

Mark Scheme (Results)

Summer 2013

GCSE Geography (5GB1F) Paper 01 Dynamic Planet- Foundation

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General Marking Guidance

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

Placing a mark within a level mark band

• The instructions below tell you how to reward responses within a level. Follow these unless there is an instruction given within a level. However, where a level has specific guidance about how to place an answer within a level, **always** follow that guidance.

2 mark bands

Start with the presumption that the mark will be the higher of the two. An answer which is poorly supported gets the lower mark.

• 3 mark bands

Start with a presumption that the mark will be the middle of the three. An answer which is poorly supported gets the lower mark. An answer which is well supported gets the higher mark.

• 4 mark bands

Start with a presumption that the mark will be the upper middle mark of the four.

An answer which is poorly supported gets a lower mark. An answer which is well supported and shows depth or breadth of coverage gets the higher mark.

- Mark schemes will indicate within the table where, and which strands of QWC, are being assessed. The strands are as follows:
 - i) ensure that text is legible and that spelling, punctuation and grammar are accurate so that meaning is clear
 - ii) select and use a form and style of writing appropriate to purpose and to complex subject matter
 - iii) organise information clearly and coherently, using specialist vocabulary when appropriate.

Spelling, Punctuation and Grammar Marking Guidance

- The spelling, punctuation and grammar assessment criteria are common to GCSE English Literature, GCSE History, GCSE Geography and GCSE Religious Studies.
- All candidates, whichever subject they are being assessed on, must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Spelling, punctuation and grammar marking criteria should be applied positively. Candidates must be rewarded for what they have demonstrated rather than penalised for errors.
- Examiners should mark according to the marking criteria. All marks on the marking criteria should be used appropriately.
- All the marks on the marking criteria are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the marking criteria.
- Examiners should be prepared to award zero marks if the candidate's response is not worthy of credit according to the marking criteria.
- When examiners are in doubt regarding the application of the marking criteria 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.
- Handwriting may make it difficult to see if spelling, punctuation and grammar are correct. Examiners must make every effort to assess spelling, punctuation and grammar fairly and if they genuinely cannot make an assessment, the team leader must be consulted.
- Specialist terms do not always require the use of complex terminology but the vocabulary used should appropriate to the subject and the question.
- Work by candidates with an amanuensis, scribe or typed script should be assessed for spelling, punctuation and grammar.
- Examiners are advised to consider the marking criteria in the following way:
 - o How well does the response communicate the meaning?
 - o What range of specialist terms is used?
 - o How accurate is the spelling, punctuation and grammar?

Question Number	Answer	Mark
1(a)	 1 mark for each appropriate statement. Responses likely to include: Heavily populated urban areas close to the epicentre. 9 on the Richter Scale is an extremely powerful earthquake The earthquake created a 10m high tsunami Widespread fires threatened lives and made access difficult. Power shortages would affect emergency services and health care facilities. Nuclear reaction lead to radiation fears. Emergency services found it hard to reach 	(2)
	people in danger. (2 x 1)	

Question	Answer	Mark
Number		
1 (b)	The solid outer layer of the Earth is known as the CRUST.	(2)
	This includes areas of oceanic plate, made of BASALT rock.	
	(2 x 1)	

Question Number	Answer	Mark
Question Number 1(c)	1 mark for identifying an appropriate preparation. Additional mark(s) awarded for extending statements. e.g. Authorities can produce action plans (1 mark). These tell the emergency services what to do in the event of an eruption (1 mark). e.g. Diversion channels can be built (1 mark) these can carry lava or lahars (1 mark) away from populated regions (1 mark). e.g. Carry out practice drills (1) so people know what to do (1) and how to evacuate quickly and safely (1) e.g. Monitoring the volcano (1) to enable early evacuations (1) Preparations are likely to include: • Improving monitoring / prediction • Carrying out eruption drills • Stock piling food, tents and medical supplies • Building diversion tunnels • Introducing safety zones • Constructing protective shelters • Producing action plans • Evacuating population from danger zone If only one measure has been identified, max mark 3.	(4)
	Extra mark can also be awarded for providing a relevant example. E.g. Prior to the eruption of Mt St Helen's a safety zone was introduced.	
	(3+1) or (2+2)	

Question Number	Answer	Mark
2(a)	Between 1930 and 1960 solar output INCREASED .	(2)
	Since 1960 solar output has varied; in 2010	
	it was 1365.8	
	(2x1)	

Number		
	 mark for each valid gas: Carbon dioxide (CO₂) Methane (CH₄) Nitrous Oxide (N₂O) CFCs Water vapour (H₂O) Ozone (O₃) (2x1) 	(2)

Question Number	Answer	Mark
2(c)	 1 mark for identifying an appropriate economic impact. Additional mark(s) awarded for extending statements. e.g. Drier summer could lead to droughts in part of India (1 mark) affecting farm output (1 mark). e.g. Higher monsoon rains (1 mark) could increase the need for expensive flood defences(1 mark). Likely answers: More extreme climates could deter tourists. More droughts affecting the farming industry More storms leading to increased flooding and higher defence and insurance costs. Farmers could be forced into changing crops to reflect changing climate, possibly providing farmers with new markets. Higher temperatures could increase the speed at which diseases spread leading to higher health care costs and increase absence from work. NB: If only one impact has been identified, max mark 3. 	(4)
	NB: Non-economic impacts are not to be credited.	

NB: If the candidate has failed to identify a developing country or if the response doesn't relate to the named country, maximum mark 3. (3+1) or (2+2)	

Question Number	Answer	Mark
3(a)(i)	2008 bar accurately plotted (13,000 km ²).	(1)
	NB: Allow bars with any type of shading / no shading.	
	NB: Do not credit bars of incorrect width.	

Question Number	Answer	Mark
3(a)(ii)	(B) Deforestation reached its peak in 2004	(1)

Question Number	Answer	Mark
3(b)	 1 mark for identifying an appropriate threat. Additional mark for providing an extending statement. Wildlife extinctions and food web impacts as a consequence of hunting or over-fishing. Climate change leading to extreme weather conditions (e.g. more frequent and powerful tropical storms) threatening wildlife and habitats changing rainfall patterns (e.g. more droughts) resulting in desertification coastal flooding, destroying habitats coral reef bleaching Pollution from industrial activities, mining and settlement growth. Water shortages resulting from over-extraction. Industrialised farming resulting in Monoculture leading to a loss of biodiversity Growth of alien species potential affecting native plants/animals Extensive use of fertilisers/pesticides etc poisoning water supplies. Increased mechanisation and larger farms, resulting in habitat loss. Population growth leading to urbanisation and deforestation. 	(2)

Question	Answer	Mark
3(c)	1 mark for identifying an appropriate management measure. Additional mark(s) awarded for extending statements. e.g. Establish national parks (1) to ban economic activities that harm the ecosystem (1). e.g. Limited deforestation (1) to ensure habitats are protected (1). e.g. CITES (1) international agreement to stop the trade in endangered species (1) Common conservation methods include:	(4)
	 National Parks (nature reserves) – legal status given to designated regions to protect habitats and wildlife and restrict damaging economic activities. Trade Agreements – CITES (Convention on International trade in endangered species) signed by 166 countries. Purposed to prevent trade of items made from endangered species, e.g. ivory products or crocodile skin footwear. Biodiversity Action Plans – Designed to protect native / natural vegetation in areas where habitats and wildlife are under threat. Global Treaties – The Ramsar Convention on Wetlands aimed to provide special protection status to endangered wetlands in 151 countries. Promotion of eco-tourism – Tourism based activities which are designed to be sustainable. Minimising damage to the environment. Sustainable resource use e.g. logging industries replant deforested regions. Legal protection – laws introduced to prevent harmful activities. Fishing quotas to prevent overfishing. 	
	If only one method has been identified, maximum mark 3. NB: Do not reward simple statements referring to	
	being 'sustainable'. Candidates are required to describe how their proposed technique is sustainable. (2+2 or 3+1)	

Question	Answer	Mark
Number		
4(a)(i)	100km	(1)
	NB: Accept without unit	
	'	

Question	Answer	Mark
Number		
4(a)(ii)	4(a)(ii) (B) south east	

Question Number	Answer	Mark		
4(b)	b) 1 mark for identifying a human activity that can cause a reduction in water quality.			
	The question focus is water quality not supply.			
	E.g. Dumping sewage (1 mark).			
	E.g. Overuse of fertilisers (1 mark).			
	 Chosen activities are likely to include: Hazardous waste deposal from industry. Excessive fertiliser use resulting in eutrophication. Deforestation leading to channel becoming silted-up. Sewage waste released into rivers. Chemical sprays from gardens washed into rivers. Release of hot water from power stations. Atmospheric pollution leading to acid rain and changes in a river's ph. Dumping of litter (2 x 1) 			

Question Number	Answer	Mark
4(c)	One mark awarded for identifying an appropriate benefit. Additional mark(s) can be gained through more in-depth description. e.g. large dams can be used to provide HEP (1 mark), a renewable energy source (1 mark) that doesn't result in carbon emissions (1 mark). e.g. The Three Gorges project has reduced the flood risk downstream (1 mark) by controlling the amount of water released during periods of heavy rain (1 mark). Common benefits are likely to include: • Controls the flow of water reducing flood risk • Generation of HEP, renewable source of energy for local homes and businesses. • More reliable water supply – water available during droughts. • Reservoir for fishing • Dam / reservoir tourist attraction • Regulated flow benefits river transport • Improved irrigation for farming NB: If only one benefit is described, maximum mark 3. NB: No marks are to be awarded to candidates who describe the benefits of a small scale scheme. NB: If no specific scheme is identified – maximum mark 3. Generic statements (such as dams) are insufficient for full marks.	(4)

Question	Answer	Mark
Number		
5(a)	Rock Armour or Rip Rap	
	Recurved Seawall (allow sea wall by itself).	
	Beach replenishment / nourishment	

Question Number	Answer	Mark
5(b)	1 mark for each disadvantage identified.	(2)
	Common answers likely to include:	
	Expensive to build	
	Ugly / Unnatural	
	 Restricts beach access 	
	Costly to maintain	
	 Construction harms the environment 	
	 Can have knock-on consequences for other 	
	sections of coastline.	
	(2x1)	

*5(c) QWC i-ii-iii Coastline retreat is usually the consequence of a wide range natural processes, including weathering and erosion Weathering: Biological – Plant roots pushing into cracks and destabilising the cliff face. Chemical – Salt in the sea water/spray reacting with minerals in the rock.
Physical – Freeze-thaw: rock break-up due to change temperature. Erosion: • Abrasion (corrasion) – Stones in the waves smashed hurled into the cliff face. • Hydraulic Action – Force of the waves hitting the cliffs • Corrosion – Chemicals in the sea water react with minerals in the rock. NB: Do not credit statements relating to longshore dri NB: Response can be written, diagrammatic or a combination of both. Do not double award points made both the diagram & text.

Level	Mark	Descriptor
Level 0	0	No acceptable response.
Level 1	1-2	At least one process of weathering or erosion has been identified. Generic / simple statement(s). Basic geographical terminology. e.g. Coastal retreat is caused by waves hitting the cliff. (1 mark)
Level 2	3-4	At least one process of weathering or erosion has been briefly explained. Clearly communicated, but with limited use of geographical terminology. e.g. The cliff is eroded by the sea. Strong waves can smash into the coastline and hurl stones against the cliff, chipping off small pieces. (3). A response which include a long list of processes but doesn't relate them to coastline retreat, maximum mark 4.
Level 3	5-6	Answer refers to both weathering and erosion. At least two processes have been explained. A range of geographical terms have been effectively applied. Response is clearly communicated. Answer links processes to coastal retreat. e.g. Coastlines retreat because of a number of processes. Salt in the sea's spray can cause chemical weathering, causing the cliff face to dissolve. Whilst stones in the sea water are smashed into the cliff, a type of erosion known as abrasion. These processes weaken the cliff and can cause it fall into the sea, making the cliff move back. (6 marks)

Question Number	Answer	Mark
6(a)(i)	Peak Discharge Also allow Peak Flow and Maximum Discharge NB: Do not allow 'peak' by itself.	(1)

Question Number	Answer	Mark
6(a)(ii)	 1 mark for each valid description. Common responses likely to include: It there is a period of rainfall (1) it last 6 hours (1) It rained (1) and the river's discharge increased (1) The rainwater ran into the river (1) causing the discharge to increase (1) Discharged increased (1) to 60 cumecs (1) It rained (1) between 02:00 and 08:00 (1) NB: Credit statements which identify this period as the 'lag time'. NB: Marks are not to be awarded for statements relating to the likelihood of flooding. There is no information on the hydrograph to enable candidates to make a meaningful judgement about the flood risk. 	(2)

0	London Albania
Question Number	Indicative content
	River channels change as a result of a wide range of natural processes, including erosion and transport. Erosion: • Abrasion (corrasion) – Stones carried in the current are smashed and hurled into the river's bed and banks. • Hydraulic Action – The pressure of fast flowing water • Corrosion – Chemicals in the water react with the rock the river flows over. Deposition: Refers to the dropping of material in areas of low energy (inside of a meander). This can lead to the build-up of bedload and the formation of new land. NB: Response can be written, diagrammatic or a combination of both. Do not double award points made in both the diagram & text.

Level	Mark	Descriptor
Level 0	0	No acceptable response.
Level 1	1-2	At least one process or change has been identified. Generic / simple statement(s).Basic geographical terminology. e.g. The river's channel is made shallower by the river dropping stones and pebbles. (1 mark)
Level 2	3-4	At least one process has been briefly explained. Clearly communicated, but with limited use of geographical terminology. e.g. The channel changes because of hydraulic action. Fast flowing currents can smash into the river's bank. The water also smashes stones into the bed. (3 marks). NB: A response which lists processes but doesn't link them to changes in the channel, maximum mark 4.
Level 3	5-6	Answer refers to both erosion and deposition. Clear explanation. Candidate links processes to channel change. A range of geographical terms have been effectively applied. Response is clearly communicated. e.g. River channels change because of a number of processes. Stones picked up by the rivers current can be smashed into bed and banks, chipping off pieces of rock (abrasion), making the river deeper. In areas of slow flow rocks are deposited, because the river has no energy. This makes the channel shallower. (6 marks)

Question	Answer	
Number		
7(a)	(B) It is mainly within 200 km of the coastlines of	(1)
	Belgium and the Netherlands	

Number	Answer	Mark
7(b)	 1 mark for identifying an appropriate human activity. Additional mark for providing an extending statement. Answers likely to include: Over fishing creating food-web imbalances/dead zones Industry and shipping releasing toxic pollutants Farming waste and chemical fertilisers being washed into the sea causing eutrophication. Coastline construction resulting in habitat destruction (e.g. mangroves & coral reefs) Climate change leading to more storms, changes in salinity and warmer temperatures. Aquarium trade, reducing the population of certain species and in some cases leading to habitat destruction. Litter – poisoning wildlife / damaging habitats Tourism – scuba divers damaging reefs / 	(2)
	 pollutants from sun creams contaminating the water. Sewage – leading to coastal algae blooms. (2x1) 	

Question Number	Indicative content		
Question Number *7 (c) QWC i-ii-iii	 Indicative content The management measures used will vary according to the chosen case study. Common case studies likely to include: St Lucia introduced a community-based coastline management programme in 1986. 19 areas (including reefs and mangroves) were declared Marine Reserve Areas. These areas have been developed as ecotourism resorts to provide local communities with new employment opportunities which enhance rather than destroy the coastline. In the North Sea the EU has introduced a fisheries policy for all its member states in an attempt to revive fish stocks. Each year a limit is placed on the number of fish from each species that can be caught, this quota is based on an annual 'state of stock' survey. 		
	The Firth of Clyde has been designated as a no-take zone. All fishing within this zone has been banned to enable fish stocks to recover after a period of heavy over-fishing. Surrounding regions have also been made into management areas, where only less-destructive forms of fishing are allowed. Controls have also been placed on coastline pollution/development.		

Level	Mark	Descriptor
Level 0	0	No acceptable response.
Level 1	1–2	A list of marine management measures. Explanation is either not attempted or unclear. Use of geographical terminology tends to be basic. E.g. Marine reserves can be set up (1 mark).
Level 2	3–4	An attempt to explain one approach to managing marine areas. Reference to a named area but is not linked to explanation. Clearly communicated but with limited use of geographical terminology. E.g. In St Lucia reserves were set up to protect important ecosystems such as endangered coral reefs. Local people were employed to protect the wildlife. (4 marks). NB: If the candidate fails to identify a specific location, max mark 4.
Level 3	5-6	Two or more approaches to managing marine areas are well explained. A named region is used to illustrate one or more of the explanations. Well communicated with good use of geographical terminology. E.g. In St Lucia reserves were established to protect endangered ecosystems, such as reefs and mangroves. These reserves restricted fishing and banned the use of mosquito insecticides. Local people were offered new jobs in eco-tourism resorts which turned the marine ecosystem into an asset for the islanders. (6 marks).

SPaG Level 0	0	Errors severely hinder the meaning of the response or candidate does not spell, punctuate or use the rules of grammar within the context of the demands of the question.
SPaG Level 1	1	Threshold performance Candidate spells, punctuates and uses the rules of grammar with reasonable accuracy in the context of the demands of the question. Any errors do not hinder meaning in the response. Where required, they use a limited range of specialist terms appropriately.
SPaG Level 2	2	Intermediate performance Candidate spells, punctuates and uses the rules of grammar with considerable accuracy and general control of meaning in the context of the demands of the question. Where required, they use a good range of specialist terms with facility.
SPaG Level 3	3	High performance Candidate spells, punctuates and uses the rules of grammar with consistent accuracy and effective control of meaning in the context of the demands of the question. Where required, they use a wide range of specialist terms adeptly and with precision.

Question Number	Answer	Mark
8(a)	(B) Both sea ice and glaciers have shrunk	(1)

Question Number	Answer	Mark
8(b)	 1 mark for identifying an appropriate GLOBAL (international) action. Additional mark for providing an extending statement. Common responses likely to include: Kyoto Treaty – 181 countries agree to cut greenhouse gas emissions by 5.2% by 2012. Antarctic Treaty – Restricts commercial exploitation of the continent. Protocol on Environment Protection – No new activity is allowed to start until a full risk assessment of its environmental impact has been carried out. International Year of the Desert – Designed to unite communities and halt desertification. CITIES – International agreement not to trade in endangered animals, many of which live in extreme environments. 	(2)
	NB: Credit statements that refer to an appropriate global action but fail to use the correct term/name. e.g. Countries agreed to take actions to reduce their CO ₂ emissions (1).	
	NB: Do not credit local actions, such as the establishment of National Parks, Marine Reserves or localised zoning schemes.	
	(2x1)	

Question	Indicative content		
Number *8 (c)	Hot Arid:		
QWC	Hot Alia.		
1-11-111	Central Australia – Water supplies are secured through dams and boreholes. Grey water is recycled. Houses are built into the rock, evening out temperature extremes. Solar panels are used to generate electricity. Work in the early morning and evenings. Stay in air-conditioned buildings during the heat of midday. Grow crops which can survive the extreme climate.		
	Polar: Alaska – Houses are built with steep roofs causing snow to slip off. Triple glazed windows trap heat indoors. Houses are built on stilts to prevent their heat melting the permafrost. Reliance on hunting and fishing as climate prevents farming. Geothermal heat sources are used to warm homes and generate electricity.		
Level	Mark	Descriptor	
Level 0	0	No acceptable response.	
Level 1	1–2	A list of actions. Explanation is either not attempted or unclear. Use of geographical terminology tends to be basic.	
		E.g. In deserts people can survive by digging wells. (1 mark)	
Level 2	3–4	An attempt to explain one action. Reference to a named area but it is not necessarily linked to the explanation. Clearly communicated but with limited use of geographical terminology. E.g. In Australia water is pumped from underground using windmills and solar panels. This water is used for farming and domestic use (4 marks).	
		NB: If the candidate fails to identify a specific location, max mark 4.	
Level 3	5–6	Two or more actions are well explained. A named region is used to illustrate one or more of the explanations. Well communicated with good use of geographical terminology. E.g. In Alaska local tribes hunt fish as the cold weather makes farming almost impossible. Homes are designed to remain warm in the low temperatures by retaining heat through excellent insulation and tripled glazed windows, whilst central heating is provided by cheap geothermal energy as Alaska is on a plate boundary (6 marks).	

SPaG Level 0	0	Errors severely hinder the meaning of the response or candidate does not spell, punctuate or use the rules of grammar within the context of the demands of the question.
SPaG Level 1	1	Threshold performance Candidate spells, punctuates and uses the rules of grammar with reasonable accuracy in the context of the demands of the question. Any errors do not hinder meaning in the response. Where required, they use a limited range of specialist terms appropriately.
SPaG Level 2	2	Intermediate performance Candidate spells, punctuates and uses the rules of grammar with considerable accuracy and general control of meaning in the context of the demands of the question. Where required, they use a good range of specialist terms with facility.
SPaG Level 3	3	High performance Candidate spells, punctuates and uses the rules of grammar with consistent accuracy and effective control of meaning in the context of the demands of the question. Where required, they use a wide range of specialist terms adeptly and with precision.

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