

GCSE

GEOGRAPHY

Paper 1 / 40301F Physical Geography
Report on the Examination

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General

Questions 1 was the most popular question on the paper followed by Questions 5 and 7 which proved to be the most popular combination. The least popular was Question 2.

A number of students were able to engage with a range of command words, de-construct the question and had good subject knowledge which they could apply to the questions. The average increased by 2.16 marks in comparison to 2012 – an indication that advice is being adhered to by some. However, many students earn a substantial proportion of their marks from the true/false and paragraph completion type questions. A greater focus on questions requiring more independent answers would lead to an increase in the marks awarded.

Although there has been progress a number of issues remain. Some students omitted questions that required diagrams to be drawn in Section B – 5(c)(i) and 7(c)(i). It appears that students are failing to see the parts needing completion. They should be advised to make sure they are attempting 25 marks on each question as a check. It remains important to ensure that arrows connect to relevant features when labelling a sketch or a photograph. Examiners need to see that students have clearly indicated a specific feature rather having an arrow or line ambiguously near several possible features.

There is a need to ensure that students have adequate knowledge of all aspect of the specification content, even of challenging and less popular themes. For example students struggled to answer the questions on drumlins and use of a hot desert in a richer part of the world for commercial farming and irrigation. At times, there was confusion between linked concepts such as shield and composite volcanoes and hard and soft engineering. Revision strategies should be used to seek to avoid this. Students should understand key terms and be prepared to apply their knowledge in an exam situation: learning them to repeat is not enough. Linked to this is the need to have a good working knowledge of case studies. It is not good practice to name a specific location and then write generically. There must be specific reference to facts and figures that clearly relate to the case study selected to progress through to level 2. This issue was clearly apparent in 1(g) where answers were largely generic and, at times, were barely recognisable as being related to a tsunami – just responses to a hazard.

The resources are provided either to give a stimulus or to provide (part of) the answer. This material therefore should not be disregarded though some students do so, resulting in them losing marks. This was apparent in 1(f)(ii), where students failed to describe what Figures 2a and 2b showed with regard to the cause of the tsunami. There was little detailed description of the underground features in 2(c)(i) and the photograph in 4(c) was largely ignored in favour of a generic description of rainforest. Students need to describe what is evident in the figures, as guided by the question wording, in order to get the marks – so they must write down what they can see. The atlas maps were generally well used in questions 5 and 6, but less so in question 7 where students had to describe the shape of the coast. Here, there should have been a description of what could be seen or reference to the landforms that could be discerned.

Questions often demand that links be made between parts of an answer. When explaining landforms, links must be addressed so that the answer has a clear sequence in a logical order with reference to specific processes. Diagrams and key terms are often given to help, but the student must have some prior knowledge and understanding of these to be able to make sense of, and make effective use of, the stimulus material being provided.

As ever, there is the continuing need for students to reflect on command words particularly the frequently used ones of 'describe' and 'explain'. Whilst there may be marks for describing in an explain question for 'scene-setting' purposes, there are no marks for explanation in a describe question. The students who went onto explanation in 2(c)(i) and 4(c) effectively pre-empted the next question but gained no marks for explanation here. The use of words such as 'because' and 'as' in a describe question should trigger alarm bells as there are no marks available. In the final parts of the questions in Section B, the command was 'explain' but relatively few students obeyed this to link dams to providing a water supply, unreliable snowfall to negative economic effects and soft engineering to protecting the coast – seeing only the first aspect of the question.

Some parts of the specification refer to issues – and two such parts were examined here in questions 3(f) with regard to issues linked to extreme weather and 5(d)(iii) with regard to issues linked to the building of dams and reservoirs. As the words issues/debate are part of the specification for these topics, there should be an expectation that students will be examined on it. Students therefore need to be more familiar with the idea that an issue is something that is contentious and will cause disagreement and/or debate.

SECTION A

Question 1 The Restless Earth

Part 1(a) was generally well done. Many students gained 3 marks. However, some named all the plate margin types incorrectly and scored 0 marks whilst for others the common confusion was between destructive and constructive. Most gained 1 mark in 1(b) recognising volcanoes. Beyond this basic mark, there was a need to be more specific in the identification – thus fold mountains were required rather than just mountains. Some did recognise ocean trenches and supervolcanoes also.

Overall, 1(c) was well done, with many gaining the two marks available. Common characteristics related to the flat topped nature, their broad base, their lack of height and runny lava. The command in 1(d) was to explain. Responses frequently continued to describe, which was not relevant here, or confused composite with shield volcanoes and went on to look at constructive margins. The starting point was the recognition of the destructive plate margin and then the subduction, subsequent melting and then linking this to subsequent eruptions and the layers of ash and lava that form in a composite volcano. These were the best answers; but often there was only a very partial answer - relating to the destructive margin and/or the way in which the layers were created. Whilst there was some confusion between primary and secondary effects in 1(e), this was generally well answered and many students gained all 4 marks.

Most were able to locate the epicentre of the earthquake in 1(f)(i) using appropriate geographical terms such as off the east coast of Japan or on a plate margin. But there had to be clarity so a statement like 'on the coast' was incorrect and 'near Japan' too vague. A few did accurately use the scale to determine distance. Figure 2 was included to aid students in explaining the cause of a tsunami in 1(f)(ii). Where there was some prior knowledge and a willingness to look at the information, the cause could be derived. The best answers did this, noting the destructive plate margin, the presence of the epicentre beneath the sea, the subsequent vertical displacement of water due to the shifting of the plates and then recognition of the increase in wave height as the tsunami approached land. Some applied

their own knowledge to good effect. However, many did not go beyond the destructive margin – the start of the answer – despite the help in the figure. Many were diverted by the shockwaves radiating out from the earthquake which were not responsible for the tsunami.

Part 1(g) was better done than its counterpart last year which focused on the effects of earthquakes in a richer and poorer area. Then, there had been a persistent drift to reasons and responses. Although there was some drift away from the question again this year, this was not as widespread as previously, with students relevantly focusing on the responses of a tsunami. There was a requirement to use a case study here and many chose the Boxing Day/Indian Ocean tsunami of 2004 – although the year was not always accurately stated. The more recent tsunami in Japan featured rarely. Despite naming the case study, a significant number of students wrote generically about it, limiting their answer to level 1. At times, the responses could have applied to any hazard rather than a tsunami. Better responses included some specific facts and figures – such as the need for fresh water and this being flown in from Australia, source and amount of aid and the setting up of an Indian Ocean tsunami warning system.

Question 2 Rocks, Resources and Scenery

Students in 2(a) were able to score 2 or 3 marks generally – the middle statement (A period is longer than an era) was the one that was most often answered incorrectly.

2(b) was generally not well done with students failing to identify the type of rock or believing that limestone was impermeable. Specific knowledge should have been used here and some did note that it was calcium carbonate, the presence of joints and the fact that it's chemically weak. But few described the colour and so on.

In 2(c)(i), most students got a mark for recognising stalactites, stalagmites and pillars. Some drifted almost immediately to explanation – which should have been used for part 2(c)(ii) - instead of obeying the command word here. Some gave very basic points that stalactites hung from the ceiling, often relatively good responses on F Tier. Very few actually sought to describe and note what was visible – that the stalactites were longer and thinner than the stalagmites that were stubbier and seemed to be opposite the stalactites. The critical aspect in 2(c)(ii) was the need to have a clear sequence and reference to process. For example there should have been reference to the water in the cave containing dissolved calcium carbonate due to carbonation; an awareness that as this dripped from the ceiling some evaporated and left behind microscopic particles of re-deposited calcium carbonate that built up over time. The quality of answers here was disappointing – many having a vague idea about water dripping from the roof and material being left, but little else – yet underground features are a key component of Carboniferous limestone and clear in the specification.

Most gave a valid 4 figure grid reference in 2(d)(i), although some got it the wrong way around – which was disappointing for what should be a basic skill. Many identified both elements correctly in 2(d)(ii) although the amenity was more often correctly identified than the natural attraction. Some students labelled anything in Figure 5 in 2(d)(iii) rather than focusing on characteristics of the quarry. For those who followed the instruction marks were quickly gained for recognising the large, deep hole, the fact that the white area scared the landscape, that there were steps in the quarry, and so on.

In 2(e), a case study was required but many students did not give one. Hope near Castleton was used plus Hollow Banks. However, even where there was a correct case study quoted,

information was often basic and generic – noting what could be done only in a superficial way – such as make ponds, create nature reserves so that the command to describe and to use a case study were both disregarded.

Question 3 Challenge of Weather and Climate

Students generally gained 1 mark in 3(a) for recognising the worldwide nature or giving an example of how climate may change with regard to temperature or rainfall. Better responses combined both of these elements. There had to be some manipulation of the terms given to indicate understanding – so ‘across the globe’ was not sufficient to get a mark.

Many students scored 4 marks in 3(b) as they carefully studied the graph, but this was not universal. The second statement was the one most frequently wrong where students believed that it was true.

Responses to 3(c) were variable. There was some drift to cause with reference to ice caps melting which was not relevant to a question about effects. Despite the reference to the UK in the question, this element was generally ignored with basic, generic points being noted – often weather related. To access level 2, there had to be specific reference to the UK via places, climate type, crop names that were appropriate.

Part 3(d) was generally well done; students struggled most with the frequency aspect and generally recognised exceptional conditions and the example of extreme weather – although not always.

For 3(e) (i) it was not true to say that all the British Isles as seen in the satellite image were covered in snow. Whilst most of it is, there are exceptions seen along the north-west coast of Great Britain and large areas of the western part of the Republic of Ireland. Equally the depth of snow could not be discerned from Figure 7a and so such comments were not relevant. This illustrates the need to be specific and accurate when using the resources. Almost all students got the first two marks available in 3(e)(ii), but the summary proved more challenging. Some just repeated the information without giving a clear sense of what the weather would be like over the next few days. Most identified the depression correctly in 3(e)(iii).

In 3(f), there was reference in the question to extreme weather ‘**such as** that shown in Figures 7a and 7b’. The use of ‘such as’ in questions like this is intended to open the question up to allow, in this case, any form of extreme weather to be used in answers – whether it be very heavy rain, gales, fog. There had to be a description of effects to reach level 2 with some detail and links made rather than simple, separate listed points which tended to be the dominant approach. There was little detail even where snow was used as the example, which was surprising given that many students would presumably have remembered the winter of 2010 when schools were closed, when public transport stopped in many areas and people were unable to get out. The impact on the elderly could have been described with more people feeling isolated, falling over in contrast with the pluses for the young enjoying activities such as sledging.

Question 4 Living World

Most gained the last two marks in 4(a) but fewer could identify the ecosystems linked to the first two statements. Very few seemed to know an example of a small scale ecosystem in 4(b) often citing one of those given in 4(a)

As in 2(c)(i), the use of the photograph in 4(c) proved less than straightforward. Students were asked to describe the vegetation shown in Figure 7, not just tropical rainforest vegetation generically. The Assessment Objective marks allocated to this question were 1 for AO2 and 2 for AO3 rather than knowledge. Marks were only available for a description of the photograph. So students who wrote about the layers and what these were gained little, whereas those who noted what could be seen in the photo such as the thin trunks, which are relatively branchless until near the top, and the presence of some very tall trees above the rest scored well. There were also some who disregarded the 'describe' command and launched into explanation - the next question. Although there was some drift to adaptations to soils in 4(d), many were able to identify appropriate climate adaptations such as drip tip leaves or growing tall. Fewer were able to then *explain* why trees grow so tall and have buttress roots and why they have drip tip leaves in connection with the climate. Explanation was essential for level 2, and those who failed to obey the command word remained in level 1.

In 4(e), most were able to correctly link each strategy to the correct statement. In 4(f)(i), most were able to identify one valid location point regarding the sea or coast generally; far fewer were able to add a second regarding proximity to the airports or direction. Some assumed north was to the top of the page – instead of using the north arrow on the map. There were many who just 'lifted' information from Figure 9b in 4(f)(ii), instead of using it – to even a small extent. One mark was given for this selection, but use had to be made for the second mark – e.g. by noting the fact that the tourist arrivals were over 3 times the population or the uniqueness of the only 7 star hotel in the world.

Part 4(g) was poorly done. Students struggled to identify a valid case study of a hot desert in a richer area and then go on to consider information on how this was used for commercial farming and irrigation. Often, information referred to a poorer area or where south west USA was the case study, the focus was on Las Vegas and then tourism which was a completely different question. There was very little reference to the fruit growing in these areas due to the damming of the Colorado.

SECTION B

Question 5 Water on the Land

There was confusion between lateral and vertical erosion in 5(a) and the arrows were often reversed. The vertical erosion had to be linked to the bed and the lateral erosion to the sides for both marks.

In 5(b)(i), few students could correctly identify all three characteristics by describing what was visible on the photograph. Some just guessed at any landform including meanders, river cliff instead of using the photograph properly. The sequence of gorge formation also proved challenging, despite the clues in the diagrams. Students need to look for clues in the diagrams and use these to give a considered answer. Few gave a clear sequence from start

to finish to gain 4 marks. Many failed to note the rock structure in the first diagram. The intermediate sections were often the best done with reference to the faster erosion of the soft rock and the collapse of the overhanging hard rock. There had to be reference to the gorge in the final box; simply saying that the process repeated was not enough.

The sketch hydrograph in 5(c)(i) had to be drawn to show a higher peak and a shorter lag time to gain both marks. Some began the rise before the rainfall started and some had a higher peak, but with the same lag time. Some were just a straight line indicating a lack of understanding. Most could identify a number of factors affecting river discharge in 5(c)(ii), but few could explain the sequence of events and link to discharge effectively to reach level 2. Often, there was the recognition of a number of factors and sometimes the beginning of explanation to reach the top of level 1. To go beyond this, students had to indicate that vegetation, for example, would increase interception and this would delay the water reaching the river so that the lag time would be greater and the peak lower as water would infiltrate. There had to be reference to more than one factor to reach level 2 and level 2 responses were relatively rare.

Most identified the correct direction from the atlas map in 5(di). Many got two or three marks in 5(d)(ii) but there was a limited understanding shown by many in 5(d)(iii) for example in the limited recognition that dams stored water and that lakes occurred. What proved problematic except in the best answers was the need to link this to reliable water supply and lack of awareness that the release of the water can be controlled.

Question 6 Ice on the Land

Identifying the correct processes for bulldozing and abrasion in 6(a) proved confusing for some. Where the terms were known and understood, students had no problems, though fewer identified bulldozing correctly than abrasion.

In 6(b)(i), despite the sketch provided, some students got the labels the wrong way around; the direction of the ice movement was also often reversed – indicating a widespread lack of knowledge of drumlins. This impression was continued in (bii) where many failed to obtain more than 2 marks. The words can only really be a help if students have some knowledge and understanding to draw on and can help as a stimulus to the sequence and processes of formation – but the student has to put them in context and make sense of them.

Most got the thinner and shorter glacier in 6(c)(i) but it was important to maintain the shape and not just have a straight line across the diagram. The majority of students were aware that accumulation and ablation were the causes of advance and retreat. Often these were seen separately indicating that snowfall led to advance for example. Better responses showed an awareness of the relationship between the two aspects recognising that greater ablation via melting than accumulation via snowfall would lead to the glacier shrinking and therefore retreating.

Many, but not all correctly identified the Alps in 6(d)(i). Some were distracted by the ice caps and gave the names of those. Where students were aware of physical factors in (d)(ii), they could and often did score all 3 marks for recognising ice caps, lakes, rivers. However some were indiscriminate and noted human features or different examples of the same feature. For (d)(iii) students recognised that less snow may mean fewer skiers and some considered the effect of too much snow. However, they struggled to make the link to the resulting negative economic impacts such as a loss of jobs for ski instructors or tour guides.

Question 7 The Coastal Zone

Few students were able to get both marks in 7(a), with traction being correctly identified more often. This was surprising given that these are common processes to the 'Water on the Land' unit.

X and Y were generally correctly identified, but Z was often wrong with crack (not a landform) and stack being stated. 7(b)(ii) was well done and many students got 4 marks. Where marks were lost, it was usually with 'face' being incorrectly given in the first choice and to a lesser extent 'longshore drift' in the second.

Many did get the 2 marks available in 7(c)(i), but some needed to ensure that the line drawn was a straight horizontal and not diagonal; a ruler therefore was an asset. Some failed to add on the 35 cm to the 5 in 2010 and wrongly marked the line at 35, whilst others failed to adhere to the key, using a broken, instead of a solid, line. There was a need to refer to both economic and environmental effects in 7(c)(ii) and to obey the command word to describe, rather than just identify. An underpinning of realism was needed in statements about possible effects of sea level rise. Much was doom and gloom – settlements destroyed, wildlife wiped out, rather than a more measured approach that considered what might happen to habitats by being flooded with salt water and the need to consider costly protection. Some did include such points and the best occasionally supplemented these with reference to case study information although this was not a requirement.

In 7(d)(i) students had to look at the atlas map (Figure 22) and read off the depth of the sea from the key. This proved problematic for a significant number as much deeper depths than 200m were stated presumably because the wrong grid square had been identified. In 7(d)(ii), students had to describe the shape as evident in the figure – for example the uneven, indented coast in area X with headlands and bays present (but not just headland), the river mouth at Y and the straighter/smooth coast (but not flat) at Z with a spit. The shape could and often was conveyed by the recognition of landforms or an appropriate word that described its overall appearance.

There was some confusion with hard engineering in (e) and many wrongly referred to sea walls and groynes. Where soft engineering strategies were correctly identified, many described what they were, whereas to access level 2 students had to explain how they protected the coast – e.g. that adding material to the beach would make the waves break further out to sea and therefore protect the foot of the cliffs.

Mark Ranges and Award of Grades

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