

Mark Scheme (Results)

January 2013

GCSE Geography B (5GB1H)
Paper 01 Dynamic Planet (H)

Edexcel and BTEC Qualifications

Edexcel and BTEC qualifications come from Pearson, the world's leading learning company. We provide a wide range of qualifications including academic, vocational, occupational and specific programmes for employers. For further information visit our qualifications websites at www.edexcel.com or www.btec.co.uk for our BTEC qualifications.

Alternatively, you can get in touch with us using the details on our contact us page at www.edexcel.com/contactus.

If you have any subject specific questions about this specification that require the help of a subject specialist, you can speak directly to the subject team at Pearson. Their contact details can be found on this link: www.edexcel.com/teachingservices.

You can also use our online Ask the Expert service at www.edexcel.com/ask. You will need an Edexcel username and password to access this service.

Pearson: helping people progress, everywhere

Our aim is to help everyone progress in their lives through education. We believe in every kind of learning, for all kinds of people, wherever they are in the world. We've been involved in education for over 150 years, and by working across 70 countries, in 100 languages, we have built an international reputation for our commitment to high standards and raising achievement through innovation in education. Find out more about how we can help you and your students at: www.pearson.com/uk

January 2013

Publications Code UG034556

All the material in this publication is copyright

© Pearson Education Ltd 2013

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:
 - 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)	Constructive Also allow divergent and extensional	(1)

Question Number	Answer	Mark
1(a)(ii)	1 mark for any correct response. Common answers likely to include: <ul style="list-style-type: none"> • Fold mountains • Volcanoes (Cone / Composite) • Subduction zone • Deep Sea Trench • Island Arcs NB: Do not allow - Earthquakes, references to different types of plates or shield volcanoes.	(1)

Question Number	Answer	Mark
1(b)	As the question refers to future earthquakes – candidate responses must have identified preparations / long term responses to achieve full marks. 1 mark for identifying an appropriate action. Additional mark awarded for extending statements. e.g. New building laws are introduced (1 mark) to ensure buildings are strong enough to survive an earthquake (1 mark) e.g. Earthquake drills may be introduced (1 mark) to make sure everyone knows what to do when an earthquake hits (1 mark). Reasons are likely to include: <ul style="list-style-type: none"> • New construction rules • Evacuation routes • Emergency drills • Planning laws to restrict building in danger zones • More investment in prediction technology • Education programmes • Construction of emergency shelters • Improved sea defences in regions affected by tsunamis • New health and safety laws – immediate gas cut-offs etc... • Provision of earthquake kits 	(2)

Question Number	Answer	Mark
1(c)	<p>1 mark for each valid reason. Additional mark(s) awarded for extending statements.</p> <p>e.g. Emergency services are poorly equipped in some countries (1 mark) making it difficult to reach people trapped under rubble (1 mark), whilst injured survivors may not get the medical care they need (1 mark).</p> <p>e.g. depth of the focus can affect the strength of the earthquake (1 mark). A shallow focus leads to stronger shock waves (1 mark).</p> <p>Reasons are likely to include:</p> <ul style="list-style-type: none"> • Magnitude of earthquake (Richter scale) • Proximity of epicentre to densely populated regions • Shallow focus • Time earthquake hit • Severity of aftershocks • Creation of secondary hazards created e.g. landslides, tsunamis. • Weaker buildings • Poorly equipped emergency services • Limited access • Population insufficiently prepared • Less money for emergency operations • Type of plate boundary <p>NB: As the command word is 'explain', at least one reason must have been developed for full marks.</p>	(4)

Question Number	Answer	Mark
2(a)	<p>1 mark for each valid statement.</p> <p>NB: For full marks the response must include accurate graph data (readings should refer to both dates and CO₂ ppm). Credit manipulations of data, e.g. range calculations or percentage increases.</p> <p>Common responses likely to include:</p> <ul style="list-style-type: none"> • There has been a rapid increase in CO₂ concentrations over the past 20,000 years (1). • CO₂ concentrations have risen (1) from 180 ppm 20,000 years ago to 280 ppm today (1). • Between 80,000 years ago and 20,000 years ago the CO₂ concentrations fluctuated (1) at around 200 ppm (1). • Concentrations of CO₂ remained stable between 30,000 and 40,000 years ago (1). 	(3)

Question Number	Answer	Mark
2(b)	<p>1 mark for identifying an appropriate challenge. Additional mark awarded for an extending statement.</p> <p>e.g. Britain summers will become hotter (1 mark) this could lead to more cases of heat stroke (1 mark).</p> <p>e.g. Climate change could lead to higher sea levels (1 mark) resulting in a higher risk of coastal flooding (1 mark).</p> <p>Reasons are likely to include:</p> <ul style="list-style-type: none"> • Impacts on health – sun stroke / skin cancer / introduction of tropical diseases. • Problems for agriculture – traditional crops not suitable for warmer climate. New crops may need to be introduced. • Some areas may experience frequent drought – SE England • Stormier weather could result in regular flooding • Higher sea levels could threaten coastal zones and estuarial cities. • Less snow in the Scottish uplands affecting the winter sports industry. • Impacts on migration (migrants from negatively affected countries such as Bangladesh or the UK pulling more migrants to a more pleasant climate), possibly leading to over-population and 	(2)

	<p>a strain on services.</p> <p>NB: Question refers to UK... if the focus is incorrect or not clear, maximum mark 1.</p>	
--	--	--

Question Number	Answer	Mark
2(c)	<p>Answer can refer to colder periods (e.g. Little Ice Age) or warmer periods (e.g. Medieval Warm Period).</p> <p>1 mark for each impact identified. Additional mark(s) awarded for extending statements.</p> <p>Likely answers include:</p> <p><u>Cold Periods:</u></p> <ul style="list-style-type: none"> • Difficult farming conditions / Shorter growing season • Food shortages leading to famine • Spike in death rates due to illness and malnutrition • Transport affected – frozen rivers & impassable highlands. • Animal migrations to warmer regions • Habitats destroyed and food webs affected. <p><u>Warmer Periods:</u></p> <ul style="list-style-type: none"> • Improved farming conditions / longer growing season • New areas used for agriculture (previously too cold) • More frequent droughts and water shortages • Desertification in desert fringe areas. • Spread of tropical diseases • Animal migrations to unbalancing natural ecosystems • Improved conditions for plant growth. <p>NB: As the command term is 'describe', at least one developed point is needed for full marks.</p> <p>NB: Responses referring to current (or future) climate change are not to be credited.</p> <p>NB: Simple statements referring to 'it getting colder or hotter' are insufficient for a mark, as this impact is implied in the question.</p>	(3)

Question Number	Answer	Mark
3(a)	<p>1 mark for each correct statement.</p> <p>Common responses likely to include:</p> <ul style="list-style-type: none"> • TRF is usually found between the tropics • Most TRF is close to the equator • Most TRF is found on the western side of Africa. • Most TRF is along the coastline. • The eastern coast of the SE Island (Madagascar) has TRF. • TRF covers a relatively small area of Africa • TRF is next to (or surrounded by) savannah • Appropriate references to the scale line (e.g. TRF stretches 1500 km north of the Equator). <p style="text-align: right;">(2x1)</p>	(2)

Question Number	Answer	Mark
3(b)	<p>1 mark for identifying a valid management measure. Addition mark awarded for an extending statement.</p> <p>e.g. establish national parks (1) to control construction (1).</p> <p>e.g. Countries signed the Ramsar convention (1) to protect endangered wetlands (1).</p> <p>Common management measures likely to include:</p> <ul style="list-style-type: none"> • National Parks – legal status given to designated regions to protect habitats and wildlife. • Trade Agreements – CITES (Convention on International trade in endangered species) signed by 176 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 163 countries. • Sustainable resource management – re-planting projects, selective logging, quota systems. • Eco-tourism resorts – tourism projects designed to have minimal impact on the environment whilst raising finance for 'green' initiatives. • World Heritage Sites – are monitored by the UN who works with the local government and private owners to manage the environment. • Nature reserves – restrict access to prevent 	(2)

	<p>endangered species from being harmed / disturbed.</p> <ul style="list-style-type: none"> • Coastal zoning – designate areas of the coast for different uses. Locations with important habitats/wildlife to become no-go zones and receive legal protection. • Fishing quotas to prevent over-fishing of endangered species. 	
--	--	--

Question Number	Answer	Mark
3(c)	<p>1 mark for identifying a way in which the biosphere affects the composition of the biosphere. Additional mark(s) awarded for extending statements.</p> <p>e.g. Plants absorb carbon dioxide (1 mark) through a process known as photosynthesis (1 mark). This process also releases oxygen (1 mark).</p> <ul style="list-style-type: none"> • Vegetation takes in carbon dioxide during photosynthesis • Vegetation emits oxygen during photosynthesis • Vegetation acts as a carbon sink • Forest fires release trapped carbon • Decomposing vegetation releases methane into the atmosphere • Animals release methane during digestion • Methane is released from wetlands • Some plants are nitrogen fixing. 	(4)

Question Number	Answer	Mark
4(a)	<p>1 mark for each appropriate statement.</p> <p>Common answers likely to include:</p> <ul style="list-style-type: none"> • Built by locals • Can be easily maintained • Locally available resources used in its construction • Affordable • Only minimal impact on the surrounding environment • Does not require expensive technology or fuel to run. • Little impact on natural water stores • Low carbon footprint • Little pollution created • Water source (i.e. rain water) is renewable <p style="text-align: right;">(2x1)</p>	(2)

Question Number	Answer	Mark
4(b)	<p>1 mark for identifying an appropriate problem. Additional mark awarded for an extending statement.</p> <p>e.g. When the Three Gorges dam was built fish were prevented from migrating upstream (1 mark), resulting in fishermen losing their jobs (1 mark).</p> <p>e.g. The Three Gorges dam created a reservoir which flooded a large area of land (1 mark). Thousands of villagers had to be relocated (1 mark).</p> <p>Common problems are likely to include:</p> <ul style="list-style-type: none"> • Reservoir floods land • Settlements may need to be abandoned • Expensive to construct • Concrete manufacture releases carbon dioxide • Damages river / wetland habitats • Silt gets trapped behind the dam • Can prevent wildlife (e.g. salmon) migrations • Important cultural sites may be lost • Visual pollution • Potential new risks – earthquakes damaging dam could lead to widespread flooding. <p>NB: No marks are to be awarded for responses which refer to small-scale schemes.</p>	(2)

	NB: Extension point can be awarding for including a specific fact which illustrates the extent of a problem – e.g. Construction of the 3 Gorges Dam lead to 1.3 million people (1) being forcibly relocated to create space for the reservoir (1).	
--	--	--

Question Number	Answer	Mark
4(c)	<p>1 mark for identifying a cause of increased aridity. Additional mark(s) can be awarded for extending statements.</p> <p>e.g. In some regions climate change is leading to higher temperatures (1 mark), increasing evaporation rates (1 mark) and reducing water stores (1 mark).</p> <p>e.g. The area around the Aral sea has experienced increased aridity due to a reduction in river flow (1 mark) caused by massive over irrigation (1 mark).</p> <p>Common responses likely to include:</p> <ul style="list-style-type: none"> • Climate change is resulting in less predictable rainfall patterns. • Higher temperatures have resulted in higher rates of evaporation. • Over-extraction from industry and farming has lead to some water courses shrinking. • Climate change is causing some biomes to 'migrate'. • Deforestation has lowered rates of transpiration, reducing local rainfall levels. • Desertification – Overgrazing and deforestation has lead to soil exhaustion and a lack of vegetation, reducing rates of transpiration and subsequent rainfall. <p>NB: Do not credit statements referring to problems caused by increased aridity.</p>	(4)

Question Number	Answer	Mark
5(a)	<p>1 mark for each appropriate statement.</p> <p>e.g. Longshore drift is the movement of sand along the coastline (1). The wave's swash and backwash drag material along the coast (1). Building groynes creates a barrier stopping the sand moving any further (1).</p> <p>e.g. Sand is pushed up the beach in the direction of the wind by swash (1), and is dragged down the beach by gravity - backwash (1). Groynes prevent these movements leading to sediment build-up (1).</p> <p>e.g. Groynes trap and hold back beach material (1) stopping material from moving down the beach (1). As there is less longshore drift, beaches down drift will become smaller (1).</p> <p>NB: Candidates that describe the process of longshore drift but don't identify how this can be interrupted by groynes, maximum mark 2.</p> <p>NB: Answer can be written, diagrammatic or a mixture of both. Written statements that repeat information given in the diagram must not be credited twice. A well annotated diagram can score full marks.</p>	(3)

Question Number	Indicative content	
5(b)	<p>Hard Rock Coastlines</p> <ul style="list-style-type: none"> • Steep cliffs / Rugged landscape • Bare cliff face with little vegetation • Headlands and coves • A number of distinctive landforms – Arches, stacks and wave cut platforms. • Loose rocks at base <p>Soft Rock Coastlines</p> <ul style="list-style-type: none"> • Cliffs are less steep • Evidence of recent mass movement • Rapid rates of erosion • Mud and sand at base • Erode back into large bays • Suffer rapid rates of coastline retreat. • Common use of coastal engineering schemes. 	
Level	Mark	Descriptor
	0	No rewardable material
Level 1	1-2	<p>At least one feature of a hard or soft rock coastline has been identified. Simple / generic statements. Limited subject vocabulary used.</p> <p>e.g. Hard rock coastlines are eroded faster. (1 mark).</p>
Level 2	3-4	<p>At least one difference will have been clearly described. Answers at this level will usually refer to a number of differences. Some linked or elaborated statements. Geographical terms have been appropriately applied.</p> <p>e.g. It is usually possible to see evidence of landslides on soft rock coastlines as there is often mud, clay and sand at the bottom of the cliff. Whereas at the bottom of hard rock cliffs there is normally only large boulders, from previous rock falls. (4 marks).</p> <p>NB: Candidates who describe the features of only a hard or soft rock coastline are limited to level 2, regardless of the level of detail included.</p>
Level 3	5-6	<p>Detailed / well developed answer. A range of geographical terms have been effectively applied. Candidate clearly describes the differences between hard and soft rock coastlines.</p> <p>e.g. As hard rock cliffs erode much slower than areas of soft rock they usually include more features such as caves and</p>

		<p>arches. Soft rock coastlines are affected by rapid retreat and there is often evidence of landslides and large deposits of mud and clay at the base of the cliff. At the bottom of hard rock cliffs you usually only find large rocks. (6 marks).</p>
--	--	--

Question Number	Answer	Mark
6(a)	<p>1 mark for each appropriate statement.</p> <p>Common responses likely to include:</p> <ul style="list-style-type: none"> • Floodplains are created by deposition and erosion. • Lateral erosion causes the position of a meander to change over time. • Meanders are eroded on the outside whilst material is deposited on the inside. • 'Migrating' meanders make the valley floor flat. • When floods occur the floodplain becomes inundated • As the flood waters run out of energy they deposit their silty load leading to the formation of alluvium soil. <p>NB: Answer can be written, diagrammatic or a mixture of both. Written statements that repeat information given in the diagram must not be credited twice. A well annotated diagram can score full marks.</p>	(3)

Question Number	Indicative content	
6(b)	<p>Hard Engineering usually involves heavy construction and use of materials such as concrete and steel to reduce erosion. These methods have both costs and benefits.</p> <p>Costs</p> <ul style="list-style-type: none"> • Expensive to build • Visual pollution • Often lead to the destruction of natural habitats • May just transfer the flood risk to another 'unprotected' location <p>Benefits</p> <ul style="list-style-type: none"> • Effective at stopping flooding • Promote riverside development (reduce insurance costs) • Are a long-term solution. <p>NB: Answering describing the costs and benefits of dam construction are acceptable.</p> <p>If no/ inappropriate case study region is identified but the rest of the response is at a Level 3 standard maximum mark 4.</p>	
Level	Mark	Descriptor
	0	No rewardable material
Level 1	1-2	<p>At least one cost or benefit has been identified. Simple / generic statements. Limited subject vocabulary used.</p> <p>e.g. Hard engineering methods are often expensive to build. (1 mark)</p>
Level 2	3-4	<p>An attempt has been made to describe at least one cost or benefit.</p> <p>Some linked or elaborated statements. Responses at this level will usually include a named location. Geographical terms have been appropriately applied.</p> <p>e.g. In Preston the flood walls have been built along the River Ribble. These flood walls are built from concrete so they will last a long time. (3 marks).</p>
Level 3	5-6	<p>Detailed / well developed answer. Focused on a specific location. A range of geographical terms have been effectively applied.</p> <p>Both costs and benefits have been described.</p> <p>e.g. Floods walls have been built along the banks of the River Ribble in Preston. Since the walls have been built there have</p>

		<p>been no floods, reducing insurance costs and increasing the value of nearby houses. Some residents aren't happy with the walls as they believe they are ugly and fishermen are annoyed as they can no longer get close to the river. (5 marks).</p>
--	--	--

Question Number	Answer	Mark
7(a)	<p>a) Link to primary consumers (1)</p> <p>b) Link to secondary consumers (wider food web) (1)</p> <p>c) Additional extending statements, such as, (i) plankton is a keystone species (1), OR (ii) Plankton is a producer (1).</p> <p>Do not credit repetitive / similar statements, such as:</p> <p>a) "Plankton is consumed by shrimp" (1)... no additional score for then saying... "plankton is consumed by copepods".</p> <p>b) "Animals which eat shrimp would decline as their food source would decrease" (1)... no additional score for then saying... "a decline in plankton would lead to the collapse of the food chain".</p>	(3)

Question Number	Indicative content	
7(b)	<p>The Law of the Sea was established to prevent individual countries from taking more than their fair share of the ocean's resources and wealth. The UN backed treaty covers a wide range of issues including fisheries, navigation, pollution and resource extraction from continental shelves. The law states which countries have the right to extract / develop marine resources and protects the traditional concept of 'freedom of the seas' for open ocean regions. To protect areas of common ownership the International Seabed Authority has been established to safeguard resources and environments.</p> <p>The UN Helsinki Convention of 1974 led to the development of a range of programmes aimed at protecting and enhancing marine ecosystems. Laws were ratified to prevent the dumping of pollution or radioactive waste into the sea. Regional action plans were created to tackle marine black-spots, such as the Mediterranean Sea, leading to multi-national cooperation and joint action.</p> <p>Global Marine Species Assessment is an internationally financed and managed programme designed to establish a clearer understanding of the marine ecosystems and wildlife which our oceans support. It is hoped that this survey will lead to the identification of endangered species and threatened ecosystems, in turn leading to the creation of marine reserves and possible global parks.</p>	
Level	Mark	Descriptor
	0	No rewardable material
Level 1	1-2	<p>Answer includes at least one reason why global (international) action is needed and/or a global action has been identified. Simple / generic statements. Limited subject vocabulary used.</p> <p>E.g. Global actions are needed or sea life will become extinct (1 mark).</p> <p>NB: Answers that refer to local rather than global actions are restricted to level 1.</p>
Level 2	3-4	<p>An attempt has been made to explain at least one global (international) action and/or the candidate has attempted to explain why global rather than local actions are required. Actions may have been named or described. Some linked or elaborated statements. Geographical terms have been appropriately applied.</p> <p>E.g. Global actions are needed because most countries affect the sea. At the UN's Helsinki conference new laws were agreed preventing ships from dumping pollution at sea as this was threatening wildlife. (4 marks)</p>

Level 3	5-6	<p>Detailed / well developed answer. A wide range of geographical terms have been effectively applied. Global actions have been accurately explained and/or the need for a global response has been clearly developed.</p> <p>A number of UN treaties designed to protect marine ecosystems were agreed at the Helsinki conference of 1974. These agreements prevented the dumping of pollution or nuclear waste at sea. These pollutants were banned as they can poison marine life. The Helsinki conference also led to the creation of regional action plans designed to help national governments with shared coastlines to work together to tackle marine issues such as over-fishing. (6 marks)</p>
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	<p>Threshold performance</p> <p>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.</p>
SPaG Level 2	2	<p>Intermediate performance</p> <p>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.</p>
SPaG Level 3	3	<p>High performance</p> <p>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.</p>

Question Number	Answer	Mark
8(a)	<p>1 mark more each appropriate statement. Additional mark(s) for extending statements.</p> <p>Common responses likely to include:</p> <p>Hot Arid</p> <ul style="list-style-type: none"> • Crops are irrigated (1) because rainfall is unreliable (1). • Special drought resistant crops are grown (1) as water shortages are common (1) • Water is pumped from aquifers (1) as surface supplies are limited (1). • Farms are large (1) to avoid over-grazing (1) • Pastoral animals are herded (1) to prevent one location being over-grazed (1). • Crops are grown when the climate is most suitable e.g. during the winter (1) to limit the risk of crop failure from drought (1). • Grey water (1) which has been recycling from domestic use (1) is used to irrigate crops. • Intermediate technology, such as diguettes (1), is used to reduce soil erosion (1) and limit the need for irrigation (1). <p>Polar</p> <ul style="list-style-type: none"> • Crops are grown in greenhouses (1) to protect them from the low temperatures outside (1) • Ultra-violet lamps are used (1) to allow growth even during the dark winter (1). • Farmers only grow hardy crops capable of surviving low temperatures to reduce the impact of frosts (1). • Fleeces are used to protect crops (1) against early frosts and cold nights (1). • Animals are kept inside during the cold winters (1) to protect them from the snow and low temperatures (1). <p>NB: As the command word is 'explain' at least one explanatory statement is needed for full marks.</p> <p>NB: As the focus is farming: No marks for comments relating to plant adaptations or how housing/clothing has been designed to reflect the climate.</p> <p>NB: As the focus is farming: No marks for students who explain how hunting or fishing have adapted to the extreme climate.</p>	(1)

Question Number	Indicative content	
8(b)	<p>A number of global actions have been taken to help protect extreme environments. The most likely actions to be included in candidate responses are:</p> <p>a) Kyoto treaty – An agreement to cut CO₂ emissions by 5.2% by 2012. Signed by 181 countries. Reducing carbon dioxide emissions should reduce the likelihood of global warming and the potential knock-on consequences for extreme environments (e.g. flooding, drought, storm activity, wildfires etc...).</p> <p>d) 2006 was the ‘Year of the Desert’ – An international effort to educate people about the growing threat of desertification and its links to climate change. The initiative aimed to promote the use of ‘green’ technologies and to help effected areas prepare for climate change.</p> <p>e) Bali Conference on climate change lead to a renewed commitment by the international community to tackle the causes of change. The conference also led to the setting up of a new fund to provide support to countries and regions affected by climate change.</p>	
Level	Mark	Descriptor
	0	No rewardable material
Level 1	1-2	<p>Answer includes at least one reason why global (international) action is needed and/or a global action has been identified. Simple / generic statements. Limited subject vocabulary used.</p> <p>E.g. many countries signed the Kyoto agreement (1 mark).</p>
Level 2	3-4	<p>An attempt has been made to explain at least one global (international) action and/or the candidate has attempted to explain why global rather than local actions are required. Actions may have been named or described. Some linked or elaborated statements. Geographical terms have been appropriately applied.</p> <p>E.g. Countries who signed the Kyoto agreement promised to reduce their carbon emissions. As CO₂ is the main greenhouse gas this treaty should reduce the risk of climate change. (3 marks)</p>
Level 3	5-6	<p>Detailed / well developed answer. A wide range of geographical terms have been effectively applied. Global actions have been accurately explained and/or the need for a global response has been clearly developed.</p>

		E.g. One global action is the Kyoto treaty. Signed-up countries promised to reduce their emissions of greenhouse gases. This treaty should reduce the impact of climate change and therefore reduce the risk of bush fires and droughts in arid areas. Another global action was the Bali conference. At this meeting a fund was set up to help countries adapt to climate change; for example, this money could be given to arid areas to pay for the digging of wells for water. (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.

Further copies of this publication are available from
Edexcel Publications, Adamsway, Mansfield, Notts, NG18 4FN

Telephone 01623 467467
Fax 01623 450481
Email publication.orders@edexcel.com
Order Code UG034556 January 2013

For more information on Edexcel qualifications, please visit our website
www.edexcel.com

Pearson Education Limited. Registered company number 872828
with its registered office at Edinburgh Gate, Harlow, Essex CM20 2JE

Ofqual




Llywodraeth Cynulliad Cymru
Welsh Assembly Government

