation shows some sophistication. Meaning is clear. Response has purpose, is organised and well structured.
<b>2</b>	3-4							Some understanding of pressures in rural areas but response may lack depth and detail and only have partial explanation. Meaning is generally clear. The response is structured.
<b>1</b>	1-2							Valid statements show limited understanding of life in rural areas. Meaning may lack clarity in parts. Statements are linked by a basic structure.
	0	Award 0 marks if the answer is incorrect or wholly irrelevant.						

(c) (i) Give <b>one</b> reason why many people work in the informal economy of cities in NICs or LICs.		AO1.1	AO1.2	AO2	AO3	SPAG	<b>Total</b>
Credit <b>one</b> valid statement and its elaboration. Focus must be on <b>why</b> informal economy grows rather than what it is.	Low incomes/high unemployment (1) so underemployment (1) Incomplete formal education (1) so lack of qualifications (1) no other option (1) No formal qualifications (1) so not able to apply for formal employment (1) More opportunities for informal work (1)		2				<b>2</b>

(c) (ii) Study the photographs and the fact box below. “The challenges facing all global cities in the 21 <sup>st</sup> century are the same.” To what extent do you agree with this statement? Make use of evidence from the photographs and fact box.			AO1.1	AO1.2	AO2	AO3	Writing Accurately	<b>Total</b>
					8		3	<b>11</b>
Use the descriptors below, working upwards from the lowest band.			<p>Responses should apply knowledge and understanding of a range of economic and social factors affecting life in global cities. All global cities have challenges and whilst many of these are similar in all cities as illustrated in the photos and the factbox, it is often a question of the scale of the challenges which differentiates between global cities in the rich and poor worlds. Both London and Mumbai clearly have issues with homelessness and a lack of affordable and adequate housing but the problems are far greater in the latter with large squatter settlements and informal housing leading to social problems with crime and health. These will be mitigated in wealthier global cities by an element of state support and more and higher paying jobs. Other issues which may be discussed include transport with congestion and overcrowding prevalent in all cities but with likely better structures and systems in place in cities like London with well organised metro and other public transport systems which are more modern, safe and efficient.</p> <p>Some candidates may refer to ethnic and cultural issues which may develop along with clear zones of rich and poor, but again the differences will be more marked in LICs and NICs compared to HICs.</p>					
<b>Band</b>	<b>Marks</b>	<b>Descriptor</b>						
<b>4</b>	7-8	Balanced analysis and sophisticated judgement. A range of detailed and elaborated points are made both for and against the statement. Information in the resources and any implications are interpreted and analysed thoroughly and perceptively. Conclusion is justified using a sophisticated chain of reasoning. Meaning is unambiguous. The response has clear purpose, is fluent and logically structured.						
<b>3</b>	5-6	Elaborated analysis and reasoned judgement. A range of elaborated points are made on one side of the argument in detail or both sides of the argument in less detail. Information in the resources is interpreted carefully and used to good effect to support the argument. A valid conclusion is attempted and is based on the evidence. Meaning is clear. The response has purpose, is organised and well structured.						
<b>2</b>	3-4	Valid but limited analysis and simple judgement. Valid points are made on one or both sides of the argument but are superficial. A few points are elaborated but lacking in sophistication. There is valid but limited interpretation of information in the resource. Simplistic conclusions. Meaning is generally clear. The response is structured.						
<b>1</b>	1-2	Basic analysis. Valid but basic and simplistic points made with little or no elaboration.  Meaning may lack clarity in parts. Statements are linked by a basic structure.						
	0	Award 0 marks if the answer is incorrect or wholly irrelevant.						

After awarding a level and mark for the geographical response, apply the performance descriptors for writing accurately that follow. Having decided on a band, award a second mark (out of 3).

In applying these indicators, learners may only receive marks for responses that are in the context of the demands of the question; that is, where learners have made a genuine attempt to answer the question.

<b>Band</b>	<b>Marks</b>	<b>Performance descriptions</b>
<i>High</i>	3	<ul style="list-style-type: none"> <li>• Learners spell and punctuate with consistent accuracy</li> <li>• Learners use rules of grammar with effective control of meaning overall</li> <li>• Learners use a wide range of specialist terms as appropriate</li> </ul>
<i>Intermediate</i>	2	<ul style="list-style-type: none"> <li>• Learners spell and punctuate with considerable accuracy</li> <li>• Learners use rules of grammar with general control of meaning overall</li> <li>• Learners use a good range of specialist terms as appropriate</li> </ul>
<i>Threshold</i>	1	<ul style="list-style-type: none"> <li>• Learners spell and punctuate with reasonable accuracy</li> <li>• Learners use rules of grammar with some control of meaning and any errors do not significantly hinder meaning overall</li> <li>• Learners use a limited range of specialist terms as appropriate</li> </ul>
	0	<p>The learner writes nothing</p> <p>The learner's response does not relate to the question. The learner's achievement in Writing Accurately does not reach the threshold performance level, for example errors in spelling, punctuation and grammar severely hinder meaning</p>

**End of Question 2**

	5	6	9	8	3	<b>31</b>
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### Options Theme 3, Question 3

(a) Study the information below. Mount Vesuvius is an active stratovolcano.  (i) Describe the location of Mount Vesuvius.		AO1.1	AO1.2	AO2	AO3	SPaG	<b>Total</b>
Award one mark for each valid point. Each location point must be qualified by a distance or direction. No marks for near/close to.	Accurate direction from any named place (1) accurate distance from any named place (1)  e.g. East/NE of Bay of Naples (1) East/SE of Naples (1) 10-20km from Naples (1) SW Italy (1) 8-12km from coast (1) above 1000m (1)				2		<b>2</b>

(a) (ii) One feature of a stratovolcano is pyroclastic flow. Describe <b>two</b> other features of a stratovolcano.		AO1.1	AO1.2	AO2	AO3	SPaG	<b>Total</b>
Credit two separate statements with second/third mark awarded for elaboration i.e. (2 + 2) (1+1+1)+1  Ensure development points take the answer forward as creditworthy geographical knowledge.	<b>Shape:</b> Steep sided (1) cone shaped (1) caldera (1)  <b>Composition:</b> layers (1) of ash and lava (1); viscous lava (1)  <b>Location:</b> associated with destructive plate margins (1) subduction zones (1)  <b>Hazards:</b> ash clouds (1), tephra (1), lava bombs (1), explosive (1), lahars (1), named gas (1)	4					<b>4</b>



(a) (iii) Explain why the people of Naples are vulnerable to the impact of pyroclastic flows. Use evidence from the photograph and map.		AO1.1	AO1.2	AO2	AO3	SPAG	<b>Total</b>
Use the descriptors below, working upwards from the lowest band.				4			<b>4</b>
<b>Band</b>	<b>Marks</b>	<b>Descriptor</b>					
<b>2</b>	3-4	Elaborated statements which clearly link characteristics of pyroclastic flows to topography.					
<b>1</b>	1-2	Simple statements showing some linkage between flows and proximity.					
	0	Award 0 marks if the answer is incorrect or wholly irrelevant.					
		Response should demonstrate the ability to <b>apply</b> knowledge and understanding of the characteristics of pyroclastic flows to the topography and landscape around Vesuvius and Naples. Note that marks are not for knowledge and understanding of pyroclastic flows, but for applying this to vulnerability of the people of Naples. Pyroclastic flows are devastating, very fast flowing clouds of hot gases and ejected material which engulf everything in their path. Naples is located close by and on the flank of the volcano, reducing warning time but also located in a valley which could channel the flow directly onto the city. The location of the coast and the valley means that there is little chance of escape in the event that flows take place.					

(b) Study the information in the table below.							
(i) Describe the relationship between the magnitude of earthquakes and frequency with which they occur.		AO1.1	AO1.2	AO2	AO3	SPAG	<b>Total</b>
Credit up to two valid points for one mark each.	Inverse relationship (1) as magnitude increases frequency decreases (1) disproportionately (1) quantified (1)				2		<b>2</b>

The amount of ground shaking during an earthquake increases by a factor of 10 with each point on the Richter scale. Point 4.0 is 10 times more powerful than 3.0 and 100 times more powerful than 2.0.							
(ii) Calculate the increase in ground shaking during an earthquake measuring 7.0 on the Richter scale compared to one measuring 3.0. Show your working.		AO1.1	AO1.2	AO2	AO3	SPAG	<b>Total</b>
Credit only this answer for one mark. Award second mark for working. Award one mark for working if answer is incorrect if candidate demonstrates understanding of the concept.	10 000 (1)  Credit stepped calculation e.g. To 4.0 (x10) To 5.0 (x100) To 6.0 (x1000) To 7.0 (x10,000 (1)				2		<b>2</b>

(b) (iii) Explain why an earthquake with magnitude 5.5 (refer to the table on page 16) might have varying impacts on people in countries at different levels of development.			AO1.1	AO1.2	AO2	AO3	SPAG	Total
				6				6
Use the descriptors below, working upwards from the lowest band.			<p>Responses should demonstrate understanding of the relationship between the level of development and the vulnerability of people to a moderate earthquake in two different contexts. Focus will most likely relate to the ability of people in HICs to be better prepared through technology, hazard resistant design and the use of drills etc to mitigate the effects. Conversely, in LICs a lack of resources often means that people live in substandard housing and overcrowded conditions which makes them more vulnerable. Candidates may also refer to the quality and capacity of emergency planning and services to respond in the event of an earthquake. People in LICs also often live in remote areas (e.g. Nepal, Pakistan) which means that access for emergency support is difficult.</p>					
<b>Band</b>	<b>Marks</b>	<b>Descriptor</b>						
<b>3</b>	5-6	<p>Good understanding of relationship between wealth and vulnerability. Clear explanation of why impact can vary.</p> <p>Meaning is clear. Response has purpose, is organised and well structured.</p>						
<b>2</b>	3-4	<p>Some understanding of relationships but response may lack depth and detail and only have partial explanation.</p> <p>Meaning is generally clear. The response is structured.</p>						
<b>1</b>	1-2	<p>Valid statements show limited understanding of issues.</p> <p>Meaning may lack clarity in parts. Statements are linked by a basic structure.</p>						
	0	Award 0 marks if the answer is incorrect or wholly irrelevant.						

(c) Study the photograph below.			AO1.1	AO1.2	AO2	AO3	SPAG	Total
Suggest the <b>social</b> impacts of this earthquake on the people of Amatrice. Use evidence from the photograph.					4			4
Use the descriptors below, working upwards from the lowest band.			<p>Candidates are required to <b>apply</b> their knowledge and understanding of the impact of earthquakes to <b>interpret the photograph</b> by ascribing or inferring meaning to it. At the lower level they are likely to refer to the loss of homes and the difficulty of rebuilding. More sophisticated responses may look at the wider community impact in terms of communities working together with greater cohesion in the face of adversity. Some may refer to the psychological impact and grief due to the loss of family as well as the fear of future earthquakes and aftershocks. The focus of the answer should be on people and communities but it is accepted that there is often a blurred distinction between social and economic impacts so credit these in as much as they affect people for the higher level. For example, reference to destruction/loss of businesses need to relate to unemployment and the associated social problems. <b>Ensure that the focus is on the photograph and do not be drawn into awarding marks for general knowledge and understanding which cannot be inferred in some way from the photo.</b></p>					
<b>Band</b>	<b>Marks</b>	<b>Descriptor</b>						
2	3-4	Elaborated statements which offer good inference from the photograph. Focus must clearly be on social impact.						
1	1-2	Simple statements showing some inference from the photograph.						
	0	Award 0 marks if the answer is incorrect or wholly irrelevant.						

**End of Question 3**

	4	6	8	6		<b>24</b>
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### Options Theme 4, Question 4

(a) Study the map and photograph below.							
(i) Describe the location of Kingston-upon-Hull.		AO1.1	AO1.2	AO2	AO3	SPaG	<b>Total</b>
Award one mark for each valid point. Each location point must be qualified by a distance or direction. No marks for near/close to.	North bank of Humber (1) accurate quantified distance from named other town (1) accurate direction from named other town (1) 15-25 km from North Sea (1) less than 5m above sea level (1) NE/east of England/coast (1)				2		<b>2</b>

(a) (ii) The coastal flood barrier in Kingston-upon-Hull is an example of hard engineering. Describe <b>two</b> other examples of hard engineering on the coast.		AO1.1	AO1.2	AO2	AO3	SPAG	<b>Total</b>
Credit up to two valid strategies for one mark each plus one additional mark(s) for valid description of each strategy.  (2+2)  (1+1+1)+1	Groynes (1) trap sand/widen beach (1) Rip-rap (1) break force of waves (1) Levees (1) prevent flooding (1) Artificial reefs (1) encourage deposition/widen beach (1) Breakwaters (1) reduce wave energy (1) Sea wall (1) absorbs wave energy (1) Barrage (1) controls quantity of water (1)	4					<b>4</b>

(a) (iii) Explain why Kingston-upon-Hull is vulnerable to coastal flooding. Use evidence from the map and photograph.		AO1.1	AO1.2	AO2	AO3	SPAG	<b>Total</b>
Use the descriptors below, working upwards from the lowest band.				4			<b>4</b>
<b>Band</b>	<b>Marks</b>	<b>Descriptor</b>					
<b>2</b>	3-4	Elaborated statements which clearly link coastal flooding to topography.					
<b>1</b>	1-2	Simple statements showing some linkage between floods and risk factors.					
	0	Award 0 marks if the answer is incorrect or wholly irrelevant.					
		Response should demonstrate the ability to apply knowledge and understanding of the characteristics of coastal floods to the topography and landscape around Hull. Hull is located on the north bank of the River Humber but the entire area is very low lying and in places under a metre above sea level. Photo and map shows area to be flat and very low lying with city centre close to river level. Sea water will be funnelled up through the Humber Estuary to inundate the city and the surrounding area. The hills to the west of the city could act as a natural barrier and help to contain the flood water around the city.					

(b) Hurricanes, or cyclones are severe storms that affect tropical regions and cause major flooding of coastal areas due to raised sea levels called storm surges. Their severity is measured on a scale of 1 to 5.							
Study the table of information below.							
(i) Describe the relationship between the severity of storms and the frequency with which they occur.		AO1.1	AO1.2	AO2	AO3	SPAG	<b>Total</b>
Credit up to two valid points for one mark each.	Inverse relationship (1) as magnitude increases frequency decreases (1) disproportionately (1) quantified (1)				2		<b>2</b>

(b) (ii) Calculate how often the USA might expect to experience a category 5 storm. Show your working.		AO1.1	AO1.2	AO2	AO3	SPAG	<b>Total</b>
Credit only this answer for one mark. Award second mark for working. Award one mark for working if answer is incorrect if candidate demonstrates understanding of the concept.	Every 50 years (1) 10/0.2 (1)				2		<b>2</b>

(b) (iii) Explain why the vulnerability of coastal communities to flooding varies in countries at different levels of economic development.			A01.1	A01.2	A02	A03	SPAG	<b>Total</b>
				6				<b>6</b>
Use the descriptors below, working upwards from the lowest band.			<p>Responses should demonstrate understanding of the relationship between the level of development and the vulnerability of people to coastal floods in two different contexts. Focus will most likely relate to the ability of people in HICs to be better prepared through technology, including hard engineering. Conversely, in LICs a lack of resources often means that people live in substandard housing and overcrowded conditions which makes them more vulnerable, as well as being less able to evacuate in the event of serious flooding. Candidates may also refer to the quality and capacity of emergency planning and services to respond in the event of coastal flooding.</p>					
<b>Band</b>	<b>Marks</b>	<b>Descriptor</b>						
<b>3</b>	5-6	<p>Good understanding of relationship between wealth and vulnerability. Clear explanation of why impacts can vary.</p> <p>Meaning is clear. Response has purpose, is organised and well structured.</p>						
<b>2</b>	3-4	<p>Some understanding of relationships but response may lack depth and detail and only have partial explanation.</p> <p>Meaning is generally clear. The response is structured.</p>						
<b>1</b>	1-2	<p>Valid statements show limited understanding of issues.</p> <p>Meaning may lack clarity in parts. Statements are linked by a basic structure.</p>						
	0	Award 0 marks if the answer is incorrect or wholly irrelevant.						

(c) Study the photograph below.  Suggest the <b>social</b> reasons why the council is prepared to spend money on maintaining the defences in Penzance. Use evidence from the photograph.			AO1.1	AO1.2	AO2	AO3	SPAG	Total
					4			4
Use the descriptors below, working upwards from the lowest band.			Candidates are required <b>to apply</b> their knowledge and understanding of the impact of coastal management to <b>interpret</b> the photograph by ascribing or inferring meaning to it. At the lower level they are likely to refer to the potential loss of homes and businesses. More sophisticated responses may look at the wider community issues and impact of tourism on jobs and people's way of life in a coastal town. The focus of the answer should be on people and communities but it is accepted that there is often a blurred distinction between social and economic impacts so credit these. For example, reference to loss of businesses, such as the hotel which is clearly visible in the photo could be linked to unemployment and associated social/economic problems such as poverty and increased crime and anti-social behaviour. As the sea wall looks to be quite old, some candidates may refer to cultural/historical reasons to maintain the defences and this would be an acceptable route to take. Clearly the better candidates might weigh up the cost v benefit argument which is acceptable as long as it is backed up with photographic evidence. <b>Ensure that the focus is on the photograph and do not be drawn into awarding marks for general knowledge and understanding which cannot be linked to the photo.</b>					
<b>Band</b>	<b>Marks</b>	<b>Descriptor</b>						
<b>2</b>	3-4	Elaborated statements which offer good inference from the photograph						
<b>1</b>	1-2	Simple statements showing some inference from the photograph.						
	0	Award 0 marks if the answer is incorrect or wholly irrelevant.						

**End of Question 4**

	4	6	8	6		<b>24</b>
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