

Assessment Objectives Grid for Geography - G1

Summer 2012

	Knowledge and Understanding	Application	Skills	Total	Key Question
Question 1					
(a)	0	2	3	5	1.3
(b)	8	2		10	1.3
(c)	7	3		10	1.1 & 1.4
	15	7	3	25	
Question 2					
(a)	0	2	3	5	2.2
(b)	8	2		10	2.2
(c)	7	3		10	2.3
	15	7	3	25	
Question 3					
(a)	1	1	5	7	2.5
(b)	2	1	5	8	
(c)	3	2	5	10	
	6	4	15	25	
	36 (48%)	18 (24%)	21 (28%)		

Using the mark bands

The aim is to find the descriptor that conveys most accurately the level attained by the candidate, using the best-fit model. A best-fit approach means that marks should be awarded for a response that most fairly matches different aspects of the descriptor.

GEOGRAPHY G1

CHANGING PHYSICAL ENVIRONMENTS

- Q.1 (a) Describe the changes in greenhouse gas emissions shown in *Figure 1*. [5]

The resource shows change and credit should only be given to those that identify this. The resource identifies that the G5 countries have the fastest growing greenhouse gas emissions. The G8 nations can be divided into two sections - those that are increasing their emissions (Canada, USA, Japan and Italy) and those that are decreasing their emissions (France, Britain, Germany and Russia). Accept general comments like these but also accept relative comments such as China has the largest increase of the G5 or France has the smallest decrease. Reference to quantification from the resource can also be given credit as developmental marks. Award one mark for a general comment with extra mark for use of **data** from the resource. To gain full marks reference must be made to both sections (G5 and G8 nations); maximum of 4 marks if the focus is only on one group i.e. G5 or G8.

- (b) Outline how human activities have caused changes to greenhouse gas emissions. [10]

The question involves two elements – human activities and how these caused changes to greenhouse gas emissions. Candidates may approach this from one or two directions. Some may look at how human activity has caused an increase in the production of CO₂, methane, N₂O, water vapour and ozone. The causes of this may be related to combustion of fuels (transportation, power generation etc), burning of forests during deforestation, changing farming in relation to population change (increased use of fertilizer, higher stocking ratios, increase in paddy rice production) and CFCs. Note that the question is looking at changing production of gases and **not** the enhanced greenhouse effect.

Other candidates may examine the decrease of greenhouse gas production in some countries in response to management strategies that have been put in place by governments, pressure groups and individuals. This may refer to changes in transport, household consumption of fuel, efficiency, education of the public, campaigns, treaties etc. This approach will need to outline how the strategy has led to change in the production of greenhouse gases.

Candidates may combine both increases and decreases in CO₂ and markers will have to trade depth against breadth.

Some may examine the question through an examination of a region or country and this structure to the answer should be available for full credit.

Level 3 8-10 marks	Good knowledge and understanding of how human activity can increase and/or decrease the production of greenhouse gases. Good use of examples.
Level 2 4-7 marks	Some knowledge and understanding of how human activity can increase and/or decrease the production of greenhouse gases. Examples are evident.
Level 1 0-3 marks	Basic knowledge how human activity can increase and/or decrease the production of greenhouse gases. Little use of examples.

(c) Outline the relationship between climate and *one or more* biomes. [10]

The question involves two elements – knowledge and understanding of climate and its relationship with biomes. Answers should display knowledge of both climate and characteristics of the biome or biomes selected. To ‘outline’ - candidates are required to give a brief summary of the main characteristics - which will involve making explicit the links between climate and biome(s).

When considering the climate reference could be made to the temperature, precipitation, humidity, wind and sunshine hours – other aspects may be discussed where appropriate. In addition there may be comment associated with seasonal or diurnal variations. The content of answer will depend upon the biome selected. Consideration of the biome may examine the flora, fauna and soils of the selected example. Do not expect exhaustive detail in this section.

Some candidates may choose to outline the dynamic link between climate and biomes. This approach may review how changes in climate may be linked to changes in biomes. Responses could examine how changes to global temperatures and rainfall patterns have led to changing distributions of climatic belts or distributions of species.

An alternative approach may address changes in one or more biomes and the impact on climate. For example, answers may comment on changes in the savannah climate brought about by changes in agriculture practices leading to desertification.

To get into Level 3 responses must make it clear how climate and the other elements of the biome are inter-related. Some may address this in a diagrammatic format.

Answers may take a broad approach and examine the question from a global point of view or may take one biome and develop its character and relationships in more detail. Examiners should trade breadth against depth when marking the responses.

Level 3 8-10 marks	Good knowledge and understanding of climate and characteristics of one or more biome. Links between climate and biome(s) are explicit. Good use of examples.
Level 2 4-7 marks	Some knowledge and understanding of climate and characteristics of one or more biome. Some links made between climate and biome(s) or detailed knowledge of climate/biome without analysis of linkage. Examples are evident.
Level 1 0-3 marks	Basic knowledge and understanding of climate and characteristics of one or more biome. Little use of examples.

- Q.2 (a) Describe the variations in shaking experienced by people in the area shown in *Figure 2*. [5]**

The resource shows several elements of vulnerability to the earthquake. There is a broad classification of the strength of ground shaking in range of severe/violent to moderate. The pattern shown shows the strongest shaking in the centre with a decrease to the suburbs of the city. The diagram also shows estimated population who were affected – greatest in the centre with a decrease to the suburbs – with a scale to show the population of each ‘strength of shaking’ zone. Comment on these aspects should be awarded credit at 1 mark for each point. One mark reserved for distance from the city centre or shape of the zones or size of the zones or the degree of shaking (e.g. worst / most affected).

- (b) Outline the local and regional impacts of *one or more* tectonic events. [10]**

The question involves two elements – local and regional impacts. Answers should display an awareness of the differences in scale required in the question. Examiners should be flexible in the interpretation of local and regional. Answers will probably look at the local element in the form of impacts that are found in the area surrounding the epicentre of an earthquake or the area adjacent to the volcanic eruption. These impacts can be social, economic, demographic, physical. Regional impacts examine those that are wider in extent. For instance the economic impacts can have a broader scale – Kobe had an impact in the Eastern Asian region. The eruption of Eyjafjallajökull had a social and economic impact at a European scale. The 2011 earthquake in northeast Japan may also be a common example. Candidates may also refer to the earthquake in Christchurch from Question 2(a). Be prepared to look at impacts from the view of the aid that is generated in response to hazard – aid came from the USA and other Caribbean countries as a response to the Haitian earthquake.

Accept answers that approach the question through an examination of a single case study as well as those that choose to refer to a number of examples to illustrate each element of the question.

Candidates that give a detailed review of the impacts without covering the required scales should be confined to Level 2.

Level 3 8-10 marks	Good knowledge and understanding of impacts at both scales. Good use of examples.
Level 2 4-7 marks	Either - some knowledge and understanding of impacts at both scales. Or - detailed knowledge of impacts at one scale. Examples are evident.
Level 1 0-3 marks	Basic knowledge of impacts at both/either scales. Little use of examples.

(c) **Discuss the effectiveness of management strategies in relation to one tectonic hazard.** [10]

The question involves two elements – the strategies themselves and the effectiveness of these strategies. There will be a great variety of strategies used depending on the hazard selected and the examples that have been studied. Credit fully strategies that address prediction, prevention, preparation, adaptation and land-use planning. The question is looking for the effectiveness of the management strategies but expect there to be an element of the answer that describes them and how they operate. The management may refer to how the strategy allows people to avoid the hazard, to absorb the impacts of the hazard or to alleviate the impacts of the hazard after it has occurred.

Popular strategies that may be used are:

- earthquakes: building-engineering, earthquake preparedness, household-seismic safety, seismic retrofit, education for citizens, emergency-service training, evacuation for tsunamis, land-use plans, aid and earthquake prediction
- volcanoes: early warning systems, evacuation, emergency plans, education for citizens, emergency-service training, building engineering, land-use plans and aid.

To reach Level 3 there must be attention paid to the effectiveness of the strategies used. This may come as comment on the ability to save lives, protect buildings and infrastructure, provide compensation for damage, limit economic loss etc. There may also be comment that compares the relative success of strategies and this is equally acceptable.

Candidates may approach the question **either** from the view of an individual event, such as L'Aquila earthquake, the eruption of Mt Etna etc. **or** they may review earthquakes or volcanoes per se; either approach is acceptable.

Level 3 8-10 marks	Good knowledge and understanding of strategies and explanation of how they are used to manage the event. Developed discussion of the effectiveness of the selected strategies. Good use of examples.
Level 2 4-7 marks	Some knowledge and understanding of strategies and explanation of how they are used to manage the event. Some discussion of the effectiveness of the selected strategies. Maximum Level 2 for detailed knowledge of the strategies only. Some use of examples.
Level 1 0-3 marks	Basic knowledge of strategies and explanation of how they are used to manage the event. Little use of examples.

- Q.3 (a) Use *Figure 3* to compare the impacts of the 2007 and 2010 floods in North Korea. [7]**

Responses could take a number of approaches to address the question. Some candidates may look at each category of impact and make a comparison of the level of impact. These candidates may comment on the area impacted by the floods, the impact on infrastructure, residences and public amenities. Others may review the floods separately. Both approaches are equally acceptable and better candidates may conclude that the 2010 floods are less severe than the 2007 event. Candidates should use the data from the resource to back up their comparisons.

Those that review each flood in detail without comparison should be limited to Level 2.

Level 3 6-7 marks	Good description of the impacts with reference to data from the table. Comments have clear comparative focus and a recognition that the 2007 floods are more severe than the 2010 floods.
Level 2 3-5 marks	Either – some description of the impacts with some reference to data from the table and some comparative comments. Or – good description of the impacts with reference to data from the table but lacks comparative analysis.
Level 1 0-2 marks	Basic description of the impacts. Limited reference to data from the table.

- (b) Outline *two* methods of data collection that could be used to investigate the impacts of flooding. [8]**

This question has two elements – a description of methods and their application to the impacts of flooding. Candidates may approach this in a number of ways. Some may see methods of collection as sampling and comment on sampling techniques such as random, systematic and stratified. They could also refer to transects, belt sampling and areal samples as methods of data collection. Another approach may be to examine how the data is going to be collected with candidates referring to questionnaires, land-use surveys, newspaper articles, examination of reports, official statistics. References to internet searches must make clear its purpose and that the site is appropriate e.g. Environmental Agency.

Level 3 6-8 marks	Good knowledge and understanding of two methods. Good link to how methods could be used to investigate impacts of flooding.
Level 2 3-5 marks	Some knowledge and understanding of two methods. Limited application to flooding. May lack balance – good knowledge and understanding of one method.
Level 1 0-2 marks	Basic knowledge and understanding of methods.

- (c) **Outline the main conclusions of an investigation into a changing physical environment that you have completed.**

You should state clearly the question that you have investigated [10]

The content of the answer will vary greatly as individual centres will engage in a wide variety of investigation but the content should have a link to the substance of the specification.

The question is looking for the main conclusions and the better answers will refer the outcomes of the investigation in relation to the original question, issue or hypothesis set by the candidate or centre. These responses may comment on patterns that were identified, processes that were proved, relationships that were recognised or characteristics that were distinguished. Other valid conclusions should be credited.

Level 3 8-10 marks	Developed description of conclusions.
Level 2 4-7 marks	Some description of conclusions.
Level 1 0-3 marks	Basic description of outcomes.