



**GCSE**

**Geography B Geography for Enquiring Minds**

**J384/01: Our natural world**

General Certificate of Secondary Education

**Mark Scheme for June 2022**

OCR (Oxford Cambridge and RSA) is a leading UK awarding body, providing a wide range of qualifications to meet the needs of candidates of all ages and abilities. OCR qualifications include AS/A Levels, Diplomas, GCSEs, Cambridge Nationals, Cambridge Technicals, Functional Skills, Key Skills, Entry Level qualifications, NVQs and vocational qualifications in areas such as IT, business, languages, teaching/training, administration and secretarial skills.

It is also responsible for developing new specifications to meet national requirements and the needs of students and teachers. OCR is a not-for-profit organisation; any surplus made is invested back into the establishment to help towards the development of qualifications and support, which keep pace with the changing needs of today's society.

This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which marks were awarded by examiners. It does not indicate the details of the discussions which took place at an examiners' meeting before marking commenced.

All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the report on the examination.

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## MARKING INSTRUCTIONS

### PREPARATION FOR MARKING

1. Make sure that you have accessed and completed the relevant training packages for on-screen marking: *RM assessor Online Training*; *OCR Essential Guide to Marking*.
2. Make sure that you have read and understood the mark scheme and the question paper for this component. These are posted on the RM Cambridge Assessment Support Portal <http://www.rm.com/support/ca>
3. Log-in to RM assessor and mark the **required number** of practice responses (“scripts”) and the **required number** of standardisation responses.

YOU MUST MARK 5 PRACTICE AND 10 STANDARDISATION RESPONSES BEFORE YOU CAN BE APPROVED TO MARK LIVE SCRIPTS.

### MARKING

1. Mark strictly to the mark scheme.
2. Marks awarded must relate directly to the marking criteria.
3. The schedule of dates is very important. It is essential that you meet the RM assessor 50% and 100% deadlines. If you experience problems, you must contact your Team Leader without delay.
4. If you are in any doubt about applying the mark scheme, consult your Team Leader by telephone or the RM assessor messaging system, or by email.
5. **Crossed Out Responses**  
Where a candidate has crossed out a response and provided a clear alternative then the crossed out response is not marked. Where no alternative response has been provided, examiners may give candidates the benefit of the doubt and mark the crossed out response where legible.

**Rubric Error Responses – Optional Questions**

Where candidates have a choice of question across a whole paper or a whole section and have provided more answers than required, then all responses are marked and the highest mark allowable within the rubric is given. Enter a mark for each question answered into RM assessor, which will select the highest mark from those awarded. *(The underlying assumption is that the candidate has penalised themselves by attempting more questions than necessary in the time allowed.)*

**Multiple Choice Question Responses**

When a multiple choice question has only a single, correct response and a candidate provides two responses (even if one of these responses is correct), then no mark should be awarded (as it is not possible to determine which was the first response selected by the candidate).

**Contradictory Responses**

When a candidate provides contradictory responses, then no mark should be awarded, even if one of the answers is correct.

**Short Answer Questions** (requiring only a list by way of a response, usually worth only **one mark per response**)

Where candidates are required to provide a set number of short answer responses then only the set number of responses should be marked. The response space should be marked from left to right on each line and then line by line until the required number of responses have been considered. The remaining responses should not then be marked. Examiners will have to apply judgement as to whether a 'second response' on a line is a development of the 'first response', rather than a separate, discrete response. *(The underlying assumption is that the candidate is attempting to hedge their bets and therefore getting undue benefit rather than engaging with the question and giving the most relevant/correct responses.)*

**Short Answer Questions** (requiring a more developed response, worth **two or more marks**)

If the candidates are required to provide a description of, say, three items or factors and four items or factors are provided, then mark on a similar basis – that is downwards (as it is unlikely in this situation that a candidate will provide more than one response in each section of the response space.)

**Longer Answer Questions** (requiring a developed response)

Where candidates have provided two (or more) responses to a medium or high tariff question which only required a single (developed) response and not crossed out the first response, then only the first response should be marked. Examiners will need to apply professional judgement as to whether the second (or a subsequent) response is a 'new start' or simply a poorly expressed continuation of the first response.

















6. Always check the pages (and additional objects if present) at the end of the response in case any answers have been continued there. If the candidate has continued an answer there then add a tick to confirm that the work has been seen.
7. Award No Response (NR) if:
- there is nothing written in the answer space
- Award Zero '0' if:
- anything is written in the answer space and is not worthy of credit (this includes text and symbols).

Team Leaders must confirm the correct use of the NR button with their markers before live marking commences and should check this when reviewing scripts.

8. The RM assessor **comments box** is used by your team leader to explain the marking of the practice responses. Please refer to these comments when checking your practice responses. **Do not use the comments box for any other reason.** If you have any questions or comments for your team leader, use the phone, the RM assessor messaging system, or e-mail.
9. Assistant Examiners will send a brief report on the performance of candidates to their Team Leader via email by the end of the marking period. The report should contain notes on particular strengths displayed as well as common errors or weaknesses. Constructive criticism of the question paper/mark scheme is also appreciated.
10. For answers marked by levels of response: Not applicable in F501
- To determine the level** – start at the highest level and work down until you reach the level that matches the answer
  - To determine the mark within the level**, consider the following:

Descriptor	Award mark
On the borderline of this level and the one below	At bottom of level
Just enough achievement on balance for this level	Above bottom and either below middle or at middle of level (depending on number of marks available)
Meets the criteria but with some slight inconsistency	Above middle and either below top of level or at middle of level (depending on number of marks available)
Consistently meets the criteria for this level	At top of level

## 11. Annotations

Annotation	Meaning
	Blank page – the annotation must be used on all blank pages within an answer booklet (structured or unstructured) and on each page of an additional object where there is no candidate response
	Correct response
	Incorrect response
	Unclear
	Information omitted
	Level 1
	Level 2
	Level 3
	Level 4
	Development
	Relevant place detail
	Benefit of doubt
	Significant amount of material which doesn't answer the question
	Expandable vertical wavy line
	Communicate findings
	Noted but no credit given

## 12. Subject Specific Marking Instructions

### INTRODUCTION

Your first task as an Examiner is to become thoroughly familiar with the material on which the examination depends. This material includes:

- the specification, especially the assessment objectives
- the question paper and its rubrics
- the mark scheme.

You should ensure that you have copies of these materials.

You should ensure also that you are familiar with the administrative procedures related to the marking process. These are set out in the OCR booklet **Instructions for Examiners**. If you are examining for the first time, please read carefully **Appendix 5 Introduction to Script Marking: Notes for New Examiners**.

Please ask for help or guidance whenever you need it. Your first point of contact is your Team Leader.

### USING THE MARK SCHEME

Please study this Mark Scheme carefully. The Mark Scheme is an integral part of the process that begins with the setting of the question paper and ends with the awarding of grades. Question papers and Mark Schemes are developed in association with each other so that issues of differentiation and positive achievement can be addressed from the very start.

This Mark Scheme is a working document; it is not exhaustive; it does not provide 'correct' answers. The Mark Scheme can only provide 'best guesses' about how the question will work out, and it is subject to revision after we have looked at a wide range of scripts.

Please read carefully all the scripts in your allocation and make every effort to look positively for achievement throughout the ability range. Always be prepared to use the full range of marks.

**LEVELS OF RESPONSE QUESTIONS:**

The indicative content indicates the expected parameters for candidates' answers, but be prepared to recognise and credit unexpected approaches where they show relevance.

Using 'best-fit', decide first which set of level descriptors best describes the overall quality of the answer. Once the level is located, adjust the mark concentrating on features of the answer which make it stronger or weaker following the guidelines for refinement.

**Highest mark:** If clear evidence of all the qualities in the level descriptors is shown, the HIGHEST Mark should be awarded.

**Lowest mark:** If the answer shows the candidate to be borderline (i.e. they have achieved all the qualities of the levels below and show limited evidence of meeting the criteria of the level in question) the LOWEST mark should be awarded.

**Middle mark:** This mark should be used for candidates who are secure in the level. They are not 'borderline' but they have only achieved some of the qualities in the level descriptors.

Be prepared to use the full range of marks. Do not reserve (e.g.) highest level marks 'in case' something turns up of a quality you have not yet seen. If an answer gives clear evidence of the qualities described in the level descriptors, reward appropriately.



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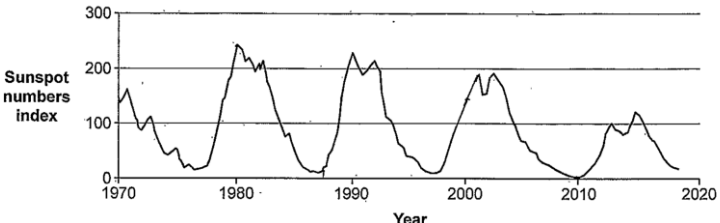
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	<b>AO1</b>	<b>AO2</b>	<b>AO3</b>
<b>Comprehensive</b>	A range of detailed and accurate knowledge that is fully relevant to the question.	A range of detailed and accurate understanding that is fully relevant to the question.	Detailed and accurate interpretation through the application of relevant knowledge and understanding. Detailed and accurate analysis through the application of relevant knowledge and understanding. Detailed and substantiated evaluation through the application of relevant knowledge and understanding. Detailed and substantiated judgement through the application of relevant knowledge and understanding.
<b>Thorough</b>	A range of accurate knowledge that is relevant to the question.	A range of accurate understanding that is relevant to the question.	Accurate interpretation through the application of relevant knowledge and understanding. Accurate analysis through the application of relevant knowledge and understanding. Supported evaluation through the application of relevant knowledge and understanding. Supported judgement through the application of relevant knowledge and understanding.
<b>Reasonable</b>	Some knowledge that is relevant to the question.	Some understanding that is relevant to the question.	Some accuracy in interpretation through the application of some relevant knowledge and understanding. Some accuracy in analysis through the application of some relevant knowledge and understanding. Partially supported evaluation through the application of some relevant knowledge and understanding. Partially supported judgement through the application of some relevant knowledge and understanding.
<b>Basic</b>	Limited knowledge that is relevant to the topic or question.	Limited understanding that is relevant to the topic or question.	Limited accuracy in interpretation through lack of application of relevant knowledge and understanding. Limited accuracy in analysis through lack of application of relevant knowledge and understanding. Un-supported evaluation through lack of application of knowledge and understanding. Un-supported judgement through lack of application of knowledge and understanding.

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Question		Answer	Marks	Guidance
1	(a)	(i)	1	(✓) Or any valid wording that indicates this region Do not credit South America Southern Ocean Antarctica Argentina
		(ii)	1	(✓) Units not required The range must be stated. Do not credit 0.1 or 0.2 only.
		(iii)	1	(✓) Any valid region on the map  Do not credit sub-Saharan Africa/ Africa
		(iv)	1	(✓) Other valid ideas accepted  Do not credit Different map projections Greater contrast in colours Fewer pixels
(b)	(i)		2	1 x 1 (✓) for line going through 150 and 2000 or correctly plotted point 1 x 1 (DEV) for a solid line connecting points
		(ii)	1	(✓) B: 11 years (✓)

(c)	<p><b>Level 3 (5-6 marks)</b> An answer at this level demonstrates <b>thorough</b> knowledge of impacts of climate change within the UK (AO1) with a <b>thorough</b> understanding of the social nature of these impacts (AO2).</p> <p>This will be shown by including <b>well-developed</b> ideas about the social impacts of climate change within the UK.</p> <p><b>Level 2 (3-4 marks)</b> An answer at this level demonstrates <b>reasonable</b> knowledge of impacts of climate change within the UK (AO1) with a <b>reasonable</b> understanding of the social nature of these impacts (AO2).</p> <p>This will be shown by including <b>developed</b> ideas about the social impacts of climate change within the UK.</p> <p><b>Level 1 (1–2 marks)</b> An answer at this level demonstrates <b>basic</b> knowledge of impacts of climate change within the UK (AO1) with a <b>basic</b> understanding of the social nature of these impacts (AO2).</p> <p>This will be shown by including <b>simple</b> ideas about the social impacts of climate change within the UK.</p> <p><b>0 marks</b> No response worthy of credit.</p>	<p><b>6</b></p> <p><b>Indicative content</b> Social impacts may include deaths, lost or damaged housing, increased risk of health issues, rise in food prices, homelessness, or an increase of migrants into the UK. Economic issues can only be credited when they are linked to social.</p> <p>Assume the answer is referring to the UK unless an alternative location is explicitly stated.</p> <p>Impacts can be positive or negative.</p> <p>Case study detail can be used to make an answer more detailed but is not a requirement to reach full marks.</p> <p>Example of <b>well-developed</b> ideas: Increasing temperatures could cause crops to fail to grow. This could lead to a shortage of grain needed to be made into food forcing prices to rise as more imports would be needed. Increased food prices would stretch family budgets even further leading to an increase in the use of food banks or people missing meals to pay their heating bills.</p> <p>Example of <b>developed</b> ideas: Climate change may lead to crops failing and prices rising so people might have to rely on food banks as they can't afford to go shopping.</p> <p>Example of <b>simple</b> ideas: People might go hungry as they can't afford to buy food.</p>
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Question		Answer	Marks	Guidance
2	(a)	$(6.5+2+4+0.5+9+7+4.5+3+2+10) / 10$ (DEV) or $48.5 / 10$ (DEV)  4.85 (✓) or 4.9 (✓)	2	(DEV) for showing how to calculate a mean using a correct technique.  (✓) for correct answer  Units not required
	(b)	Downwards/ vertical erosion (✓) causes the sides of the channel to deepen/ become steeper/ become unstable (✓). Explanation of an erosional process (✓). Weathering loosens material on the slopes (✓). Mass movement moves loose material down the slope (✓). Formed by corrasion/ abrasion/ solution/ hydraulic action (✓). River erodes downwards/ vertically (✓).	3	3 x 1 (✓) for valid explanations of the formation of V-shaped valley  Do not credit attrition  Reserve 1 mark for vertical/ downward erosion.

(c)	<p><b>Case study – the landscape of a UK river basin</b></p> <p><b>Level 3 (6-8 marks)</b>  An answer at this level demonstrates <b>thorough</b> knowledge (AO1) of the management of the landscape of a UK river basin. There will be <b>reasonable</b> evaluation of the success of the management of the river basin (AO3) to come to a <b>thorough</b> judgement of the extent that the management of the landscape of a UK river basin has been successful (AO3).  This will be shown by including <b>well-developed</b> ideas about the management of the landscape of a UK river basin and its success. The answer must also include <b>place-specific</b> details of the chosen river basin. Amount of relevant place-specific detail determines credit within level. The response is clear and logically structured. The information presented is relevant and substantiated.</p> <p><b>Level 2 (3-5 marks)</b>  An answer at this level demonstrates <b>reasonable</b> knowledge (AO1) of the management of the landscape of a UK river basin. There will be <b>basic</b> evaluation of the success of the management of the river basin (AO3) to come to a <b>reasonable</b> judgement of the extent that the management of the landscape of a UK river basin has been successful (AO3).  This will be shown by including <b>developed</b> ideas about of the management of the landscape of a UK river basin. Developed ideas but no place-specific details credited up to <b>bottom</b> of level.</p> <p>The information presented is in the most-part relevant and supported by some evidence.</p>	<p><b>8</b></p> <p><b>Indicative content</b>  Management could be successful or unsuccessful and could include hard flood management techniques, soft flood management techniques in the wider river basin or decisions about building.</p> <p>Examples of <b>well-developed</b> ideas:  In 1995 the Tees Barrage was opened in Stockton-on-Tees in the Lower Tees Valley. The barrage was designed to protect against storm surges and flooding at high tide by controlling the flow of the river using 4 hydraulic flood gates. The Tees Barrage has been extremely successful as it has prevented any major flooding in the area since it opened, preventing localised flooding around Stockton-on-Tees and protecting around 10,000 at risk properties.</p> <p>Examples of <b>developed</b> ideas:  The Tees Barrage was built in 1995 to control the flow of the lower river and so prevent flooding in the local area. It has been successful because there have been no major floods in the area since it was built.</p> <p>Examples of <b>simple</b> ideas:  The Tees Barrage was built to control the flow of the river. There haven't been any major floods since it was built.</p> <p>Non-UK or coastal example = Max 3 marks.</p>
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		<p><b>Level 1 (1–2 marks)</b> An answer at this level demonstrates <b>basic</b> knowledge (AO1) of the management of the landscape of a UK river basin. There will be <b>basic</b> evaluation of the success of the management of the river basin (AO3) to come to a <b>basic</b> judgement of the extent that the management of the landscape of a UK river basin has been successful (AO3).</p> <p>This will be shown by including <b>simple</b> ideas about the management of the landscape of a UK river basin. Simple idea or appropriate named example only credited at <b>bottom</b> of level. The information is basic and communicated in an unstructured way. The information is supported by limited evidence and the relationship to the evidence may not be clear.</p> <p><b>0 marks</b> No response worthy of credit.</p>		
		Spelling, punctuation and grammar and the use of specialist terminology (SPaG) are assessed using the separate marking grid in Appendix 1.	3	

Question			Answer	Marks	Guidance
3	(a)	(i)		1	(✓) Point plotted in appropriate place  The centre of the cross must be between the 1999 and 2001 crosses.
		(ii)		1	(✓) Appropriate trend line drawn  Must be a straight line  Line must rise from left to right and have an approximately equal number of points each side.
		(iii)	C: strong positive correlation (✓)	1	(✓)
		(iv)	160 (✓)	1	(✓)

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Question		Answer	Marks	Guidance
	(b)	<p>There is sinking air at the Tropics (✓) which means there is no condensation (DEV) so clouds can't form (DEV).</p> <p>Cold dry air sinking at the poles creates high pressure (✓) which produces stable atmospheric conditions (DEV) and little rain (DEV).</p> <p>The Equator is in between the two Hadley cells (✓) meaning that there is rising air/ low pressure (DEV) leading to cloud formation (DEV).</p> <p>Low pressure causes air to rise (✓) and cools this causes condensation and high rainfall (DEV), this happens at the equator (DEV).</p>	3	<p>1 x 1 (✓) for any valid way in which global atmospheric circulation creates a climatic zone</p> <p>2 x 1 (DEV) for appropriate explanation of the way identified</p> <p>DEV should link to way identified so it is development of that point.</p> <p>Only mark the first answer given.</p>



(c)	<p><b>Case study: a tectonic event that has been hazardous for people</b></p> <p><b>Level 3 (5-6 marks)</b> An answer at this level demonstrates <b>thorough</b> knowledge of the causes of the chosen tectonic event (AO1) with a <b>thorough</b> analysis of the causes of the chosen tectonic event (AO3).</p> <p>This will be shown by including <b>well-developed</b> ideas about the causes of the tectonic event. The answer must also include <b>place-specific</b> details of the tectonic event. Amount of relevant place-specific detail determines credit within level.</p> <p><b>Level 2 (3-4 marks)</b> An answer at this level demonstrates <b>reasonable</b> knowledge of the causes of the chosen tectonic event (AO1) with a <b>reasonable</b> analysis of the causes of the chosen tectonic event (AO3).</p> <p>This will be shown by including <b>developed</b> ideas about the causes of the tectonic event. Developed ideas but no place-specific details credited up to <b>bottom</b> of level.</p> <p><b>Level 1 (1–2 marks)</b> An answer at this level demonstrates <b>basic</b> knowledge of the causes of the chosen tectonic event (AO1) with a <b>basic</b> analysis of the causes of the chosen tectonic event (AO3).</p> <p>This will be shown by including <b>simple</b> ideas about the causes of the tectonic event. Simple idea or appropriate named example only credited at <b>bottom</b> of level.</p> <p><b>0 marks</b> No response worthy of credit.</p>	<p><b>6</b></p> <p><b>Indicative content</b> Example can be anywhere in the world Hazard could be: volcanic eruption, earthquake, tsunami</p> <p>Credit factors that cause a tectonic event to be hazardous.</p> <p>Example of <b>well-developed</b> ideas: The Nepal earthquake of 2015 had an intensity of 7.6 and occurred about 76km from the capital city, Kathmandu. The epicentre was shallow around 8km deep, moving the crust around 3m. All these factors led to more intense shaking making the hazard worse and contributing to the death toll of about 9000 people.</p> <p>The quality of buildings was also an important factor as if the same sized earthquake had occurred in an AC then less people would have died. This is because buildings like the Dharahara Tower were not retro-fitted and collapsed, increasing the death toll.</p> <p>Example of <b>developed</b> ideas: The Nepal earthquake of 2015 moved the crust around 3 metres causing the ground to shake intensely causing many deaths.</p> <p>This was made worse because buildings like the Dharahara Tower collapsed as they had not been made earthquake proof.</p> <p>Example of <b>simple</b> ideas: The earthquake occurred when the plates that were stuck suddenly slipped.</p> <p>This was made worse by the buildings collapsing.</p> <p>Weather hazard – max 3 marks.</p>
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4	(a)		Damaging animal habitats (✓). Building the pipeline might cause trees to be cut down (✓). Disruption of animal migration routes (✓). Damage to soil/ vegetation during construction (✓). The pipeline damages the aesthetic value of the landscape (✓). Leaking oil (✓).	1	(✓) for valid environmental impact that can be seen or reasonably inferred from the photo.
	(b)	(i)	C: 34°C (✓)	1	(✓)
		(ii)	Allow 158 to 164mm (✓)	1	(✓) Units not required
	(c)		The trees need a lot of rain to grow (✓). The plants are dependant on the sunlight for photosynthesis (✓). The warm temperatures allow the plants to grow all year (✓). The trees can have thin bark as there is no frost (✓). Drip-tips funnel heavy rain off the leaves so they are not damaged (✓). Glossy/ waxy leaves reduce the amount of rain on the leaves (✓) so that the plant can maximise photosynthesis (✓). Warm temperatures allow the fast breakdown of litter so the plants can grow (✓). The warm and wet climate means that plants grow quickly (✓), with emergent growing tall to maximise photosynthesis (✓). Transpiration from the plants can lead to increased rainfall (✓).	3	3 x 1 (✓) for valid ideas explaining interdependence of climate and plants in the tropical rainforest ecosystem  Valid ideas should explain how climate impacts on plants and/ or plants impact the climate.
	(d)		C: 20,000m <sup>2</sup> (✓)	1	(✓)

(e)	<p><b>Case study – sustainable management in an area of tropical rainforest</b></p> <p><b>Level 3 (5-6 marks)</b> An answer at this level demonstrates <b>thorough</b> knowledge management in an area of tropical rainforest (AO1) with a <b>thorough</b> analysis of the attempts to sustainably manage an area of tropical rainforest.</p> <p>This will be shown by including <b>well-developed</b> ideas about the sustainable management in an area of tropical rainforest. The answer must also include <b>place-specific</b> details of the chosen area of tropical rainforest. Amount of relevant place-specific detail determines credit within level.</p> <p><b>Level 2 (3-4 marks)</b> An answer at this level demonstrates <b>reasonable</b> knowledge management in an area of tropical rainforest (AO1) with a <b>reasonable</b> analysis of the attempts to sustainably manage an area of tropical rainforest.</p> <p>This will be shown by including <b>developed</b> ideas about of the sustainable management in an area of tropical rainforest. Developed ideas but no place-specific details credited up to <b>bottom</b> of level.</p> <p><b>Level 1 (1–2 marks)</b> An answer at this level demonstrates <b>basic</b> knowledge management in an area of tropical rainforest (AO1) with a <b>basic</b> analysis of the attempts to sustainably manage an area of tropical rainforest.</p> <p>This will be shown by including <b>simple</b> ideas about the sustainable management in an area of tropical rainforest. Simple idea or appropriate named example only credited at <b>bottom</b> of level.</p>	<p><b>6</b></p> <p><b>Indicative content</b> Ecotourism. Community programmes, Biosphere reserves Sustainable forestry</p> <p>Place specific detail might be shown by writing about a single location such as a named ecotourism lodge or a range of activities that are being conducted in an area.</p> <p>Examples of <b>well-developed</b> ideas: The Samasati Nature Retreat in Costa Rica is environmentally sustainable because trees are protected by constructing lodges between them to minimise the habitat destruction and afforestation projects are used to provide locally sourced timber. This is successful as it reduces deforestation.</p> <p>It is economically sustainable as local people are employed at the retreat so that the local community benefit from the wages earned and can enjoy a higher quality of life. This makes the rainforest more valuable standing up than cut down.</p> <p>Examples of <b>developed</b> ideas: The Samasati Nature Retreat in Costa Rica uses sustainable techniques to help manage the rainforest. Trees are protected by constructing lodges between them so they are not cut down and habitats protected.</p> <p>Local people are employed at the retreat so that the local community benefit and value the rainforest.</p> <p>Examples of <b>simple</b> ideas: Lodges are built in gaps in the trees. This is good as it helps to protect the animals.</p>
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			<b>0 marks</b> No response worthy of credit.		
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Question		Answer	Mark	Guidance
5	(a)	Hedges have been removed from fields so that tractors can be more easily used in fields (✓). (Spraying) pesticides which can kill insects (✓). Farms take up larger areas providing less food for wildlife/ reducing biodiversity (✓). The use of tractors will produce more carbon dioxide which can lead to climate change (✓). (Sprayed) Fertilisers can run off the fields into rivers/ lead to eutrophication (✓). Combine harvesters can compact soil leading to increased soil erosion (✓). Deforestation to create fields will reduce habitats for animals (✓).	2	2 x 1 (✓) for valid descriptions of how the mechanisation of farming has impacted ecosystems  What is the farming technique that is being used <b>and</b> how does it impact the ecosystem?  Do not credit unqualified pollution
	(b)	A: Choosing to buy food which has been produced with minimal harm to people and the environment (✓).	1	(✓)
	(c)	Add symbols to the key (✓). Add a scale bar to show distances (✓). Add a scale for the size of the symbols (✓). Say whether it is the biggest product with regards to cost or amount (✓). Give a value for each country (✓). Label the countries (✓). Provide more of a contrast between colours (✓). Add more detail about the product – what types of fish/ name of product (✓). Make the symbols proportional (✓).	2	2 x 1 (✓) for valid suggestions of how to improve the map  Do not credit any reference to percentages.
	(d)	$(98.2/860) \times 100$ (DEV) 11.4 (✓)	2	1 x 1 (DEV) for appropriate working out 1 x 1 (✓) for correct answer  Allow 11% 11.42%

(e)	<p><b>Level 3 (5-6 marks)</b> An answer at this level demonstrates <b>thorough</b> understanding of ethical consumerism (AO2) with a <b>thorough</b> analysis of whether ethical consumerism is sustainable (AO3).</p> <p>This will be shown by including <b>well-developed</b> ideas about whether ethical consumerism is sustainable.</p> <p><b>Level 2 (3-4 marks)</b> An answer at this level demonstrates <b>reasonable</b> understanding of ethical consumerism (AO2) with a <b>reasonable</b> analysis of whether ethical consumerism is sustainable (AO3).</p> <p>This will be shown by including <b>developed</b> ideas about whether ethical consumerism is sustainable.</p> <p><b>Level 1 (1-2 marks)</b> An answer at this level demonstrates <b>basic</b> understanding of ethical consumerism (AO2) with a <b>basic</b> analysis of whether ethical consumerism is sustainable (AO3).</p> <p>This will be shown by including <b>simple</b> ideas about whether ethical consumerism is sustainable.</p> <p><b>0 marks</b> No response worthy of credit.</p>	6	<p>Answer will be marked using 3 levels:</p> <p><b>Indicative Content</b> Ethical consumerism could relate to ideas such as fair trade, buying locally produced or seasonal food, organic farming or reducing waste.</p> <p><b>Example of well-developed ideas.</b> Organically produced food is environmentally sustainable. It is better for the environment as fewer pesticides and chemicals are used to grow crops. There is therefore less disruption to the natural environment. However, it may not be economically sustainable as it is a lot more expensive and so people may not be able to afford to buy organic products. Also, it may not be environmentally sustainable as more farmland is needed as yields are smaller.</p> <p><b>Example of developed ideas.</b> Organically produced food costs more money to buy as it costs more money to produce. It is therefore not sustainable as not everyone will be able to afford to buy it. Buying fair trade products helps people in developing countries as they are paid more money and can then afford more food or even better health care.</p> <p><b>Example of simple ideas.</b> Buying organically produced food is better for the environment but it is too expensive for some people to buy.</p>
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Question			Answer	Mark	Guidance																																																						
6	(a)	(i)	Space to record information about the site e.g. date, time, location, weather conditions (✓).  Space to record the depth in 50cm increments. (✓)  Space to record data from different sites (✓)  Space to record the width (✓)	3	(✓) each valid idea for the design of a data sheet Do not credit graphs or other data presentation techniques.  <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2">Site 1</th> <th colspan="2">Site 2</th> <th colspan="2">Site 3</th> </tr> <tr> <th colspan="2">River Width =</th> <th colspan="2">River Width =</th> <th colspan="2">River Width =</th> </tr> <tr> <th>50cm Intervals</th> <th>Depth(cm)</th> <th>50cm Intervals</th> <th>Depth(cm)</th> <th>50cm Intervals</th> <th>Depth(cm)</th> </tr> </thead> <tbody> <tr> <td>50</td> <td></td> <td>50</td> <td></td> <td>50</td> <td></td> </tr> <tr> <td>100</td> <td></td> <td>100</td> <td></td> <td>100</td> <td></td> </tr> <tr> <td>150</td> <td></td> <td>150</td> <td></td> <td>150</td> <td></td> </tr> <tr> <td>200</td> <td></td> <td>200</td> <td></td> <td>200</td> <td></td> </tr> <tr> <td>250</td> <td></td> <td>250</td> <td></td> <td>250</td> <td></td> </tr> <tr> <td>300</td> <td></td> <td>300</td> <td></td> <td>300</td> <td></td> </tr> </tbody> </table>	Site 1		Site 2		Site 3		River Width =		River Width =		River Width =		50cm Intervals	Depth(cm)	50cm Intervals	Depth(cm)	50cm Intervals	Depth(cm)	50		50		50		100		100		100		150		150		150		200		200		200		250		250		250		300		300		300	
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		(ii)	B: Line graph (✓)	1	(✓)																																																						
		(iii)	It would allow the students to see the pattern of downstream change of the river (✓).  It is showing continuous data (✓).  Allows identification of anomalies (✓).  It shows a comparison between the sites more clearly (✓).  It shows the variations in the river depth across the river (✓).  Allows the shape of the river channel to be visualised (✓).	1	(✓) for any valid suggestion of why the graph chosen is appropriate  Credit ideas linked to why bar charts are appropriate.  Do not credit – shows the data clearly/ easier to read unless it is qualified  Mark the first answer only.																																																						

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Mark Scheme

June 2022

	<b>(b)</b>	<p>Students would have to make sure that the site was easily accessible (✓) as they would have limited time to carry out their investigation (DEV).</p> <p>The location is safe to visit (✓) so the water is not too deep or fast flowing (DEV).</p> <p>That the sites are sufficiently far apart (✓) so they can draw a valid conclusion to their hypothesis (DEV).</p> <p>Check the weather (✓) as this may impact the flow of the river and make it unsafe (DEV).</p> <p>Check that there are no rare species (✓) so that the study is environmentally sustainable (DEV).</p> <p>If river management has occurred (✓) to consider if it has had an impact on channel shape (DEV)</p>	<b>2</b>	<p>1 x 1 (✓) for an appropriate factor that students would need to consider when selecting the appropriate sites for the data collection</p> <p>1 x 1 (DEV) for a valid explanation of the factor</p> <p>Mark the first answer only.</p>
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## Appendix 1

## Spelling, punctuation and grammar and the use of specialist terminology (SPaG) assessment grid

<b><i>High performance 3 marks</i></b>
<ul style="list-style-type: none"> <li>• Learners spell and punctuate with consistent accuracy</li> <li>• Learners use rules of grammar with effective control of meaning overall</li> <li>• Learners use a wide range of specialist terms as appropriate</li> </ul>
<b><i>Intermediate performance 2 marks</i></b>
<ul style="list-style-type: none"> <li>• Learners spell and punctuate with considerable accuracy</li> <li>• Learners use rules of grammar with general control of meaning overall</li> <li>• Learners use a good range of specialist terms as appropriate</li> </ul>
<b><i>Threshold performance 1 mark</i></b>
<ul style="list-style-type: none"> <li>• Learners spell and punctuate with reasonable accuracy</li> <li>• Learners use rules of grammar with some control of meaning and any errors do not significantly hinder overall</li> <li>• Learners use a limited range of specialist terms as appropriate</li> </ul>
<b><i>0 marks</i></b>
<ul style="list-style-type: none"> <li>• The learner writes nothing</li> <li>• The learner's response does not relate to the question</li> <li>• The learner's achievement in SPaG does not reach the threshold performance level, for example errors in spelling, punctuation and grammar severely hinder meaning</li> </ul>



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