

Mark Scheme (Results)

Summer 2017

Pearson Edexcel GCSE in Geography A (5GA2H/01) Unit 2: The Natural Environment



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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 be 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:
 - $\circ\;$ How well does the response communicate the meaning?
 - What range of specialist terms is used?
 - How accurate is the spelling, punctuation and grammar?

Question Number	Answer	Mark		
1(a) (i)	answer should have an element of comparison for 2 marks.			
	Allow 2 marks for a developed comparison. Coastline X is straighter/ less indented than coastline Y (1). This suggests coastline X has a different geology to coastline Y (1) Coastline Y has smaller bays and bigger headlands than X (1). Coastline Y is longer than coastline X (1). Coastline Y is longer than coastline X (1). Coastline Y is 46km whereas Coastline X is 36km (1) allow variations Credit use of scale separately (1). Coastline X faces north west whereas coastline Y faces south east (1).			

Question Number	Answer	Mark
1(a) (ii)	Reasons for beach formation could include:	3
	Deposition	1+1+1
	Longshore drift Onshore waves / Constructive waves	(1+1) + 1
	Erosion of sea cliffs (and subsequent	
	deposition) Groynes	(1+1+1)
	For example:	
	Constructive waves form beaches as the swash is greater than the backwash (1) Constructive waves therefore pushing material onto the beach / depositing (1). This commonly occurs in bays/ in sheltered areas (1)	
	Longshore drift moves sediment along the coast (1). Groynes may trap this sediment leading to a beach forming between them (1).	
	Credit destructive waves only if there is a link directly to the formation of a beach, eg erosion of cliffs / bay	

Must have a developed point for 3 marks (as this is a suggest question).	
Accept any correct answer.	

Question Number	Answer	Mark
1(b)	This requires an explanation of the management techniques (candidates may use more than one type). Candidate must explain two techniques to achieve full marks. Max 3 without reference to a specific example.	4 (1+1)+(1+1)
	Credit candidates for references to either how or why the technique is used.	
	Max 2 marks for description.	
	Do not credit references to coastal flooding.	
	Types of management Sea walls Rip rap/Rock armour Revetments Groynes Drainage Beach nourishment Managed retreat	
	Example At Barton on Sea the wooden groynes which were constructed in the 1960s have been replaced by stone groynes (1). These were installed because previously storms destroyed the wooden groynes (1). The stone groynes constructed in the 1990s are more resistant to large waves and hydraulic action (1) therefore more durable (1). Drainage pipes used in the boulder clays have been used (1) because they do not allow excess water to build up (1) which has meant that there is reduced slumping (1).	

Question Number	Indicat	ive content			
1c		uestion requires candidates to use Figure 1b to nine differences between the erosion rates.			
	geolog absort for a c	ford a lower erosion rate (0.14) as it has harder logy. It is also managed with rip rap which can orb wave energy and beach replenishment will allow a continued buffer between cliffs and the sea. These asures will allow for a reduced rate of erosion.			
	Has th due to easily may b cannot be effe	Trimingham Has the higher erosion rate (1.5m/yr) – which may be due to the relatively weaker boulder clay which is more easily eroded in high energy periods. Another reason may be that the wood revetments are not effective and cannot prevent the sea from eroding. The sea wall may be effective but may be simply reducing the rate from one higher than present.			
	throu the de	Candidates can achieve development in two ways: through the development of geology/defences or the development of erosion rate at Seaford or Trimingham.			
		Give credit for interpretation of the information. Max level 1 if no reference to figure 1b.			
Level	Mark	Descriptor			
Level 0	0	No acceptable response.			
Level 1	1-2	Descriptions of the differences in the rate of erosion, or descriptions of the reasons e.g. simple links to geology, fetch and management. Very basic use of geographical terminology, spelling, punctuation and grammar.			
Level 2	3-4	Has a partial explanation of one reason for variations of erosion rates. At the top of the level more than one partial explanation of the reasons linked to variable erosion rates. Generally clearly communicated, but with limited use of geographical terminology. Candidates spell, punctuate and use the rules of grammar with considerable accuracy.			
Level 3	5-6	A full explanation of one reason for the variation in erosion rate, including detailed description or partial explanations. For the top of the level there should be more than one detailed explanation for variations in erosion rate. Well communicated with good use of geographical terminology, spelling, punctuation and grammar.			

Question Number	Answer	Mark
2(a) (i)	Meander (allow river beach/slip-off slope/river cliff) Flood plain Levee Channel Do not credit confluence/tributary/stream	1

Question Number	Answer	Mark
-	Answer This question requires an outline therefore maximum 2 for only descriptive comments without development. Two processes need an outline for full marks. Main processes include: Erosion (including types hydraulic action, abrasion, solution and attrition). Deposition Transportation (including traction, saltation, suspension, solution). Allow also reference to mass movement or weathering in the correct context. Example: As water travels faster around the outside bend of the meander it hits the bank (1). The force of this impact	Mark 4 (1+1)+(1+1)
	 Dank (1). The force of this impact causes erosion (1) On the inside of the meander the water is travelling at a slower velocity (1). Therefore it has less energy and deposits its load (1). Processes must be linked to specific place on the meander – e.g. erosion occurs on the outside bend and deposition occurs on the inside bend. 	

Question Number	Answer	Mark
2(b)	Maximum 2 marks for just description (no annotation/explanation) Max 1 for a labelled diagram Score 0 if no diagram used	4 (1+1)+(1+1)
	An answer reaching full marks should have: i) at least two annotations (explanation labelled to a point on the diagram) ii) have full sequence – through temporal change	
	The sequence should include (either explained or described):	
	Flooding Build-up of material adjacent to river Largest material deposited first, finest further	
	Example (of text without diagram) Levees form due to flooding. As the river overflows its banks it starts to lose energy. As a result material is deposited next to the river. The largest material is deposited first, finer further away. Repetition of this process leads to the formation of a levee.	

Question Number	Indicative content
2c	This question requires the candidate to explain how flooding can impact / affect people and the environment.
	The question requires candidates to use exemplar material to support their explanations.
	Impacts of flooding on people Death / Injury Damage to property / Infrastructure Damage / Loss of possessions Forced migration Loss of services e.g. electricity / transport Temporary / Permanent unemployment Disruption to infrastructure (roads and bridges)

	Impacts on the environment Loss of animals Loss of habitat Scouring of land / soil Redeposition of sediment / vegetation in the drainage basin Pollution to landscape Loss of land Change to the rivers features / characteristics	
Level	Mark	Descriptor
Level 0	0	No acceptable response.
Level 1	1-2	Descriptive comments of the impact of flooding. At the bottom of the level the description focuses on either people or the environment. At the top of the level the candidate describes the impact on both people and the environment. No exemplar material used. Very basic use of geographical terminology, spelling, punctuation and grammar.
Level 2	3-4	Has a partial explanation of one impact on people or the environment. At the top of the level has a partial explanation(s) of either people or the environment. There should also be evidence of an example to access the top of Level 2. Generally clearly communicated, but with limited use of geographical terminology. Candidates spell, punctuate and use the rules of grammar with considerable accuracy.
Level 3	5-6	A full explanation of one impact of flooding on people and the environment. The answer should also include partial explanations / detailed description as well as use of examples. For the top of the level there should be a detailed explanation of both the impact of flooding on both the people and the environment. There should be detailed use of exemplar material. Well communicated with good use of geographical terminology, spelling, punctuation and grammar.

Question Number	Answer	Mark
3(a)	Located at the point of the crust breaking (1). The point where energy/ pressure is released/ built up (1). Point under the surface directly below the epicentre (1). The origin of the earthquake (1). Seismic waves released from it (1). Occurs along a fault (1).	2 1+1

Question Number	Answer	Mark
	Credit at 1 mark per point. Max 2 if no explicit reference to Figure 3a. Haiti has already been affected by poverty (1). Pre-earthquake Haiti there was a poor quality of life (1) Poor quality of housing (1) Death because of the earthquake (1) Loss of family members evident from child missing in the final image (1). There was significant damage because of the earthquake (1) There is little evidence of outside support to help with the rebuilding (1) Haiti still in poverty (1) Accept any relevant suggestions.	3 1+1+1

Question Number	Answer	Mark
3(c)	Allow one mark for a description of a characteristic feature and one mark for the explanation of this feature. Do not credit reference to volcanic eruptions or volcanic cones. Do not credit single statements e.g. trench.	4 (1+1)+(1+1)
	Characteristic features include: Movement of plates towards each other Deep sea trench Subduction zone Large magnitude earthquakes Tsunamis Fold mountain formation	
	Example At a convergent plate boundary plates (oceanic + continental) move towards each other (1). This is a direct result of convection in the mantle which drags plates towards each other (allow reference to slab pull / ridge push here as well). (1) Deep sea trenches are found at the point of subduction (1). They occur as a result of the oceanic crust being folded downwards as it subducts below the continental crust, due to its higher density (1). Large magnitude earthquakes originate in the subduction zone at a convergent plate boundary (1). They form as a result of the large build-up of pressure as a result of the grinding of the oceanic / continental crusts passing each other (1).	

Question Number	Indicative of	content	
3d	event (case The focus of volcanic error Earthquak Ground sha Liquefaction Death / Inj Damage / I Disruption Volcanic e Burial by as Death / Inj Pyroclastic	Action / Injury ge / Destruction of buildings or infrastructure tion to life nic eruption effects by ash / Injury astic flows / burns action to property / infrastructure	
Level	Mark	Descriptor	
Level 0	0	No acceptable response.	
Level 1	1-2	Description of the effect of an eruption / earthquake. At the top of the level the candidate describes a series of effects. No exemplar material used. Very basic use of geographical terminology, spelling, punctuation and grammar.	
Level 2	3-4	Has a partial explanation of an effect of the event, along with description. At the top of the level there are partial explanations of the effects of an event. Case study material should be evident at the top of Level 2. Generally clearly communicated, but with limited use of geographical terminology. Candidates spell, punctuate and use the rules of grammar with considerable accuracy.	
Level 3	5-6	A clear explanation of the effects of either a volcanic eruption or an earthquake. The answer should also include partial explanations / detailed description as well as use of examples. For the top of the level there should be at least two well explained points on the effects. There should be detailed use of exemplar material. Well communicated with good use of geographical terminology, spelling, punctuation and grammar.	

Question	Answer	Mark
Question Number 4(a)	There is no credit available for descriptions of Figure 4a, just credit the reasons for the changes. Candidates must develop two reasons to reach full marks. Reasons for changes: Could be more gas which has been found (1) Gas could be more accessible (1) There is improved technology to extract gas (1) Oil is not as economically viable (1) because it is becoming to harder to source (1) Oil / Coal gives off CO ₂ therefore less demand / increase in demand in alternative energies (1) Renewable energy is being developed (with green agenda) (1) because governments are becoming more aware (1) Nuclear power is increasing slightly as	Mark 4 (1+1)+(1+1)
	new reactors are opened (1) to replace the ones at the end of their production life cycle (1). Accept any valid (possible) reason.	

Question Number	Answer	Mark
4(b)	Question requires an explanation therefore one mark for the point and one mark for the explanation of that point (linked to consumption). Income and wealth	4 (1+1)+(1+1)
	Countries with greater wealth = greater consumption (1) because people can either produce or import greater amount of energy for use (1) Wealthy people / countries are wasteful in energy use (1) People with a greater income can afford greater number of electrical items (1) these have a large demand on the use of energy (1)	

Greater income may mean that people leave items on standby (1) because they can afford to pay the bills (1)	
Accept transport/production energy as long as it is linked to energy	
Allow any acceptable explanations	

Question Number	Answer	Mark
4(c) (i)	Define term - 'throw away' society. Credit one mark for each relevant statement. Allow references to: Disposing of items which still work/broken/unwanted Replacing with new items Not recycling or reusing Consumerism Credit a descriptive example with one mark (not just an example) Throw away society is one influenced by consumerism. The concept of overconsumption or excessive production leading to excess therefore waste. The idea of short-lived product design or use or disposable items. To 'buy new' rather than 'repair'	2 1+1

Question Number	Answer	Mark
4(c)(ii)	 Allow 2 marks for descriptive comments. Allow a further 1 mark per development of a descriptive comment. The explanation should focus on how the authorities recycle (schemes) rather than why. Candidates need to develop two ideas to achieve full marks. Max 3 without reference to an example. Allow reference to waste collection and processing. 	4 (1+1)+(1+1)

Relevant ideas Councils offer bins / storage facility for recycling in the home Councils offer regular collections Councils collect a wide variety of recyclable goods Councils update people on how and when recycling will take place Councils offer facilities for recycling between collections The concept of recycling is well advertised The council fines people for failure to recycle.	
For example: Croydon council offer the use of different coloured bins to recycle (1) this encourages people to separate their waste which aid the recycling process (1). Councils offer updates on how and when recycling will take place (1) so to encourage people to prepare the recycled goods for collection (1) Points should be made in reference to the example studied.	

Question	Indicati	ve content	
Number *4 (d) QWC i-ii-iii	summation There is energy Relevan Coal Oil (Natura Nuclear Shale (If Tar san Attitude Destruct Pollution Pollution Pollution Pollution Pollution Pollution Potentia Short te of the a Wealth The em process The use compan	ves explaining a range of points and then offering a native comment linked to the question context. e is no credit for views in relation to a renewable gy source. rant non-renewable energy sources include: ural) Gas ear e (Fracking) ands redes may be focused on: ruction of the environment (environmentalists) ion of the ground (environmentalists) ion of the ground (environmentalists) ion of air ion of water tial for intoxication of water sources t term economic gain versus long term sustainability e area th generated by extraction employment of the local people in the extraction ess use of TNCs undertaking the business (versus local	
Level	Mark	Descriptor	
Level 0	0	No acceptable response.	
Level 1	1-2	A description of the advantages or disadvantages of a non-renewable energy source and/or a tenuous or descriptive attitude/view. Use of geographical terminology tends to be basic.	
Level 2	 3-4 An attempt to explain one attitude towards the exploitation of the non-renewable energy source. For top of the level a series of (at least two) partial explanations of views/attitudes which are generic. Generally clearly communicated but with limited use of geographical terminology. 		
Level 3	5–6	A good explanation of at least one attitude towards the exploitation of a non-renewable energy source, supported with partial explanations of views. To access level 3, views	

		should be explicitly linked to groups/organisations/individuals. At the top of the level the candidate makes two good explanations of attitudes and has clear examination (an overall comment/conclusion). 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	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	2-3	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.

Question	Answer	Mark
Question Number 5(a)	There is no credit available for descriptions of Figure 5a, just credit the reasons for the changes. Candidates must develop two reasons to reach full marks. Possible reasons for changes: The UK has a lower percentage of water use in agriculture as it imports a larger percentage of these products (1). The USA, while a developed country still grows a large amount of (wheat) crop therefore its water use in agriculture is still high (1). As an emerging economy China has a large percentage of agricultural water use to enable it to feed its large population (1) however it also has a large domestic water use as people are in greater demand of the resource (1). As India is still a relatively 'less developed' country it has a large amount of water use on agriculture as this represents one of the major industries in	Mark 4 (1+1)+(1+1)
	of water use on agriculture as this	
	Accept any valid suggestion.	

Question Number	Answer	Mark
-	Allow one mark for the description of the point and one mark for the explanation of that point. The point must focus on the 'effect' on water supply. Do not credit references to use. Water supply affected by rainfall An increase in rainfall in a given areas means that water supply is more abundant (1). This may be due to a change in climate causing more intense storms (1). It may be caused by living in a more mountainous area which gets greater amount of relief rainfall (1). Reduced rainfall leads to lower water supply (1). This may be due to water tables dropping making the access to the water more challenging (1). Flash floods may lead to a large amount of runoff which is unmanageable	4 (1+1)+(1+1)
	(1)leading to a contamination of water supply therefore reducing water supply(1) leading to need for emergency provision (albeit temporarily).	

Question Number	Answer	Mark
5(c)(i)	One mark for a simple idea of appropriate technology at community scale. The second mark for development.	2 1+1
	Credit the following ideas: Small scale Easy to maintain Sustainable Meets the needs of the local people Cost efficient/ effective (NOT cheap)	
	Appropriate technology are small scale (water) measures used to manage the resource (1). The technology is simple so that local people can manage it (1) without the need for excessive use of electricity or technology to maintain it.	

Question Number	Answer	Mark
-	The answer requires an explanation. Allow two marks to describe how water is managed. Allow a further mark to explain each description of the management. Max 3 without any examples used. Industry Water is managed through staff training (1). This allows staff to monitor water use in machinery therefore developing efficiency in water use (1).	4 (1+1)+(1+1)
	To use recycled water in the cooling of machines (1). This means that clean water is not constantly used to cool the machines and therefore the overall burden on fresh water extraction / use is reduced (1). Use of water saving measures in the workplace (1). Push taps use less water as they control the amount released to stop without being manually turned off, therefore decreasing overall water use (1). Accept any valid answer.	

Question Number	Indicative content			
*5 (d) QWC i-ii-iii	This question requires candidates to examine. This involves explaining a range of points and then offering a summative comment linked to the question context.			
	Water-management schemes can be at any scale (though attitudes are more likely on larger scale ones).			
	Attitudes may be focused on: Destruction of the environment (environmentalists) Pollution of the ground (environmentalists) Disruptions to ecosystems or fish migration The disruption involved in construction Possibility of landslides Relocation of locals Loss of water further downstream Short term economic gain versus long term sustainability of the area Wealth generated by scheme The possibility of energy development The employment opportunities created by the scheme / trade associated with it.			
Level	Mark	Descriptor		
Level 0	0	No acceptable response.		
Level 1	1-2	A description of the advantages or disadvantages of a water management scheme and/or a tenuous or descriptive attitude/view. Use of geographical terminology tends to be basic.		
Level 2	3-4	An attempt to explain one attitude towards the water management scheme. Answers without specific details of the water management scheme cannot reach top of level 2. For top of the level a series of (at least two) partial explanations of views/attitudes which are generic. Generally clearly communicated but with limited use of geographical terminology.		
Level 3	5–6	A good explanation of at least one attitude towards a water management scheme, supported with partial explanations of views. To access level 3, views should be explicitly linked to groups/organisations/individuals. At the top of the level the candidate makes two good explanations of attitudes and has clear examination (an overall comment/conclusion). 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	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	2-3	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.