



GCE A LEVEL MARKING SCHEME

SUMMER 2025

**A LEVEL
GEOLOGY – COMPONENT 3
A480U30-1**

About this marking scheme

The purpose of this marking scheme is to provide teachers, learners, and other interested parties, with an understanding of the assessment criteria used to assess this specific assessment.

This marking scheme reflects the criteria by which this assessment was marked in a live series and was finalised following detailed discussion at an examiners' conference. A team of qualified examiners were trained specifically in the application of this marking scheme. The aim of the conference was to ensure that the marking scheme was interpreted and applied in the same way by all examiners. It may not be possible, or appropriate, to capture every variation that a candidate may present in their responses within this marking scheme. However, during the training conference, examiners were guided in using their professional judgement to credit alternative valid responses as instructed by the document, and through reviewing exemplar responses.

Without the benefit of participation in the examiners' conference, teachers, learners and other users, may have different views on certain matters of detail or interpretation. Therefore, it is strongly recommended that this marking scheme is used alongside other guidance, such as published exemplar materials or Guidance for Teaching. This marking scheme is final and will not be changed, unless in the event that a clear error is identified, as it reflects the criteria used to assess candidate responses during the live series.

GCE A LEVEL GEOLOGY
COMPONENT 3 - GEOLOGICAL APPLICATIONS
SUMMER 2025 MARK SCHEME

Instructions for examiners of A Level Geology when applying the mark scheme

1 Positive marking

It should be remembered that candidates are writing under examination conditions and credit should be given for what the candidate writes, rather than adopting the approach of penalising him/her for any omissions. It should be possible for a very good response to achieve full marks and a very poor one to achieve zero marks. Worthwhile answers that meet the requirements of the question, but do not appear on the mark scheme are to be given credit.

2 Tick marking

Low tariff questions should be marked using a points-based system. Each credit worthy response should be ticked in red pen. The number of ticks must equal the mark awarded for the sub-question. The mark scheme should be applied precisely using the marking details box as a guide to the responses that are acceptable. Do not use crosses to indicate answers that are incorrect.

3 Annotated diagrams

Where a candidate has answered a question wholly or partly by use of an annotated diagram, credit must be awarded to the annotations which form credit-worthy responses as outlined in the marking details box. Candidates must be credited only once for valid responses which appear both as annotations to diagrams and within a section of prose in the answer to the same question.

4. Banded mark schemes

Banded mark schemes are divided so that each band has a relevant descriptor. The descriptor for the band provides a description of the performance level for that band. Each band contains marks. Examiners should first read and annotate a learner's answer to pick out the evidence that is being assessed in that question. **Do not use ticks** on the candidate's response. Once the annotation is complete, the mark scheme can be applied. This is done as a two-stage process.

Stage 1 – Deciding on the band

When deciding on a band, the answer should be viewed holistically. Beginning at the lowest band, examiners should look at the learner's answer and check whether it matches the descriptor for that band. Examiners should look at the descriptor for that band and see if it matches the qualities shown in the learner's answer. If the descriptor at the lowest band is satisfied, examiners should move up to the next band and repeat this process for each band until the descriptor matches the answer.

If an answer covers different aspects of different bands within the mark scheme, a 'best fit' approach should be adopted to decide on the band and then the learner's response should be used to decide on the mark within the band. For instance if a response is mainly in band 2 but with a limited amount of band 3 content, the answer would be placed in band 2, but the mark awarded would be close to the top of band 2 as a result of the band 3 content.

Examiners should not seek to mark candidates down as a result of small omissions in minor areas of an answer.

Stage 2 – Deciding on the mark

Once the band has been decided, examiners can then assign a mark. During standardising (marking conference), detailed advice from the Principal Examiner on the qualities of each mark band will be given. Examiners will then receive examples of answers in each mark band that have been awarded a mark by the Principal Examiner. Examiners should mark the examples and compare their marks with those of the Principal Examiner.

When marking, examiners can use these examples to decide whether a learner's response is of a superior, inferior or comparable standard to the example. Examiners are reminded of the need to revisit the answer as they apply the mark scheme in order to confirm that the band and the mark allocated is appropriate to the response provided.

Indicative content is also provided for banded mark schemes. Indicative content is not exhaustive, and any other valid points must be credited. In order to reach the highest bands of the mark scheme a learner need not cover all of the points mentioned in the indicative content but must meet the requirements of the highest mark band. Where a response is not creditworthy, that is contains nothing of any significance to the mark scheme, or where no response has been provided, no marks should be awarded.

Section A

Question			Marking details	Marks Available					
				AO1	AO2	AO3	Total	Maths	Prac
1	(a)	(i)	Any two x (1) from: - contaminates / pollutes environment - ionising / irradiating - cause of cancer - for long period of time Credit other reasonable suggestions	2			2		
		(ii)	Any one x (1) from: - coastal areas - Scotland - Western Isles / Outer Hebrides - Northern or Northeastern Scotland - Anglesey / Northwestern Wales	1			1		
	(b)	(i)	Arrow to left (1) (Accept arrow in either deposit)	1			1		
		(ii)	Correct values for height difference - 100m (1) & horizontal distance - 50,000m (accept 45,000 to 55,000m) (1) Rearrangement of equation and $k = 10^{-9}$ (1) Consider ecf		3		3	3	3
	(c)	(i)	Any two x (1) from: - lowest permeability / hydraulic conductivity - water flow confined to faults - more competent rock for construction - more resistant to erosion	2			2		2

Question			Marking details	Marks Available					
				AO1	AO2	AO3	Total	Maths	Prac
		(ii)	Any two x (1) from: - not faulted - low permeability of fine-grained sediment - easier to excavate - water flow away from surface	2			2		2
	(d)	(i)	Low / minor risk (1) Greater in west than east / ref to places / values (1)	2			2		
		(ii)	Any three x (1) from: - seismic risk suggests only low level of engineering required - return period for data only 475 years - containment of radioactivity must be for tens of thousands of years - structures must not fail for likely intensity of earthquakes - can select site for lowest earthquake intensity and/or lowest risk for crystalline rocks (A) - faults could reactivate in the crystalline rocks Credit other reasonable suggestions			3	3		3
			Question 1 total	10	3	3	16	3	10

Question			Marking details	Marks Available					
				AO1	AO2	AO3	Total	Maths	Prac
2	(a)	(i)	Any three x (1) from: • loose / unconsolidated sediment • on continental shelf / shallow sea / on steep gradient • storm /earthquake / fault movement / overloading • disturbs sediment • reduces basic friction angle • sediment flows down continental slope	3			3		
		(ii)	Displaces water (1)	1			1		
	(b)	(i)	Any two x (1) from: • upward fining • very coarse clasts near base of bed • gravel to clay • poor sorting • reference to grain shape	2			2		
		(ii)	Any three x (1) from: • high energy flow • erosive base • decreasing energy during deposition • rapid deposition (less than a year) / single event • marine material above high tide level • marine material above (terrestrial) peat		3		3		

Question			Marking details	Marks Available					
				AO1	AO2	AO3	Total	Maths	Prac
		(iii)	Any two x (1) from: • bay opens to northeast • facing direction that Storegga tsunami came from • bay narrows • funnels the tsunami • coastal location / low-lying Credit other sensible suggestions			2	2		
		(c)	Any three x (1) from: • there is a history of tsunamis on Shetland • conditions to generate tsunamis still exist • landscape would still increase height of tsunami • volcanic and related activity in Iceland • reference to multiple occurrences However: • infrequent • able to monitor conditions • identify vulnerable areas • planning controls / warning systems could be implemented • no convergent plate boundaries in N Atlantic			3	3		3
			Question 2 total	6	3	5	14	0	3

Section B

Question			Marking details	Marks Available					
				AO1	AO2	AO3	Total	Maths	Prac
3	(a)	(i)	Dolerite (1)	1			1	1	1
		(ii)	Cross cutting relationship clearly drawn (1) Rock types correctly labelled (1) Unconformity correctly labelled (1)		3		3		
		(iii)	Head is superficial / Quaternary and youngest (1) Any one x (1) from: - dip direction to the east, therefore BFL younger than Rg - BFL above Rg in the geological column therefore younger / BFL is Devonian and Rg is Silurian in age			2	2		2
	(b)	(i)	Gu / Gutter coal (1)	1			1	1	1
		(ii)	Coal seams dip to the SE (1) Mine shaft is North of the other coal seams (1)		2		2	2	2

Question			Marking details	Marks Available					
				AO1	AO2	AO3	Total	Maths	Prac
	(c)	(i)	Any four x (1) from: <u>Sill</u> - dolerite therefore medium cooling rate - concordant in places - lack of metamorphic aureole <u>Pluton</u> - circular / oval shape - large size / credit use of numbers - discordant Credit relevant use of LMC for either interpretation			4	4		4
		(ii)	Any one x (2) from: - xenoliths of LMC found within dolerite – fragments of LMC broken off and incorporated as intrusion occurred. - LMC recrystallised at baked margin due to heat from sill - Off shoots of dolerite sill found within LMC – law of cross cutting relationships explained	2			2		
			Question 3 Total	4	5	6	15	4	10

Question			Marking details	Marks Available					
				AO1	AO2	AO3	Total	Maths	Prac
4	(a)	(i)	In a valley (1) Rocks “v” in the direction of dip (1)		2		2		
		(ii)	Synform symbol (1) Axial plane plunging to north east (1)		2		2		
		(iii)	Any three x (1) from: - dolerite crystalline and resistant to erosion - dolerite intrudes into older rocks - older, less resistant, rocks eroded away - core of a synform		3		3		
	(b)	(i)	Normal (1) Tick/downthrow on north-northwest side (1) Footwall upthrown / hangingwall downthrown / dips to the downthrown side (1)		3		3		3
		(ii)	Statement incorrect because: Any four x (1) from: - normal faults extensional - folds compressional - fault cuts folded beds - fold older than fault - folds have horizontal sigma max - normal faults would have vertical sigma max - although, they have the same trend			4	4		4
			Question 4 Total	0	10	4	14	0	7

Question			Marking details	Marks Available					
				AO1	AO2	AO3	Total	Maths	Prac
5	(a)	(i)	Crushed rock / gravel (1)	1			1		
		(ii)	Credit any two of the following techniques/explanations: Magnetic (1) – iron is magnetic and would therefore distort the local Earth’s magnetic field (1) Gravity (1) – iron ore has high density and would produce a positive gravity anomaly (1) Seismic (1) – iron ore would increase the velocity of seismic waves due to an increase in rigidity (1) Geochemical (1) – traces of iron ore could be sampled from local rivers/streams/soils and high concentrations could lead to the location of an ore body (1) Electrical resistivity / conductivity (1) – metalliferous ores will allow the conduction of electricity and lower resistivity (1)	4			4		
	(b)	(i)	750 m (1) $750 \times 128/2 = 48,000 \text{ m}^2$ (1)		2		2	2	2
		(ii)	825 m (allow 800 m – 850 m) (1) $48,000 \times 825 = 39,600,000$ (1)		2		2	2	2

Question			Marking details	Marks Available					
				AO1	AO2	AO3	Total	Maths	Prac
	(c)		Any three x (1) from: - pyrite / iron ore exposed - reaction with oxygen in the air - forms H_2SO_4 / credit ref to acid mine drainage - forms iron precipitate		3		3		
	(d)		Any four x (1) from: - impermeable bed rock/dolerite will prevent pollutants escaping - synformal structure will prevent pollutants from escaping - cooling joints in dolerite could lead to secondary permeability - faults could provide leakage pathways for pollutants - mine shaft could provide leakage pathways for pollutants - pollutants already escaping from old mine shafts - impermeable membrane would need to be used to ensure impermeable base / grouting on faults and fractures - disturbed ground could become unstable Credit other sensible answers			4	4		4
			Question 5 Total	5	7	4	16	4	8

Section C option 1 Quaternary Geology

Question			Marking details	Marks Available					
				AO1	AO2	AO3	Total	Maths	Prac
6	(a)		Any two x (1) from: - weathered sediment below peat - indicates exposure for a period of time before peat deposition - unconformity OR Any two x (1) from: - formation of periglacial ice wedge - indicates intervening glacial episode - periglacial environment indicates cold climate		2		2		
	(b)	(i)	Any two x (1) from: - sensitive to climatic change - change distribution with changing environment - high diversity/ abundant / good preservation potential Accept reference to no evolutionary change during Quaternary	2			2		

Question			Marking details	Marks Available					
				AO1	AO2	AO3	Total	Maths	Prac
		(ii)	Fast-flowing river max three x (1) from: - coarse pebbles indicate high energy flow - rounding of pebbles shows attrition in river - erosion of channel fill structures - modern habitat of beetle species from fluvial environment Interglacial period max two x (1) from: - modern distribution of beetle species to south of Britain - indicates climates as warm or warmer than present To a maximum of 4 marks		4		4		
		(iii)	Pollen analysis (1) Reconstructs vegetation community (1) OR Vertebrate fossils (1) Adaptions indicate climatic conditions (1) OR Sedimentary structures (1) Indicate environment of deposition (1) Credit other sensible methods	2			2		
			Question 6 total	4	6	0	10	0	0

Question			Marking details	Marks Available					
				AO1	AO2	AO3	Total	Maths	Prac
7	(a)		Wetter south of Himalaya / drier to north (1) Hotter south of Himalaya / cooler to north (1)	2			2		
	(b)	(i)	Any two x (1) from: • preferential evaporation of lighter isotopes ^{16}O • ^{16}O locked up in ice • results in higher $^{18}\text{O}:^{16}\text{O}$ in shells during cold climates / lower $^{18}\text{O}:^{16}\text{O}$ in shells during warm climates • shell isotopic composition same as seawater	2			2		
		(ii)	Any two x (1) from: • cooled • non-linear • fluctuated • became drier	2			2	2	2
		(iii)	Any two x (1) from: • interrupted atmospheric circulation • limits transfer of heat • from equatorial to polar latitudes • limits transfer of moisture		2		2		
	(c)	(i)	Any three x (1) from: • temperature decreases as height increases • weak / some correlation • rapid cooling to 40Ma may be linked to rapid uplift • continuous uplift after 40Ma doesn't link to fluctuating climate • rapid change in last 4Ma with limited change of height • Credit other acceptable answers		3		3	3	3

Question			Marking details	Marks Available					
				AO1	AO2	AO3	Total	Maths	Prac
		(ii)	Not true (1) Any two x (1) from: • changing position of continents and oceans • alters circulation of ocean currents • opening of the Drake Passage / southward drift of Antarctica • development of circum-Antarctic current • closure of Panama gap • warming of western Europe Credit other sensible points			3	3		
			Question 7 total	6	5	3	14	5	5

Question			Marking details	Marks available					
				AO1	AO2	AO3	Total	Maths	Prac
8			Indicative content: • isostatic sea level change in response to mass of ice locally on the continents • mantle is displaced • forces on crust out of equilibrium after ice melts • crust rebounds at rate determined by mantle flow • isostatic change is more localised phenomenon that can be more directly related to local quantity of continental ice. • eustatic sea level changes in response to changing volumes of continental ice and seawater during glacial/interglacial cycles. • effect of thermal expansion on ocean volume. • eustatic change is a global phenomenon. • two cycles of sea level change are superimposed • occur at differing rates and extents which create the landforms and evidence seen today. • link is directly causal. • however, the two ways in which the sea level is influenced by the continental ice must be considered together in order to interpret the landforms and deposits found around the coast. 5-6 marks: A thorough understanding of how continental ice influences both mechanisms of sea level change during the Quaternary. Knowledge of the differing rates and extent of sea level change with an understanding of the cause and effect of both eustatic sea level change and isostatic changes. Discussion of the link between the two processes and the sequence and/or rates of the eustatic and isostatic changes.	6			6		

Question			Marking details	Marks available					
				AO1	AO2	AO3	Total	Maths	Prac
			<i>The candidate constructs a relevant, coherent and logically structured account including all key elements of the indicative content. A sustained and substantiated line of reasoning is evident and scientific conventions and vocabulary are used accurately throughout.</i> 3-4 marks: A sound understanding of how continental ice influences both mechanisms of sea level change during the Quaternary. Some knowledge of the similarities and differences between the two types of sea level change with some understanding of the cause or effect of both eustatic sea level change and isostatic changes. Answer supported by limited discussion of the links between the two processes. <i>The candidate constructs a coherent account including many of the key elements of the indicative content and little irrelevant material. Some reasoning is evident in the linking of key points and use of scientific conventions and vocabulary is generally sound.</i> 1-2 marks: A partial understanding of how sea level changed during the Quaternary. May be some awareness of the link between the two processes and their differences with a limited understanding of the cause and effect of either eustatic sea level change or isostatic changes. <i>Coherence is limited by omission and/or inclusion of irrelevant material. There is some evidence of appropriate use of scientific conventions and vocabulary.</i> 0 marks: <i>The candidate does not make any attempt or give an answer worthy of credit.</i>						
			Question 8 total	6	0	0	6	0	0

Section C Option 2 Geological Evolution of Britain

Question			Marking details	Marks Available					
				AO1	AO2	AO3	Total	Maths	Prac
9	(a)		Rocks from Silurian to Palaeogene / Neogene / Cenozoic in age (1) Rocks get younger from north-west (Langholm) to south-east (London) (1) Must have one statement for age range and one statement for distribution of ages Credit any other sensible description	2			2		
	(b)	(i)	Any two x (1) from: - orientation of fold axes (NE-SW in Scotland, E-W in England) / limb dip direction (NW-SE in Scotland, N-S in England) - different principal stress directions - steeper dips in Scotland / gentler dips in England - smaller interlimb angle (tighter folds) in Scotland/larger interlimb angle (more open folds) in England	2			2	2	2
		(ii)	Any three x (1) from: - reference to principal stress directions - Caledonian in Scotland - Alpine in SE England - reference to cause of orogenies - proximity to plate boundary - Scotland in orogenic belt - Southern England on fringe of orogenic belt		3		3		

Question			Marking details	Marks Available					
				AO1	AO2	AO3	Total	Maths	Prac
	(c)		Any three x (1) from: - southern Scotland on a convergent plate boundary in Caledonian / SE England distant from (Alpine) orogenic belt / plate boundary - Iapetus suture / Iapetus ocean - thickening of crust / subduction - melting of continental crust - evolution of magma to form granite - in SE England crust not thickened enough for melting/no subduction		3		3		
			Question 9 total	4	6	0	10	2	2

Question			Marking details	Marks Available					
				AO1	AO2	AO3	Total	Maths	Prac
10	(a)	(i)	Any three x (1) from: • become coarser • become more clastic • limestone deposited in A only • decrease in thickness of shale • conglomerate deposited • more sandstone deposited • increase in evidence of flow / in cross-bedded sandstones Credit other reasonable descriptions	3			3		
		(ii)	Any two x (1) from: • continental area to north • rivers flowing to south • higher energy flows in north / lower energy in south • highland areas in north • marine deposition restricted to far south		3		3		
	(b)		Any three x (1) from: • coarse grained / pebbles • quantified • reference to clast shape • finer / sandy matrix • poorly sorted	3			3		

Question			Marking details	Marks Available					
				AO1	AO2	AO3	Total	Maths	Prac
	(c)	(i)	Any three x (1) from: • very likely • greatest red bed deposition at these latitudes • significant deposition of limestone • deserts at these latitudes in present day • however, these rocks are deposited at other latitudes • can't tell whether north or south of Equator			3	3	3	3
		(ii)	Any two x (1) from: either: • palaeomagnetism • inclination of Earth's magnetic field • alignment of iron-rich minerals as magma cools below Curie Temperature or: • fossil content • particular organisms have distribution controlled by latitude • e.g. corals		2		2		
			Question 10 total	6	5	3	14	3	3

Question			Marking details	Marks available					
				AO1	AO2	AO3	Total	Maths	Prac
11			Indicative content: Paleogene Igneous Province • Formed in early Palaeogene (60.5-54.5 Ma). • Period of crustal extension in Britain. • Orientation of dykes (NW-SE). • Associated with opening of North Atlantic Ocean • Predominantly mafic igneous activity linked to divergent plate margins in oceans. • Examples of plutons; Skye, Mull, Rum. • Examples of intrusions: Drumadoon Sill (Arran), dyke swarms. • Examples of extrusive igneous rocks: Skye, Mull & Antrim lavas. • Flood basalt lava flows • Link to modern processes in Iceland North Sea area • Crustal tension • Subsidence • Rifting. • Depositional basin e.g. North Sea • Turbidite flows into North Sea 5-6 marks: A thorough understanding of the tectonic history of this time with clear links made between the structures and lithologies of the Palaeogene Igneous Province and a divergent plate margin. Some discussion that there has been crustal tension either by reference to normal faulting (North Sea) or dyke swarms related to opening of Atlantic. Named examples of structures and characteristic rock types used to support explanation.	6			6		

Question			Marking details	Marks available					
				AO1	AO2	AO3	Total	Maths	Prac
			<i>The candidate constructs a relevant, coherent and logically structured account including all key elements of the indicative content. A sustained and substantiated line of reasoning is evident and scientific conventions and vocabulary are used accurately throughout.</i> 3-4 marks: A sound understanding of how the opening of the Atlantic Ocean had an impact on Britain's geology. The tectonic stresses and igneous rocks characteristic of a divergent plate margin are understood. There may be some mention of North Sea subsidence. There may be some exemplification of these features in the context of the British geological record, but it may lack detail. <i>The candidate constructs a coherent account including many of the key elements of the indicative content and little irrelevant material. Some reasoning is evident in the linking of key points and use of scientific conventions and vocabulary is generally sound.</i> 1-2 marks: A partial understanding of the evidence from the Palaeogene Igneous Province. There is some awareness of the links between the rock types and igneous bodies that can form at divergent plate margins. The answer may be supported by generic examples of the types of rock and structures typical of such a tectonic setting. <i>Coherence is limited by omission and/or inclusion of irrelevant material. There is some evidence of appropriate use of scientific conventions and vocabulary.</i> 0 marks: <i>The candidate does not make any attempt or give an answer worthy of credit.</i>						
			Question 11 total	6	0	0	6	0	0

Section C Option 3 Geology of the Lithosphere

Question			Marking details	Marks Available					
				AO1	AO2	AO3	Total	Maths	Prac
12	(a)		Any three x (1) from: • heat flow is higher in the oceans / lower on the continents • credit use of numbers • largest area of high heat flow in the (South) Pacific • areas of high heat flow are linear and run north-south • areas of high heat flow follow ocean ridges Credit other sensible answers	3			3	1	1
	(b)	(i)	South Pacific (1) Greater distance travelled from ridge in the same time/use of numbers (1)	2			2	1	1
		(ii)	Any two x (1) from: • younger lithosphere covers a wider area in South Pacific • younger lithosphere is thinner • thinner lithosphere allows for greater heat flow • South Pacific has faster spreading and greater area of heated/hotter rock Credit reference to explanation of asymmetrical/symmetrical spreading pattern up to 2 marks		2		2		

Question			Marking details	Marks Available					
				AO1	AO2	AO3	Total	Maths	Prac
	(c)	(i)	Thinner at ridge / thicker further from ridge (1) Any two x (1) from: • younger lithosphere at ridge / older lithosphere further from ridge • less / more time for sediment to accumulate • thicker closer to continents due to greater input from continents Credit other sensible answers	1	2		3		
		(ii)	Any two x (1) from: • thicker sediment acts as an insulator • which limits heat flow via conduction • a thick layer of sediment (150 – 200m) would be required to have an impact on heat flow • sediments and fluid / pore spaces allow heat transfer via convection		2		2		
			Question 12 total	6	6	0	12	2	2

Question			Marking details	Marks Available					
				AO1	AO2	AO3	Total	Maths	Prac
13	(a)	(i)	Incorporated in either side of orogenic belt (1) Adjacent to faults (1)	2			2		
		(ii)	Any two x (1) from: - rock sequence X is an ophiolite / piece of sea floor - obduction / accretion / thrust - during continental collision	2			2		
	(b)	(i)	Any three x (1) from: - delamination causes continental lithosphere to lose mass - dense delaminated lithosphere is replaced by less dense asthenosphere - buoyancy of continental lithosphere is increased - uplift of the mountain range occurs to reinstate isostatic equilibrium		3		3		
		(ii)	Any two x (1) from: - reactivation of thrust faults - change to tensional forces / maximum principal stress becomes vertical - gravitational collapse		2		2		

Question			Marking details	Marks Available					
				AO1	AO2	AO3	Total	Maths	Prac
	(c)		Any three x (1) from: • high peaks confined to narrow bands of orogenic belts • highest peaks undergo gravitational collapse • isostatic equilibrium limits elevation • increased elevation leads to increased weathering and erosion • there are few continental collision zones which produce the highest peaks			3	3	3	3
			Question 13 total	4	5	3	12	3	3

Question			Marking details	Marks Available					
				AO1	AO2	AO3	Total	Maths	Prac
14			Indicative Content Magnetic inclination data from continental cratons can inform palaeogeography. Magnetic reversals / stripes can be used to close ocean basins and recreate Pangea. Comparison of orogenic belts across continents can be used to recreate past continental collisions and super continent formation e.g. Caledonian and Appalachian mountain ranges. Fossil evidence can be used to recreate past supercontinents e.g. Lystrosaurus – land mammal found across Antarctica, India and Africa. Comparison of lithologies can be used to recreate past continents combining use of fossils and palaeomagnetic data. Continental shelf jigsaw fit e.g. West Africa and South America 5-6 marks The response clearly describes and explains the role of palaeomagnetism and at least two pieces of geological evidence in the reconstruction of supercontinents. <i>There is a sustained line of reasoning which is coherent, substantiated and logically structured.</i> <i>The information included in the response is relevant.</i>	6			6		

Question			Marking details	Marks Available					
				AO1	AO2	AO3	Total	Maths	Prac
			3-4 marks The response describes and explains the role of palaeomagnetism and one piece of geological evidence in the reconstruction of supercontinents. <i>There is a line of reasoning which is partially coherent, supported by some evidence and with some structure. Mainly relevant information is included but there may be some irrelevant information or minor errors.</i> 1-2 marks The response describes and explains the role of palaeomagnetism or one piece of geological evidence in the reconstruction of supercontinents. <i>There is a basic line of reasoning which is not coherent, supported by limited evidence and with very little structure. There may be significant errors or the inclusion of much irrelevant information.</i> 0 marks <i>No attempt made or no response worthy of credit.</i>	6					
			Question 14 total	6	0	0	6	0	0