

GCSE (9–1) Geography B (Geography for Enquiring Minds) J384/01 Our Natural World Sample Resource Booklet

Time allowed: 1 hour 15 minutes

INFORMATION FOR CANDIDATES

- The questions tell you which resources you need to use.
- This document consists of **12** pages. Any blank pages are indicated.

INSTRUCTION TO EXAMS OFFICER/INVIGILATOR

- Do not send this Resource Booklet for marking, it should be retained in the centre or recycled. Please contact OCR Copyright should you wish to re-use this document.

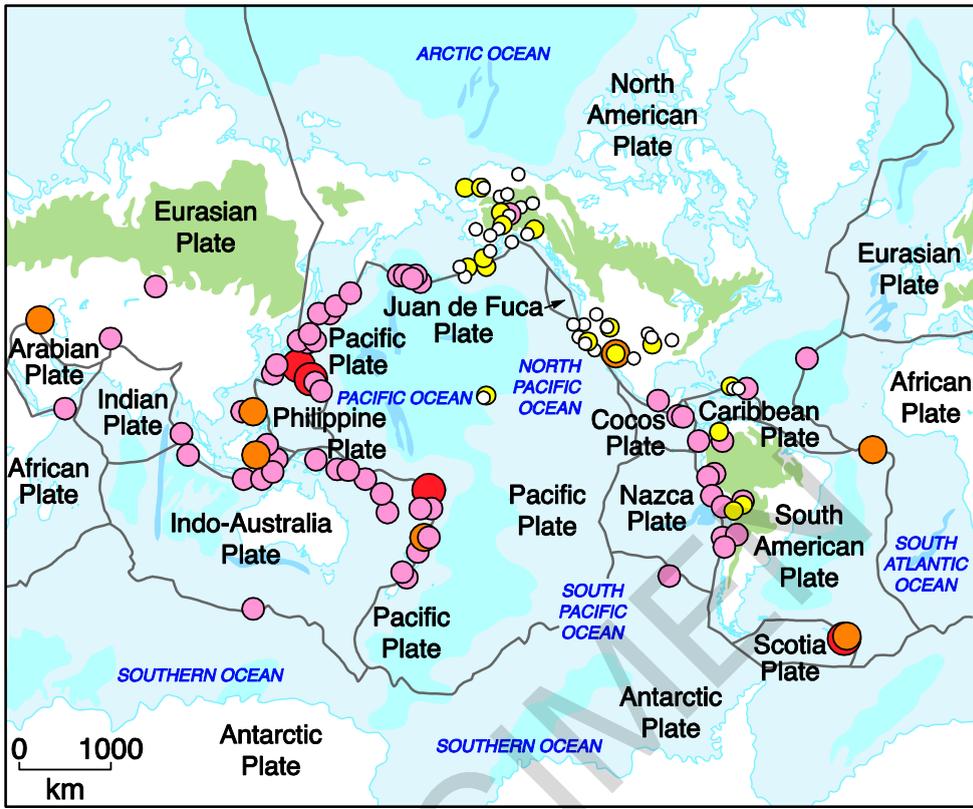
CONTENTS OF THE RESOURCE BOOKLET

- Fig.1 – A GIS map showing earthquake hazard distribution
- Fig. 2 – An OS map extract showing part of the South coast of England
- Fig. 3 – A hot desert climate graph
- Fig. 4 – A photograph a student has taken on a fieldtrip
- Fig. 5 – Photograph of groyne at Sheringham
- Fig. 6 – A diagram showing how to measure the depth from the top of the groyne to the beach sediment
- Fig. 7 – A graph of the depth from the top of the groyne to the beach sediment

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Fig.1 – A Geographical Information System (GIS) map showing earthquake hazard distribution



Key

Earthquake magnitude

- 2.50 – 3.37
- 3.38 – 4.25
- 4.26 – 5.13
- 5.14 – 6.01
- 6.02 – 6.90

Earth's Tectonic Plates

Fig. 2 – An OS map extract showing part of the South coast of England.



Communications

ROADS AND PATHS	VOIES DE COMMUNICATION	STRASSEN UND WEGE
Service area Junction number Elevated En Viaduc Erhöht Unfenced Dual carriageway A 470 Chaussées séparées Zweibahnige Strasse Sans clôture A 493 Footbridge Passerelle Fussgängerbrücke Road under construction Route en construction Strasse im Bau Nicht eingezäunt B 4518 Secondary road Route secondaire Nebenstrasse Narrow road with passing places Route étroite avec voies de dépasement Enge Strasse mit Ausweichtellen Bridge Pont Brücke Road generally more than 4m wide Route généralement de plus de 4m de largeur Strasse, im allg. über 4m breit Road generally less than 4m wide Route généralement de moins de 4m de largeur Strasse, im allg. unter 4m breit Other road, drive or track Autre route, allée ou sentier Sonstige Strasse, Zufahrt oder Feldweg Path Sentier Fussweg Gradient steeper than 20% (1 in 5), 14% to 20% (1 in 7 to 1 in 5) Pente: Supérieure à 20%, 14% bis 20% Steigung über 20%, 14% bis 20% Gates Barrières Schranken Road tunnel Tunnel routier Strassentunnel Ferry P Ferry V Bac pour piétons Personenfähre Bac pour véhicules Autofähre	<p>Not necessarily rights of way</p> <p>Motorway (dual carriageway) Autoroute (chaussées séparées) avec aire de service et échangeur numéroté Autobahn (zweibahnig) mit Servicestation und Anschlussstelle sowie Nummer der Anschlussstelle</p> <p>Primary Route Itinéraire principal Fernstrasse</p> <p>Primary routes form a network of recommended through routes which complement the motorway system</p> <p>Main road Route principale Hauptstrasse</p> <p>Road under construction Route en construction Strasse im Bau</p> <p>Secondary road Route secondaire Nebenstrasse</p> <p>Narrow road with passing places Route étroite avec voies de dépasement Enge Strasse mit Ausweichtellen</p> <p>Road generally more than 4m wide Route généralement de plus de 4m de largeur Strasse, im allg. über 4m breit</p> <p>Road generally less than 4m wide Route généralement de moins de 4m de largeur Strasse, im allg. unter 4m breit</p> <p>Other road, drive or track Autre route, allée ou sentier Sonstige Strasse, Zufahrt oder Feldweg</p> <p>Path Sentier Fussweg</p> <p>Gradient steeper than 20% (1 in 5), 14% to 20% (1 in 7 to 1 in 5) Pente: Supérieure à 20% (1 pour 5), 14% à 20% (1 pour 7 à 1 pour 5) Steigung über 20%, 14% bis 20%</p> <p>Gates Barrières Schranken</p> <p>Road tunnel Tunnel routier Strassentunnel</p> <p>Ferry (passenger) Bac pour piétons Personenfähre</p> <p>Ferry (vehicle) Bac pour véhicules Autofähre</p>	

Tourist Information

TOURIST INFORMATION	RENSEIGNEMENTS TOURISTIQUES	TOURISTENINFORMATION
Viewpoint Point de vue Aussichtspunkt Visitor centre Centre pour visiteurs Besucherzentrum Walks / Trails Promenades Wanderwege Nature reserve Réserve naturelle Naturschutzgebiet Parking Parking Parkplatz Youth hostel Auberge de jeunesse Jugendherberge Golf course or links Terrain de golf Golfplatz Garden Jardin Garten	Camp site/caravan site Terrain de camping/Terrain pour caravanes Campingplatz/Wohnwagenplatz Selected places of tourist interest Endroits d'un intérêt touristique particulier Ausgewählte Platz von touristischem Interesse Information centre, all year / seasonal Office de tourisme, ouvert toute l'année / en saison Informationsbüro, ganzjährig / saisonal Picnic site Emplacement de pique-nique Picknickplatz Park & Ride, all year / seasonal Parking et navette, ouvert toute l'année / en saison Park & Ride, ganzjährig / saisonal Telephone, public / roadside assistance Téléphone, public / borne d'appel d'urgence Telefon, öffentlich / Notrufsäule Recreation / leisure / sports centre Centre de détente / loisirs / sports Erholungs- / Freizeit- / Sportzentrum World Heritage site/area Site du Patrimoine Mondial Welterbestätte	

General Information

LAND FEATURES	WATER FEATURES	HEIGHTS
Cutting, embankment Electricity transmission line (pylons shown at standard spacing) Pipe line (arrow indicates direction of flow) Buildings Important building (selected) Bus or coach station Glass Structure Heliport Current or former place of worship; with tower with spire, minaret or dome Place of worship Triangulation pillar Mast Wind pump, wind turbine Windmill with or without sails Gaticule intersection at 5' intervals	<p>Contour values in lakes are in metres</p> <p>Marsh or salting Towpath Canal Lock Ford Sand Dunes Lighthouse (in use) Beacon Shingle Lighthouse (disused) Mud Cliff Rat rock High water mark Low water mark Normal tidal limit Footbridge Bridge Canal (dry)</p>	<p>Contours are at 10 metres vertical interval</p> <p>Surface heights are to the nearest metre above mean sea level. Where two heights are shown, the first is the height of the natural ground in the location of the triangulation pillar, and the second (in brackets) to a separate point which is the highest natural summit.</p> <p>Heights are to the nearest metre above mean sea level</p>

ABBREVIATIONS See our website for full list

CH Clubhouse	CG Cattle grid
PH Public house	P Post office
PC Public convenience (in rural area)	MP Milepost
TH Town hall, Guildhall or equivalent	MS Milestone

ARCHAEOLOGICAL AND HISTORICAL INFORMATION

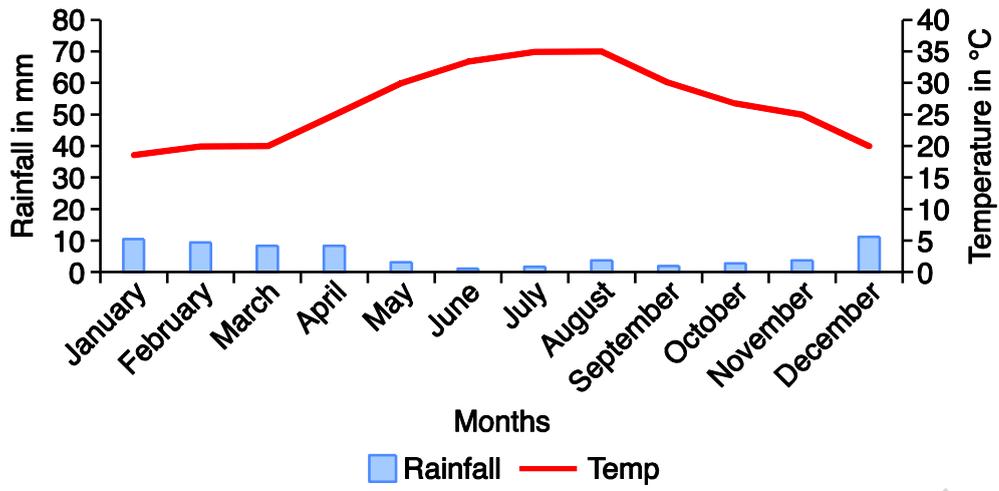
+ Site of antiquity	VILLA Roman	~ Battlefield (with date)
* Visible earthwork	Non-Roman	

Information provided by English Heritage for England and the Royal Commissions on the Ancient and Historical Monuments for Scotland and Wales

ROCK FEATURES



Fig. 3 – A hot desert climate graph



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Fig. 4 – A photograph a student has taken on a fieldtrip



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Fig. 5 – Photograph of groyne at Sheringham



Fig. 6 – A diagram showing how to measure the depth from the top of the groyne to the beach sediment

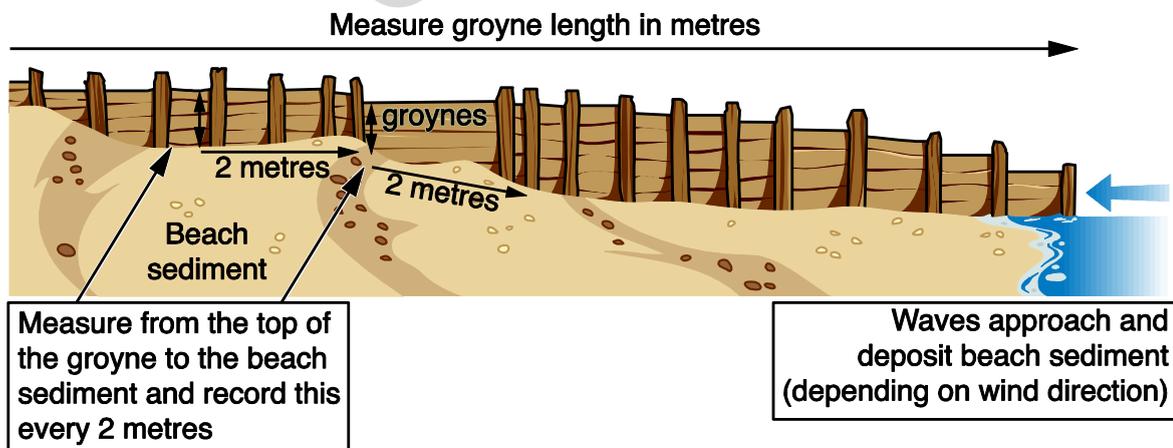
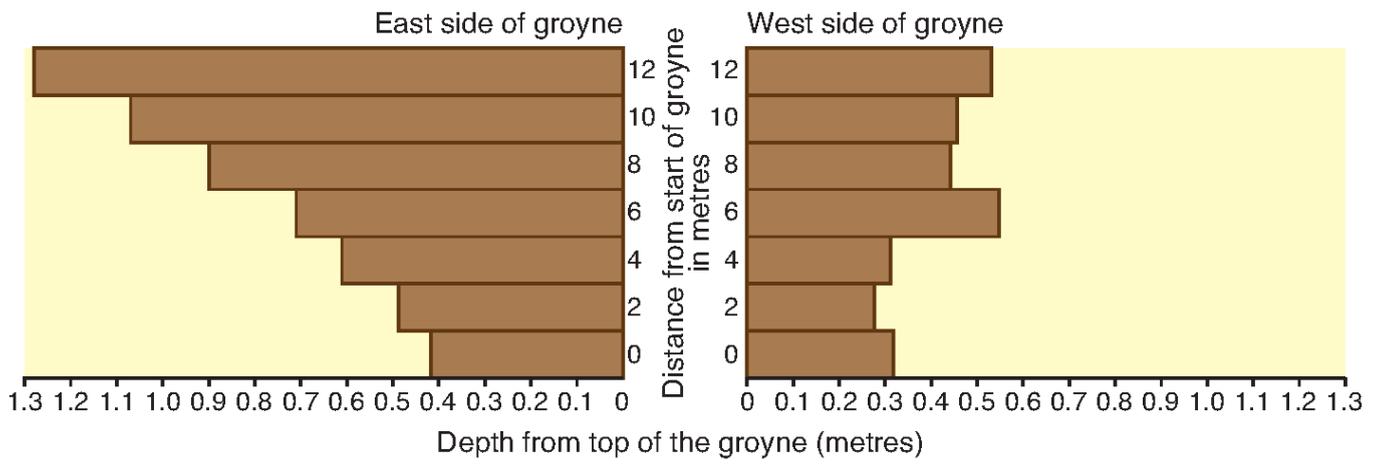


Fig. 7 – A graph of the depth from the top of the groyne to the beach sediment



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Fig. 2: OS map extract showing part of the South coast of England © Crown copyright (2015) Ordnance Survey (100043707)

Fig. 4: Photo of Pennard Pill, S Wales © ARGO Images. Image supplied by Alamy, www.alamy.com

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GCSE (9–1) Geography B (Geography for Enquiring Minds) J384/01 Our Natural World Sample Question Paper

Date – Morning/Afternoon

Time allowed: 1 hour 15 minutes

You must have:

- the Resource Booklet

You may use:

- a ruler (cm/mm)
- a piece of string
- a scientific or graphical calculator



First name

Last name

Centre
number

Candidate
number

INSTRUCTIONS

- Use black ink. You may use an HB pencil for graphs and diagrams.
- Complete the boxes above with your name, centre number and candidate number.
- Answer **all** the questions.
- Write your answer to each question in the space provided. If additional space is required, you should use the lined page(s) at the end of this booklet. The question number(s) must be clearly shown.
- The separate Resource Booklet will be found inside this document.

INFORMATION

- The total mark for this paper is **70**.
- The marks for each question are shown in brackets [].
- Quality of extended responses will be assessed in questions marked with an asterisk (*).
- Spelling, punctuation and grammar and the use of specialist terminology (SPaG) will be assessed in questions marked with a pencil (✎).
- This document consists of **16** pages.

Section A

Answer **all** the questions.

Global Hazards

1 (a) Describe what a hot spot is.

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[2]

(b) Study **Fig. 1** in the separate Resource Booklet, a Geographical Information System (GIS) map showing earthquake hazard distribution.

Using data from **Fig.1**, describe the pattern of earthquake distribution.

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[4]

- (c) Study the table below, showing the total and average number of tropical storms in the USA (1851–2013).

Month	Total number of tropical storms	Average number of tropical storms
January	2	-
February	1	-
March	1	-
April	1	-
May	20	0.1
June	86	0.5
July	116	0.7
August	373	2.3
September	564	3.5
October	332	2.0
November	88	0.5
December	17	0.1

Select the most suitable graphical technique for presenting the total number of tropical storms column.

- A Bar graph
- B Climate graph
- C Cross-section
- D Rose chart

Write the correct letter in the box.

[1]

Changing Climate

2 (a) Students were studying monthly temperature data to identify long term climate change.

Which average is best for them to use?

- A Mean
- B Median
- C Modal class
- D Mode

Write the correct letter in the box.

[1]

(b) Compare the reliability of **two** sources of evidence of climate change.

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[4]

Distinctive Landscapes

3 Study **Fig. 2** in the separate Resource Booklet, an OS map extract showing part of the South coast of England.

(a) (i) The straight line distance between Mupe Rocks (8479) and Worbarrow Tout (8679) is:

- A 1600m
- B 2000m
- C 2400m
- D 2800m

Write the correct letter in the box.

[1]

(ii) The four-figure grid reference for the museum in Tyneham is:

- A 8582
- B 8781
- C 8880
- D 8979

Write the correct letter in the box.

[1]

(b) Geographical Information Systems (GIS) can show many different kinds of data on one map, with each kind of data representing a new 'layer' of the map.

Suggest **one** extra layer which could be added to the OS map extract in **Fig. 3** making it more informative for a group of geography students using the area for a coastal study. Give a reason for your answer.

.....

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.....

.....

[2]

Sustaining Ecosystems

4 Study **Fig. 3** in the separate Resource Booklet, showing a hot desert climate graph.

(a) Describe the yearly temperature and rainfall patterns on the hot desert climate graph.

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[2]

(b) Which **two** statements best explain why the nutrient cycle of tropical rainforests is rapid?

- 1 Heavy rainfall washes away dead plant material
- 2 Nutrients are in high demand from the fast-growing plants
- 3 The forest floor conditions allow for quick decomposition of dead plant material
- 4 There is great biodiversity in tropical rainforests

- A 1 and 2
- B 1 and 4
- C 2 and 3
- D 3 and 4

Write the correct letter in the box.

[1]

(c) Describe how tropical rainforests provide valuable services.

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[4]

Section B

Answer **all** the questions

Physical Geography Fieldwork

- 5 (a) Study **Fig. 4** in the separate Resource Booklet, a photograph a student has taken on a fieldtrip.

State **two** ways this photograph could be used effectively in the data presentation section of the student's fieldwork investigation.

1

.....

2

.....

[2]

- (b) The table below shows part of a data collection sheet from a fieldwork investigation.

Site Number:	Seven										
Stream width:	13.7 metres										
Stream depth (recorded every metre):											
0.16m	0.17m	0.18m	0.23m	0.29m	0.31m	0.28m	0.26m	0.23m	0.23m	0.19m	0.18m
Pebble size (sample of six pebbles):											
90mm	45mm	40mm	38mm	45mm	36mm						

- (i) Using the table above, calculate the range of the pebble size.

.....

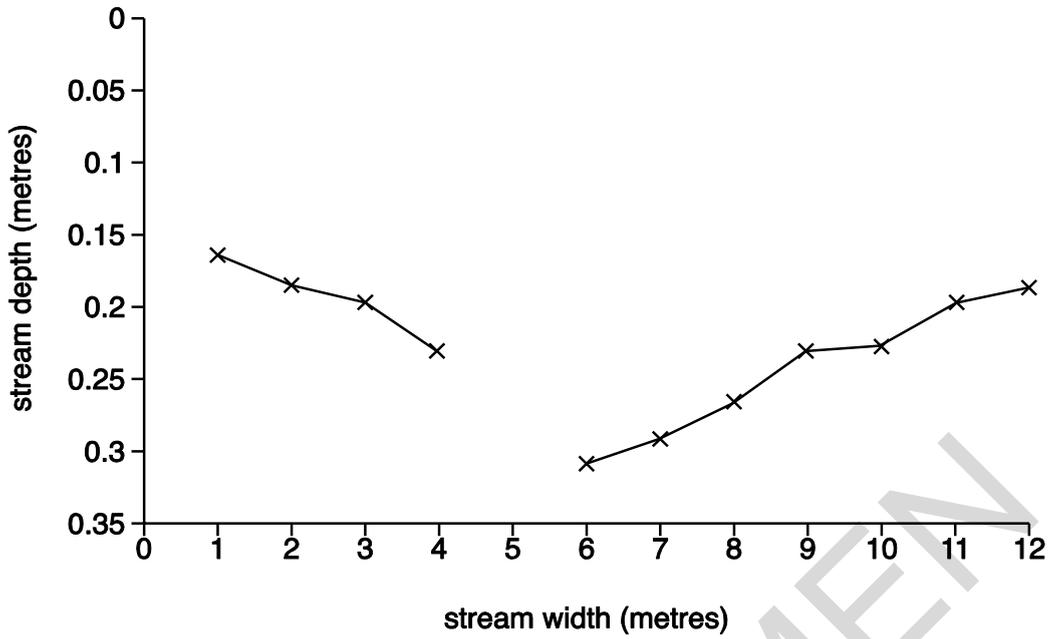
[1]

- (ii) Using the table above, calculate the mode of the stream depth.

.....

[1]

(iii) Complete the cross section below using information from the data collection sheet.



[1]

(c) For a physical geography fieldwork investigation which you have completed, evaluate **one** technique you used to collect data.

Technique used:

.....

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.....

[2]

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...day June 20XX – Morning/Afternoon

GCSE (9–1) Geography B (Geography for Enquiring Minds)

J384/01 Our Natural World

SAMPLE MARK SCHEME

Duration: 1 hour 15 minutes

MAXIMUM MARK 70

This document consists of 24 pages

MARKING INSTRUCTIONS**PREPARATION FOR MARKING****SCORIS**

1. Make sure that you have accessed and completed the relevant training packages for on-screen marking: *scoris 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 unit. These are posted on the RM Cambridge Assessment Support Portal <http://www.rm.com/support/ca>
3. Log-in to scoris and mark the **required number** of practice responses (“scripts”) and the **required number** of standardisation responses.

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

TRADITIONAL

Before the Standardisation meeting you must mark at least 10 scripts from several centres. For this preliminary marking you should use **pencil** and follow the **mark scheme**. Bring these **marked scripts** to the meeting.

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 scoris 50% and 100% (traditional 50% Batch 1 and 100% Batch 2) deadlines. If you experience problems, you must contact your Team Leader (Supervisor) without delay.
4. If you are in any doubt about applying the mark scheme, consult your Team Leader by telephone, email or via the scoris messaging system.

5. Work crossed out:
- where a candidate crosses out an answer and provides an alternative response, the crossed out response is not marked and gains no marks
 - if a candidate crosses out an answer to a whole question and makes no second attempt, and if the inclusion of the answer does not cause a rubric infringement, the assessor should attempt to mark the crossed out answer and award marks appropriately.
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. There is a NR (No Response) option. Award NR (No Response)
- if there is nothing written at all in the answer space
 - OR if there is a comment which does not in any way relate to the question (e.g. 'can't do', 'don't know')
 - OR if there is a mark (e.g. a dash, a question mark) which isn't an attempt at the question.
- Note: Award 0 marks – for an attempt that earns no credit (including copying out the question).
8. The scoris **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 telephone, email or the scoris messaging system.
9. Assistant Examiners will send a brief report on the performance of candidates to their Team Leader (Supervisor) 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. Annotations

Annotation	Meaning

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11. 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.

The Examiners' Standardisation Meeting will ensure that the Mark Scheme covers the range of candidates' responses to the questions, and that all Examiners understand and apply the Mark Scheme in the same way. The Mark Scheme will be discussed and amended at the meeting, and administrative procedures will be confirmed. Co-ordination scripts will be issued at the meeting to exemplify aspects of candidates' responses and achievements; the co-ordination scripts then become part of this Mark Scheme.

Before the Standardisation Meeting, you should read and mark in pencil a number of scripts, in order to gain an impression of the range of responses and achievement that may be expected.

In your marking, you will encounter valid responses which are not covered by the Mark Scheme: these responses must be credited. You will encounter answers which fall outside the 'target range' of Bands for the paper which you are marking. Please mark these answers according to the marking criteria.

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.

	AO1	AO2	AO3
Comprehensive	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.
Thorough	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.
Reasonable	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.
Basic	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.

Question		Answer	Marks	Guidance
1	(a)	A small area of the earth's crust where unusually high heat flow (✓) is linked to volcanic activity (✓)	2	2 x 1 (✓)
	(b)	The majority of earthquakes occur at plate boundaries (✓) with a particularly large number of earthquakes along the western edge of the Pacific Plate (✓) including three of the largest earthquakes which registered over 6.02 in magnitude (DEV) occurring here (COM)	4	2 x 1 (✓) for describing the pattern of earthquake distribution 1 x 1 (DEV) for using data from the map 1 x 1 (COM) for communicating the answer in an appropriate and logical order
	(c)	A: Bar graph (✓)	1	(✓)
	(d)	<p>Level 3 (5–6 marks) An answer at this level demonstrates thorough understanding of extreme weather conditions in contrasting countries (AO2) and thorough analysis of the differences in extreme weather conditions in contrasting countries (AO3).</p> <p>This will be shown by including well-developed ideas both about extreme weather conditions and the differences in extreme weather conditions in contrasting countries.</p> <p>Level 2 (3–4 marks) An answer at this level demonstrates reasonable understanding of extreme weather conditions in contrasting countries (AO2) and reasonable analysis of the differences in extreme weather conditions in contrasting countries (AO3).</p> <p>This will be shown by including developed ideas about either extreme weather conditions or the differences in</p>	6	<p>Indicative content Extremes in weather conditions most likely to be discussed are temperature, wind and precipitation.</p> <p>The differences in extreme weather conditions could include contrasts between the countries, but may also focus on differences between extremes and averages within the countries.</p> <p>Examples can be drawn from any countries but at least two should be discussed and they must be contrasting in terms of their extreme weather conditions.</p> <p>Examples of well-developed ideas: England and Australia have very different extremes in temperature when compared to each other but not necessarily as a difference from their own average temperatures. Average summer temperatures in England are around 20°C, with 30°C being considered extreme. This 10°C difference is mirrored in Australia with average summer temperatures being around 30°C and extremes</p>

Question	Answer	Marks	Guidance
	<p>extreme weather conditions in contrasting countries.</p> <p>Level 1 (1–2 marks) An answer at this level demonstrates basic understanding of extreme weather conditions in contrasting countries (AO2) and basic analysis of the differences in extreme weather conditions in contrasting countries (AO3).</p> <p>This will be shown by including simple ideas about extreme weather conditions or the differences in extreme weather conditions in contrasting countries. No developed points are made.</p> <p>0 marks No response or no response worthy of credit.</p>		<p>at 40°C. So the differences in the extremes in temperature are very similar.</p> <p>Examples of developed ideas: Extreme temperatures in Australia are much higher than in England, with average summer temperatures in Australia being very similar to very hot weather in England which could be considered extreme.</p> <p>Examples of simple ideas: The extreme temperatures in Australia are much hotter than in England.</p> <p>Australia is much hotter than England especially in the summer.</p>

Question		Answer	Marks	Guidance
2	(a)	A: Mean (✓)	1	(✓)
	(b)	<p>Historical records (✓) and ice cores (✓) are two sources of evidence of climate change. Historical records may be less reliable than ice cores as they are handwritten or drawn based on one person's interpretation (DEV) without the use of modern thermometers (DEV)</p> <p>Other possible data/evidence: Sea ice positions (✓) Global temperature change (✓) Paintings (✓) Diaries (✓)</p>	4	<p>Answer given will depend on type of data/evidence for climate change chosen 2 x 1 (✓) reserved for types of data/evidence for climate change 2 x 1 (DEV) for comparing the reliability of data i.e. glacial/interglacial cycles = natural process, need a range of data to support, level of glacial retreat, ice sheet depletion, global temperature variances Comparison must be related to reliability</p>
	(c)	<p>Level 3 (6–8 marks) An answer at this level demonstrates thorough understanding of the social and environmental impacts of climate change experienced in the UK in the 21st century (AO2) and thorough analysis of whether the social impacts are greater than the environmental impacts (AO3).</p> <p>This will be shown by including well-developed ideas about the social and environmental impacts of climate change experienced in the UK in the 21st century and which are greater.</p> <p>There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated.</p> <p>Level 2 (3–4 marks) An answer at this level demonstrates reasonable</p>	8	<p>Indicative content Social impacts could include: Tourist industry boom as more people holiday at home due to warmer weather in the UK Farmers can grow different varieties of crops such as grapes as the UK experiences warmer weather Decrease in cold related deaths over winter Increased pressure on the NHS from patients developing heat related illnesses. Increased flooding leading to homelessness, deaths, anxiety, depression Extreme weather events causing damage to homes, drought, water shortages, dehydration, hose pipe bans and loss of communications Effects on farming impacting livelihoods, price of goods and availability of products and food security. Effects on fishing impacting livelihoods, price of goods</p>

Question	Answer	Marks	Guidance
	<p>understanding of the social and environmental impacts of climate change experienced in the UK in the 21st century (AO2) and reasonable analysis of whether the social impacts are greater than the environmental impacts (AO3).</p> <p>This will be shown by including developed ideas about the social and environmental impacts of climate change experienced in the UK in the 21st century and which are greater.</p> <p>There is a line of reasoning presented with some structure. The information presented is in the most-part relevant and supported by some evidence.</p> <p>Level 1 (1–2 marks) An answer at this level demonstrates basic understanding of the social and environmental impacts of climate change experienced in the UK in the 21st century (AO2) and basic analysis of whether the social impacts are greater than the environmental impacts (AO3).</p> <p>This will be shown by including simple ideas about the social and environmental impacts of climate change experienced in the UK in the 21st century and which are greater. No developed points are made.</p> <p>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>0 marks</p>		<p>Environmental impacts could include: For UK wildlife warmer temperatures could increase survival rates for offspring born in winter Habitats may come under increasing pressure including salt marsh threatened by sea-level rise to beech woodland susceptible to summer droughts Increased extreme storm and flood events Encroachment of sea through rising sea levels Accelerated coastal erosion Extremes in weather conditions (higher summer temperatures, heat waves, higher average winter precipitation, decrease in summer precipitation)</p> <p>Examples of well-developed ideas: The social impacts of climate change experienced in the UK in the 21st century have mainly been a consequence of environmental impacts and so could be considered greater. More precipitation in the winter and more chance of extreme storm conditions at all times bring an increased risk of flooding. This would mean people may become isolated from amenities and unable to get food supplies or to their place of work or even have to leave their homes or be rescued. As social impacts exacerbate to the environmental ones, they increase the impact felt and so can be considered greater.</p> <p>Examples of developed ideas: Most of the social impacts experienced in the UK make the environmental impacts worse. There are more extreme storms and this can lead to more flooding as there is more precipitation. When it floods then people cannot get to work, school or do the shopping and some even have to move out of their homes. This is worse than just flooding happening and so it is a greater impact.</p>

Question	Answer	Marks	Guidance
	No response or no response worthy of credit.		<p>Examples of simple ideas: Social impacts mostly happen after an environmental impact and make them worse, like when people have to leave their homes after a flood.</p>

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Question		Answer	Marks	Guidance
3	(a)	(i) C: 2400	1	(✓)
		(ii) C: 8880	1	(✓)
	(b)	<p>Possible suggestions:</p> <p>Geology (✓) so they can plan which sites to visit depending on their fieldwork title (DEV)</p> <p>Youth hostels/accommodation (✓) so they can plan a route for fieldwork investigations starting from their accommodation (DEV)</p> <p>Public transport information (✓) so they can plan travel to and from the area (DEV)</p> <p>Coastal management zones/techniques (✓) so they can decide which section of the coastline to sample (DEV)</p>	2	<p>1 x 1 (✓) for layer suggested</p> <p>1 x 1 (DEV) for reason</p> <p>Do not accept symbols already used on the map</p>
	(c)	<p>Waves attack vertical lines of weakness in the headland until a crack forms by hydraulic action (✓)</p> <p>The crack continues to expand until it becomes a cave (✓)</p> <p>The rock continues to erode until the cave breaks through the headland to form an arch (✓)</p>	3	<p>3 x 1 (✓) for each valid explanation of the stages in the formation of an arch</p> <p>No DEV required</p>
	(d)	<p>Case study: river basin in the UK</p> <p>Level 3 (5–6 marks)</p> <p>An answer at this level demonstrates a thorough knowledge of geomorphic processes (AO1) and a thorough understanding of how human activity has influenced the geomorphic processes (AO2).</p> <p>This will be shown by including well-developed ideas</p>	6	<p>Case study will be marked using 3 levels:</p> <p>Case study: responses will depend on candidate's area of study.</p> <p>Indicative content</p> <p>Management strategies could include:</p> <p>Flood barriers/dams –silting up, restriction of sediment replenishment (dev)</p> <p>River realigning/straightening – restriction of</p>

Question	Answer	Marks	Guidance
	<p>both about the geomorphic processes and how human activity has influenced the geomorphic processes.</p> <p>The answer must also include place-specific details for the landscape. Amount of relevant place-specific detail determines credit within level.</p> <p>Level 2 (3–4 marks)</p> <p>An answer at this level demonstrates reasonable knowledge of geomorphic processes (AO1) and reasonable understanding of how human activity has influenced the geomorphic processes (AO2).</p> <p>This will be shown by including developed ideas either about the geomorphic processes or how human activity has influenced the geomorphic processes.</p> <p>Developed ideas but no place-specific detail credited up to bottom of level. Valid named example needed for top of level.</p> <p>Level 1 (1–2 marks)</p> <p>An answer at this level demonstrates basic knowledge of geomorphic processes (AO1) and basic understanding of how human activity has influenced the geomorphic processes (AO2).</p> <p>This will be shown by including simple ideas about the geomorphic processes or how human activity has influenced the geomorphic processes. No developed points are made.</p>		<p>meanders/horizontal) lateral erosion Channelisation- impact of erosion, decreased bedload, deposition, throughflow. Building on flood plains – increased surface runoff, Afforestation/deforestation Artificial Levees/Embankments</p> <p>Examples of well-developed ideas: Humans have straightened rivers and introduced channelisation to increase the discharge of the River Nene in Northampton. These changes alter the velocity of the river and reduce friction. These human activities reduce the amount of lateral and vertical erosion causing the river to not form a meander which would be the natural landscape.</p> <p>Examples of developed ideas: Channel straightening is one way that humans have altered the river Nene landscape in Northampton. They have used concrete to change the route of the river which has caused less erosion and flooding.</p> <p>Examples of simple ideas: One way humans have affected the river is by taking away the bends and making the river straighter.</p>

Question	Answer	Marks	Guidance
	<p>Simple ideas or appropriate named example only credited at bottom of level.</p> <p>0 marks No response or no response worthy of credit.</p>		

Question		Answer	Marks	Guidance
4	(a)	The temperature of the hot desert is consistent at the start of the year before increasing steadily to peak in July and August and decreasing again (✓). The rainfall in the hot desert is significantly higher from December through to April and very low between May and November (✓).	2	1 x 1 (✓) for describing the yearly temperature pattern 1 x 1 (✓) for describing the yearly rainfall pattern
	(b)	C: 2 and 3	1	(✓)
	(c)	Reduction of flood risk as trees intercept and slow down rainwater (✓) The rainforest acts as the lungs of the planet through photosynthesis (✓) The rainforest is a natural store of carbon dioxide so it balances atmospheric gases (✓) Soils enable commercial agriculture (✓) Rainforests are popular with tourists due to the flora and fauna (✓) The rainforest ecosystem is a habitat for a huge number of species of animals and vegetation (✓)	4	4 x 1 (✓) for each valid idea No DEV required
	(d)	Case study: a small scale example of sustainable management in either the Arctic or Antarctic Level 3 (5–6 marks) An answer at this level demonstrates thorough knowledge of a small scale sustainable management scheme (AO1) and a thorough evaluation of the success of the example of sustainable management (AO3). This will be shown by including well-developed ideas about the small scale sustainable management scheme and its success. The answer must also include place-specific details for the named management scheme. Amount of	6	Indicative content Case study: either Arctic or Antarctic example Max level 1 = large scale e.g. Earth Summit or Treaty's Examples could include sustainable tourism, conservation, whaling Example of well-developed ideas: Tour operators have an agreed set of rules for tourism for Antarctica, this includes the sustainable tourism management plan. Litter is one thing covered under the plan, and it has to be prevented and removed to maintain the areas ecosystems and natural beauty. This has had a positive impact on both the waste management and the habitats of birds and sea life in Antarctica. The plan has

Question	Answer	Marks	Guidance
	<p>relevant place-specific detail determines credit within level.</p> <p>Level 2 (3–4 marks) An answer at this level demonstrates reasonable knowledge of a small scale sustainable management scheme (AO1) and a reasonable evaluation of the success of the example of sustainable management (AO3).</p> <p>This will be shown by including developed ideas about the small scale sustainable management scheme and its success.</p> <p>Developed ideas but no place-specific detail credited up to bottom of level. Valid named example needed for top of level.</p> <p>Level 1 (1–2 marks) An answer at this level demonstrates basic knowledge of a small scale sustainable management scheme (AO1) and a basic evaluation of the success of the example of sustainable management (AO3).</p> <p>This will be shown by including simple ideas about the small scale sustainable management scheme and its success.</p> <p>Simple ideas or appropriate named example only credited at bottom of level.</p> <p>0 marks No evidence submitted or the response does not address the question.</p>		<p>many positive points but also the tours themselves potentially have a number of negative impacts on ecosystems, such as interrupting species breeding routines. To mitigate this tour operators try to advise tourists on where to position themselves when viewing birds and animals to cause least impact.</p> <p>Example of developed ideas: The Antarctic tour operators have rules to help protect it for example by only allowing a certain number of people to go there and no litter is allowed to be left there. This has meant there are less people destroying the pristine ecosystem and those who do go do as little damage as possible.</p> <p>Example of simple ideas: People have been stopped from going on large ships to holiday in the Antarctic so that there is less damage to it.</p>

Question		Answer	Marks	Guidance
5	(a)	Examples may include: To identify sample sites (✓) To use in conjunction with a GIS map showing sample sites (✓) With annotated labels of the landform (✓) Geolocated to show its position on a map (✓)	2	2 x 1 (✓)
	(b)	(i)	1	(✓)
		(ii)	1	(✓)
		(iii)	1	(✓)
	(c)	Expect a wide range of data collection techniques Measuring river depth this technique was limited due to health and safety (✓) where high bankfull discharge meant that we could not sample enough sites (✓) Measuring river depth, this technique was useful in helping us answer our question 'how do rivers change along their course' (✓) where we were able to sample six sites which gave us a good range of sites along the rivers course (✓)	2	2 x 1 (✓) Technique must be related to physical geography No mark awarded for just stating the technique Evaluation may refer to: Limitations and merits of the technique in helping to answer the question for investigation How easy the data collected was to analyse and present Level of ease carrying out the technique at the time/day of collection
	(d*)	Level 3 (6–8 marks) The answer must include a thorough analysis of the fieldwork data (AO3) to come to a thorough conclusion that answers the question (AO3). This will be shown by including well-developed ideas. There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated.	8	Conclusion: LSD occurs from west to east – supporting evidence from Figs 5, 6 and 7 large fetch = movement of sediment More sediment on the west than east Example of well-developed ideas: From the figures it can be concluded that longshore drift does occur at Sheringham. The raw data in the table illustrates the differences in the sediment levels either side of the groyne which shows more sediment build up

Question	Answer	Marks	Guidance
	<p>Level 2 (3–5 marks)</p> <p>The answer must include reasonable analysis of the fieldwork data (AO3) with reasonable conclusion to help answer the question “Does the process of longshore drift occur at Sheringham?”(AO3).</p> <p>This will be shown by including developed ideas.</p> <p>There is a line of reasoning presented with some structure. The information presented is in the most-part relevant and supported by some evidence.</p> <p>Level 1 (1–2 marks)</p> <p>The answer will include basic analysis of the fieldwork data (AO3) to come to a basic conclusion answering the question “Does the process of longshore drift occur at Sheringham (AO3).</p> <p>This will be shown by including simple ideas.</p> <p>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>0 marks No response or no response worthy of credit.</p>		<p>on the west side than on the east side. There is a difference of 2.62m of sand built up between the east and west side of the groyne. This indicates longshore drift is occurring and the groyne is working effectively to trap sand and slow the process of longshore drift.</p> <p>Example of developed ideas: The table shows a difference in the amount of sediment on the east and west side of the groyne therefore longshore drift does occur. For example at 12m there is a 0.53m of sand on the east compared to 1.28m on the west. The graph shows an overall greater amount of sand on the west hand side of the groyne, indicating that longshore drift does occur.</p> <p>Example of simple ideas: Longshore drift does occur at Sheringham, you can see this from the graph where there is more sand on one side of the groyne.</p>
	<p> Spelling, punctuation and grammar and the use of specialist terminology (SPaG) are assessed using the separate marking grid in Appendix 1.</p>	3	

APPENDIX 1

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

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

Assessment Objectives (AO) grid

Question	AO1	AO2	AO3	AO4	Marks	SPaG
1a	2				2	
1b				4	4	
1c				1	1	
1d		3	3		6	
2a				1	1	
2b	2		2		4	
2c		4	4		8	
3ai				1	1	
3aii				1	1	
3b				2	2	
3c		3			3	
3d	3	3			6	
4a				2	2	
4b		1			1	
4c	4				4	
4d	3		3		6	
5a				2	2	
5bi				1	1	
5bii				1	1	
5biii				1	1	
5c			2		2	
5d			8		8	3
Total	14	14	22	17	67	3

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