

Mark Scheme (Results)

Summer 2014

Pearson Edexcel GCSE in Geography A (5GA2H)

Unit 2: The Natural Environment (Higher)



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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?
 - What range of specialist terms is used?
 - o How accurate is the spelling, punctuation and grammar?

Question Number	Answer	Mark
1(a)	 They are above 1m in height (1) They have a greater / strong backwash (1) Weak / low energy swash (1) Frequency ~>8 per minute (1) Shorter wavelength (than constructive) Plunging waves as shown in Figure 1 (1) Waves look steep on the picture (1) Erodes the beach / cliffs / land (1) Allow other characteristics relevant to a destructive wave. Do not credit reference to the wave type. Must have implied reference to Figure 1 in answer for 2 marks, e.g. reference to a beach (even though it may not be clear in the picture).	2 1+1

Question Number	Answer	Mark
1 (b)	 Movement of beach material along / down the beach (1), movement of beach material off the coastline.(1) Enables the build-up of material on the spit overtime / spit gets bigger over time. (1) Change in direction of coast allows deposition / spit to be created (1) Swash and backwash transporting sediment (1) in the direction of prevailing wind (1) 	3 (1+1)+1 or (1+1+1)
	Other relevant points should be given if related to spit development. Must make reference to build up of material off the coastline for max 3 marks.	

Question Number	Answer	Mark
1(c)	Hard Engineering types include: groynes, sea walls, off-shore reefs, rip-rap and revetments, gabions, breakwaters etc	4 (2+1)+1 2+2
	Soft engineering types include: beach replenishment (nourishment), managed retreat and cliff re-grading	
	 Advantages of hard engineering: Durability Effectiveness against coastal processes Lack of need for other methods Extent of protection offered to human land-use 	
	 Advantages of soft engineering: Relatively low cost Sustainability of schemes Low visual impact 	
	Note – types of engineering must mentioned for credit, e.g. "soft engineering is cheaper than hard engineering" would get no credit as no actual types are mentioned which is part of the question.	
	e.g. hard engineering such as sea walls act as a barrier to oncoming waves (1), and subsequently are able to absorb wave energy (1). Soft engineering often have a low set-up cost (1) which means that money can be used for alternative defence types in conjunction (1).	
	Limit to 3 marks if there is no direct comparison, but candidates can compare types (hard vs soft) or between types.	
	Max 3 if only hard or soft engineering mentioned.	

Question Number	Indicat	ive content
1d	 Coastal recession refers to the continued action of coastal processes leading to a loss at the coastline. Impacts of coastal recession on human environment: Increased need for coastal protection to slow the rate of recession Potential loss of land-use to erosion Need for evacuation, as the land is imminently likely to damage human infrastructure Higher insurance claims as a consequence of claims made or damage done Need to change the land-use of the coast. Lack of safety along that area of coastline due to potential further losses Credit other sensible suggestions. 	
Level	Mark	Descriptor
Level 0	0	No acceptable response
Level 1	1-2	A very basic description of the effects of coastal recession on the coastline. Case study material may be included, but is not always relevant to the answer. Very basic use of geographical terminology – communication not always clear.
Level 2	3-4	An attempt or partial explanation at the effects of coastal recession on the human environment. For top of level expect partial explanation(s) or a partial explanation and locational detail. Some use of geographical terminology and communication is mostly clear.
Level 3	5-6	Explanation of two or more effects of coastal recession on the human environment with but likely unbalanced. For top of band expect good depth or detail, likely through locational detail. Candidates can also use range to access the top of this band with less depth. Clear use of geographical terminology and well communicated.

Question Number	Answer	Mark
2(a) (i)	Gradient – decreases downstream/less steep/flatter etc (1) Velocity – (slowly) increases, gets faster etc (1)	2 1+1

Question Number	Answer	Mark
2(a) (ii)	 Discharge Increases downstream (1) Increased input from tributaries (1) More water from ground water / bank sides / ground water (1) which increases volume (1) Changes in land use affect discharge (1) e.g. urbanisation means more water entering channel (1) Water entering from surface run-off (1) and direct precipitation (1) Greater energy in channel therefore more erosive power (1) provides greater width therefore more capacity (1) 	3 1+(1+1) or 2+1

Question Number	Answer	Mark
2(b)	 For maximum 4 marks candidates require: A sequence of formation from meander to complete oxbow (at least two transformations) Reference to a named process, e.g. abrasion etc, or deposition, transportation Evidence of explanation Oxbow formation processes include: Increased erosion on the outside of the meander leading to elongation of meander neck Thinning of meander neck caused by erosion on outside bend. Increased discharge event leading to breach of meander neck Deposition in the old meander to separate the new channel and old meander Meander scar develops as the water drains over time. 	4 2+2 or 1+3

Question Number	Indicative content	
2c	contro Differe •	nanagement is a measure taken by humans to I river processes. Ant types of methods to include: Hard Engineering – embankments, channelisation, flood relief channels, dams Soft engineering – flood plain zoning, washlands, flood warning systems, afforestation Do nothing
Level	Mark	Descriptor
Level 0	0	No acceptable response
Level 1	1-2	A very basic description of river management. Case study material may be included, but is not always relevant to the answer. Very basic use of geographical terminology – communication not always clear.
Level 2	3-4	An attempt or partial explanation linked to river management. For top of level expect partial explanation(s) or a partial explanation and locational detail. Some use of geographical terminology and communication is mostly clear.
Level 3	5-6	Two or more explanations of river management but likely unbalanced. For top of band expect good depth or detail, likely through locational detail. Candidates can also use range to access the top of this band with less depth. Clear use of geographical terminology and well communicated.

Question Number	Answer	Mark
3(a) (i)	 Some attempt to develop reasons such as: People are employed in the tourism (1) associated with tours to places such as Trafalgar falls therefore improving local economy (1) Warm climate (1) Family ties / cultural reasons (1) Religious reasons (1) Access to geothermal energy (1) The airport provides important route for trade (1) with other nations developing local economy (1) People in Roseau may be unable to afford to leave (1) Cruise ships provide valuable income for a range of local businesses (1). The pyroclastic material provides a fertile soil for agricultural growth (1), increasing local yields (1). Max 2 marks for straight lifts from Figure. 	4 (1+1)+ (1+1)

Question Number	Answer	Mark
3(a) (ii)	Characteristics of convergent plate: • subduction zone (1) • earthquakes • tsunami (1) • (fold) mountains (1) • island arcs (1) • ocean trench (1) • movement of plates together (1) • variations in plate density (1) • landslides • variations in plate type, e.g. oceanic – continental etc. (1) Accept other relevant answer	2

Question Number	Answer	Mark
3(b)	Surface fault line B B Figure 3b - A diagram showing characteristic earthquake features. C $A = focus (1)$ $B = epicentre (1)$ $C = seismic waves / shockwaves / energy$ waves (1). Reject just "waves".	3 1+1+1

Question	Indicat	ive content
Number		
3(c)	reduce buildir	uestion requires candidates to explain how measures e the impacts of earthquakes (such as damage to ngs and infrastructure, shaking, injury/death or al disruption).
	Educa	ng design Use of cross bracing to counteract sideways and vertical movements Use of counterweights to prevent tops of buildings swaying Shock absorbers to dull the seismic waves as they pass onto the surface Land use planning around buildings to allow space for escape from falling objects Shatter-proof glass to prevent injury on the street from falling glass tion Improves understanding of the risk and associated hazards Know where to hide e.g. under desks or door frames Training for emergency response teams Hazard awareness days e.g. 1 st Sept in Japan. Enables sound preparation measures to be taken such as emergency packs
Level	Mark	Descriptor
Level 0	0	No acceptable response
Level 1	1-2	A very basic description of building design or education. Case study material may be included, but is not always relevant to the answer. Very basic use of geographical terminology – communication not always clear.
Level 2	3-4	An attempt or partial explanation linked to design or education (or both). For top of level expect partial explanation(s) or a partial explanation and locational detail. Some use of geographical terminology and communication is mostly clear.
Level 3	5-6	Explanations of building design and education but likely unbalanced. For top of band expect good depth or detail, likely through locational detail and reasonable balance. Candidates can also use range to access the top of this band with less depth. Clear use of geographical terminology and well communicated.

Question Number	Answer			Mark	
4(a)	1 mark per co	Renewable	Nuclear %	Fossil Fuels %	2
	Nth America Africa	<i>8</i> 5	10 1	82 94	-

Question Number	Answer	Mark
4(a) (ii)	 Candidates may choose to compare: overall pattern exceptions to pattern comparisons between regions use of data e.g. Both Europe and Middle East have greatest amount of fossil fuels (1) Middle east has less renewable than Europe 	4
	 (1) Europe uses less % fossil fuels than the middle east (1) Europe uses more nuclear than Middle East (1) 	
	Reserve one mark for the use of data.	
	Maximum 3 without comparison.	
	Maximum 2 for just a list.	

Question	Answer	Mark
Number 4(b)	 Greater wealth and income: Greater wealth means that there is more consumption (1) Can produce more energy as they have the financial means and technology to do so (1) Can import energy from other nations (1), as have developed trade links and have the capital to import (1). Have the ability to finance creation of new power station development (1) or create a distribution network of energy (1) Can create supply through a grid (1) therefore supply demand (1) People have high demands due to their consumer-based lifestyle (1) as a consequence of advertising and disposable 	4 (1+1)+ (1+1)
	incomes (1). Max 2 without explanation. Max 3 without 2 separate developed points	

Question Number	Answer	Mark
4(c)	 Advantages of landfill: Can tap gases as part of energy creation, e.g. methane (1) An effective way to rid of large amounts of waste (1) Effectively deals with biodegradable waste (compositing) (1) Does not burn materials which add CO₂ to the atmosphere (e.g. incineration) Once filled, creates open space in a potentially urban area (1) and can provide valuable habitat / ecosystem (1) More cost effective / relatively cheap than other types of disposal (1) May minimise road transport of waste (1) Burying can help reduce the spread of disease (1) Waste can be sorted on site into different types / streams (1) this means there is local employment (1) Landfill sites used to be past mineral extractions in the UK so convenient use for the hole in the ground (1) Accept other sensible suggestions. 	4 (1+1)+ (1+1)

Number
 *4 (d) QWC i-ii-iii Question is about solutions to energy waste – not solid waste. Answers must be involved in reducing waste rather than producing more energy. While this question is in the context of energy saving measures, it should focus on the viewpoints of individuals, organisations or government regarding the value or implementation of the solutions. Answers in the context of solid waste (e.g. recycling, incineration etc.) can only score in level 1 if they are linked to the views of organisations, individuals or government. I the candidate just gives a description of managing solutions to solid waste the score will be 0. Views of the following groups could apply: Individuals May not be able to afford cost of introducing new measures such as new boiler systems/double glazing. Bad habits may mean that people do not want to change their ways! May not see the value of such measures due to being content with the heating systems they have Measures (such as CHP schemes) may not be available to individuals therefore not able to implement them. Organisations May make their business less productive (profitable) therefore will not Pressure groups may have different opinions to companies in approaches which may put pressure on the company. Companies may agree that it gives them a lower carbon footprint. May receive money/grants from other organisations (e.g. government) therefore be encouraged to implement measures.

	s • L • L • C n • C g • M • M	ment Government may not be willing to implement large cale measures in their period of government. egislation of government may be at odds with lemands of individuals or organisations ocal authority approaches may vary from those at ational government. Governments may be encouraged to implement neasures to fit in with international agreements Kyoto/Copenhagen) Governments consider them important therefore give grants. May offer companies tax exemptions to meet their energy targets May offer individuals grants to implement schemes e.g. new boilers).	
Level	Mark	Descriptor	
Level 0	0	No acceptable response	
Level 1	1–2	A very basic description of solutions to energy and or waste. Examples may be included, but are of limited relevance to the answer. Views absent, not clear or very generic (i.e. not linked to a group). Very basic use of geographical terminology – communication not always clear.	
Level 2	3–4	One partial link to views of at least one group (may be implicit or generic). For top of level expect partial explanation of one or more views. Exemplification may be used, especially in the top of this band. Generally clearly communicated but with mixed use of geographical terminology.	
Level 3	5–6	Clearer explanation of two or more viewpoints to the solutions to energy waste, but likely unbalanced. For top of band expect better depth or detail through viewpoint. Case study is located, well developed with supporting details For top of band, explanations of different groups viewpoints are balanced, with breadth and depth. Well communicated with good use of geographical terminology.	
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	<i>Threshold performance</i> 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	2-3	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	4	<i>High performance</i> 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
5(a) (i)	Country Sweden	En 10	Ind 45	Agr 35	Dom 10	2
	Spain 1 mark per c	25 orrect se	15 t of value	20 s per cou	40	

Question Number	Answer	Mark
5(a) (ii)	Candidates may choose to compare: 1. overall pattern 2. exceptions to pattern 3. comparisons between regions 4. use of data e.g.	4 1+1+1+ 1 or (1+1)+1 +1
	 UK has the highest values for industry and domestic use (1) Turkey has a highest use is on agriculture (1) at 75% (1) UK has a high energy use (1) UK has a greater use on industry than Turkey (1) 	
	Reserve one mark for the use of data. Maximum 3 without comparison. Maximum 2 for just a list.	

Question Number	Answer	Mark
5(b)	 Greater wealth = greater consumption (1) Increased use of labour saving devices (1) which consume large amounts of water (1). Able to afford labour saving devices as have greater income (1) Use of devices with high domestic use (1) Greater need to support industry and energy demands of country (1) Low use for agriculture due to efficient technology or importing of food High use for recreation (1) e.g. swimming/theme parks/golf courses In LICs poor access to water = less consumption (1) Max 2 without explanation. 	4 (1+1)+ (1+1)

Question Number	Answer	Mark
5(c)	 Lack of access Long walk to nearest water supply/hole (1) which could be also used by animals who carry disease and pass on through water (1) No alternative but to drink contaminated water (1) due to poverty (1) as a consequence of desperation (1), perhaps due to drought? Pollution Use by heavy industry who dump polluted water back into local water courses (1) which are used by people without knowledge of contamination (1) Human use of rivers – faeces and urine in water course (1) therefore increases chances of passing water borne illnesses (1). Allow generic references to poor sanitation or poverty causes. 	4
	Max 2 without explanation.	

Question	Indicative content
Number *5 (d) QWC i-ii-iii	Water management schemes are measures taken (usually larger scale) to control water use. This question looks at the viewpoints of different individuals, groups to determine the value of the schemes.
	Schemes can be at a variety of scales, including international schemes e.g. dams, national schemes or local schemes e.g. water management in factories.
	Depending on the case study the viewpoints could be from:
	 Individuals May object to the measures being implemented nearby as it may affect their livelihood People may lose their business e.g. farmland from a large scale scheme. People may be concerned over action taken by government over the water management schemes (e.g. conflict) People may be concerned over loss to biodiversity. Groups/Organisations/Pressure groups May charge too much for the services to install or introduce water management measures Pressure groups may have different opinions to water companies in approaches. Workers may be in favour of the scheme if their pay is linked to water savings. Workers may not implement the schemes as they do not see the value of the scheme Pressure group may be concerned over the impact of the water management scheme on the environment.
	 Change in government may lead to different policy approaches Legislation of government in relation to the schemes may be at odds with demands of individuals or organisations
	 Government may object to costing of the scheme or may not be able to afford the scheme or may not feel the scheme was cost effective. The scheme could have international implications therefore could lead to conflict.

Level	Mark	Descriptor
Level 0	0	No acceptable response
Level 1	1–2	A very basic description of a water management scheme. Examples may be included, but are of limited relevance to the answer. Very basic use of geographical terminology – communication not always clear.
Level 2	3–4	One partial link to views of least one group (may be implicit or generic). For top of level expect partial explanation of one or more views. Exemplification may be used, especially in the top of this band. Generally clearly communicated but with mixed use of geographical terminology.
Level 3	5–6	Clearer explanation of two or more views linked to water management scheme, but likely unbalanced. For top of band expect better depth or detail through viewpoint. Case study is located, well developed with supporting details For top of band, explanations of different groups viewpoints are balanced, with breadth and depth. Well communicated with good use of geographical terminology.
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	<i>Threshold performance</i> 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	2-3	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	4	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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