AQA

# AS Geography

## CD-ROM for students

***Questions, mark schemes and commentaries***

Amanda Barker, David Redfern and Malcolm Skinner

philip allan UPDATES
www.philipallan.co.uk

# Contents



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# Introduction

This CD contains some examples of the types of questions that you will face in the AQA AS geography examination. Questions are in bold type. Each one has a mark scheme, followed by commentary in purple on how to best answer it. Sample student answers on the two core topics with examiner comments will appear in the *AQA AS Geography Student Unit Guide: Unit 1*.

Before attempting to answer any of the questions, it is important that you understand the processes involved in the marking of answers by the examiner in the 'real' examination. Below is a summary of those processes.

## General marking criteria

### The philosophy

Marking at AQA is positive rather than negative. This means the examiners credit material that you get right, rather than deduct marks for what you get wrong. Examiners do *not* start with a model answer in their heads, nor do they compare your answer with that model. They credit you for the way in which you answer the question, awarding additional marks for the appropriate details and depth of response that you give.

### Ticks or levels?

For questions with a low tariff of marks (fewer than 5 marks), your answers will be marked by the use of ticks, where one tick equals 1 mark up to the maximum of the question. One tick (1 mark) will be awarded for each appropriate statement that you have written.

For questions of 5 marks and over, levels marking will take place. For questions with 5 to 8 marks, there will be a maximum of two levels; for questions between 9 and 15 marks, there will be three levels. There will be no questions with more than three levels at AS.

### Levels marking

Everyone involved in the levels marking process (examiners, teachers, students) should understand the criteria for moving from one level to the next — the 'triggers'. In simple terms, you should know what you have to do to take your answer from Level 1 to Level 2, and from Level 2 to Level 3. Although the precise triggers will vary from question to question, there are general rules that you should follow to enable you to make this progression.
In broad terms, the levels can be described as follows.

*Level 1: you attempt the question, giving a basic response*

An answer at this level is likely to:

- display a basic understanding of the topic
- make one or two points without support of appropriate exemplification
- demonstrate a simplistic style of writing, perhaps lacking close relation to the terms of the question
- lack organisation, relevance and specialist vocabulary
- demonstrate deficiencies in legibility, spelling, grammar and punctuation

*Level 2: you answer the question clearly*

An answer at this level is likely to:

- display a clear understanding of the topic
- make one or two points with support of appropriate exemplification
- give a number of characteristics, reasons, attitudes ('more than one')
- provide detailed use of case studies
- give responses to more than one command, e.g. 'Describe and explain'

- demonstrate a style of writing that matches the requirements of the question
- demonstrate relevance and coherence with appropriate use of specialist vocabulary
- demonstrate legibility of text and qualities of spelling, grammar and punctuation that enable clarity of meaning

*Level 3: you answer the question very well*

An answer at this level is likely to:

- display a detailed understanding of the topic
- make several points with support of appropriate exemplification
- give a wide range of characteristics, reasons, attitudes etc.
- provide highly detailed accounts of a range of case studies
- respond well to more than one command
- demonstrate evidence of synthesis (bringing a range of ideas together)
- demonstrate a sophisticated style of writing incorporating measured and qualified explanation and comment as required by the question
- demonstrate a clear sense of purpose so that the response is seen to relate closely to the requirements of the question with confident use of specialist vocabulary
- demonstrate legibility of text and qualities of spelling, grammar and punctuation that contribute to complete clarity of meaning

For further questions and answers with examiner comments, and specific content guidance on the two Unit 1 core topics ('Rivers, floods and management' and 'Population change'), see our *Student Unit Guide* for AQA AS geography (available from autumn 2008). For more information and to order copies online, visit **www.philipallan.co.uk**, or contact Bookpoint on 01235 827720.

978-0-340-94802-6 *AQA AS Geography Student Unit Guide: Unit 1*

# Q1 Rivers, floods and management

**a Distinguish between the physical and human causes of flooding.** (4 marks)

**1 mark** for the basic distinction between physical/human causes, to a maximum of **4 marks** for elaboration of either.

*e* Ensure that you refer to both physical causes and human causes in your answer. Physical causes of flooding are natural and unalterable by people. They include excessive levels of precipitation occurring over a prolonged period of time, intensive precipitation over a short period of time, the melting of snow, and climatic hazards such as cyclones. The nature of the drainage basin has an influence on the likelihood of flooding — some drainage basins are more likely to flood than others.

The following types of human interference can increase flood risk: urbanisation, deforestation, river management in one part of the drainage basin increasing flood risk in other places downstream, and climate change/global warming.

**b Document A describes a major flood event that took place in Hull in June 2007.**

**Document A**

On 25 June, Hull received 96 mm of rainfall in 2 hours, almost one sixth of its average annual precipitation. This resulted in extensive flooding of the city, engulfing over 7,000 residential properties and 1,300 businesses. One person died. By 12 July, thousands of insurance claims had been received for flood damage to properties, at a cost to insurers of approximately £250 million, but it was estimated that 2,000 families had no contents insurance. The local council, in defiance of government policy, did not have flood insurance for its properties. Some 3,500 council houses and 12 schools suffered severe damage as a result of the floods. Special assistance was provided by the local council to those affected who were elderly, disabled or with children below school age, whether insured or not, and £18 million was earmarked by Hull city council for repairs to affected homes. For the first time ever, the national government agreed to pay compensation to uninsured individuals.

**(i) Compare the impacts of, and responses to, the flood described in Document A with a case study from a contrasting area of the world.** (6 marks)

| Level | Marks | Descriptor |
|---|---|---|
| **Level 1** | 1–4 | A simple contrast between another location, probably given as a country (such as Bangladesh), and Hull. The similarities/differences noted will be generic and the answer is likely to be narrow, concentrating on either impacts or responses. |
| **Level 2** | 5–6 | A clear account of similarities and/or differences between two contrasting locations. There will be more balance, in that both impacts and responses will be considered. |

*e* It is expected that you will select a contrasting example from a country within the less economically developed world, such as Bangladesh. However, you will be credited for choosing to study flooding in, for example, New Orleans, following the hurricane in 2005, as the event was at a much larger scale.

The term 'compare' implies that both similarities and differences need to be examined. However, if you choose to compare Bangladesh with Hull, you will be able to reach Level 2 on differences alone, so long as appropriate detail is given. Also ensure that you refer to both impacts and responses in order to gain the maximum credit.

**(ii) How can hydrologists predict flood risk and magnitude for a place such as Hull?**

(5 marks)

| Level | Marks | Descriptor |
|---|---|---|
| **Level 1** | 1–3 | Basic knowledge outlining the calculation of the likelihood of floods occurring based on use of past records, and that severe floods are calculated to occur infrequently. |
| **Level 2** | 4–5 | A clearer explanation of flood recurrence interval/return, including reference to magnitude. Expect an understanding that river discharge levels are plotted against precipitation. |

*e* Hydrologists try to forecast the likelihood of future flood events using past records of river discharges and precipitation amounts. They then plot flood recurrence interval graphs to predict flooding events. The further back flood records go, the more accurate the prediction. The more aware you are of the methods that hydrologists use, the more credit you are likely to gain. Also examine the concept of 'flood return period'.

**c To what extent are physical landforms typically found in a lower course river valley formed as a consequence of flooding?** (15 marks)

| Level | Marks | Descriptor |
|---|---|---|
| **Level 1** | 1–6 | A basic answer which describes the formation of levées and/or floodplains in a straightforward fashion and relates these entirely to flooding. |
| **Level 2** | 7–12 | A clear response that covers levées and/or floodplains but demonstrates some understanding that processes other than deposition are at work, particularly in relation to floodplains. |
| **Level 3** | 13–15 | A more detailed response that covers more than two characteristic features of a lower course river and/or its valley. One of these may not be the result of flooding. This will enable an assessment of the relative roles of erosion, deposition and flooding in lower course river valleys. |

*e* Relevant landforms/channel features that you might include are levées (linked to flooding), braided channels and eyots/chars (linked to declining river levels following floods), floodplains (linked to deposition following flooding, but actually formed as a result of both erosion and deposition), meanders and ox-bow lakes (features created as a result of both erosion and deposition, not necessarily linked to flooding), river terraces and incised meanders (created as a result of river rejuvenation, not flooding).

Marks for detailed description are awarded for good verbal clarity of the main characteristics of a landform — a picture in words — as well as detail of size and field location (where the landform is in relation to other features). Better responses would provide thorough explanations regarding the formation of named landforms.

# Q2 Cold environments

**a Study Figure A, which shows seasonal variations in the mass of a temperate valley glacier and rates of ablation and accumulation over a 1-year period. Account for the seasonal variations in the mass of the glacier as indicated in Figure A.** (4 marks)

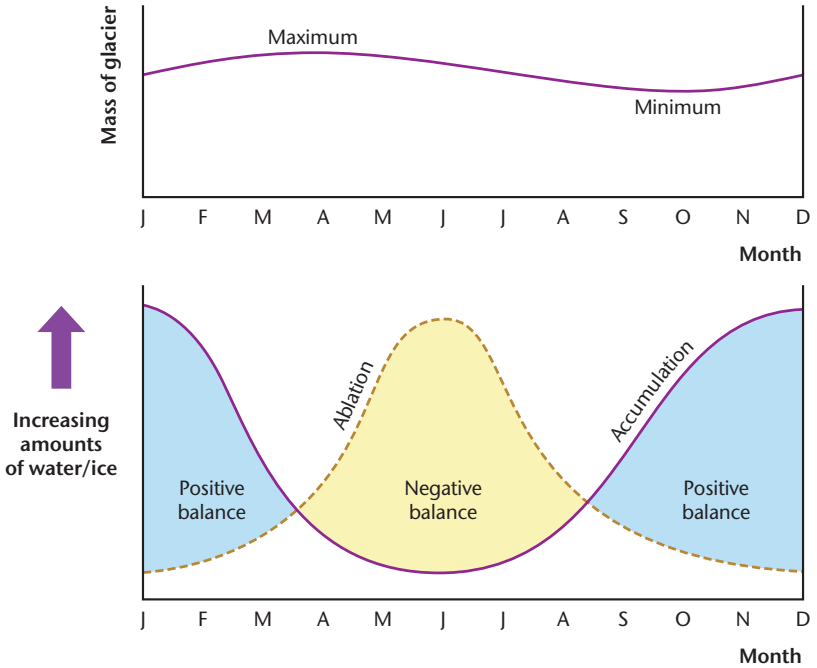



*Figure A Seasonal variations in the mass of a temperate valley glacier and rates of ablation and accumulation over a 1-year period*

Any of the following points could be credited for **1 mark** up to the maximum of **4 marks**:

- a knowledge shown of each of the terms ablation and accumulation
- the relationship of ablation/accumulation to temperature regimes
- glacial mass is greatest in spring after winter surplus/accumulation
- glacial mass is least in autumn after summer ablation

Exemplification which contributes to explanation can also be credited.

*e* Any response should show an ability to interpret Figure A effectively and accurately. To obtain maximum credit, it is crucial that your answer links clearly the balance of ablation/accumulation to the mass of the glacier.

**b Outline the factors that influence the rates of flow of a valley glacier.** (4 marks)

Factors that could be included are:

- gradient
- thickness/weight of ice
- width of glacier/cross-sectional area
- depth within glacier (related to frictional effects, temperature impact/ablation rates linked to meltwater lubrication, valley floor/valley sides configuration/topography)

Each factor listed above can be marked up to a maximum of **3 marks**, depending upon detail. Reference to two factors is therefore required to reach the section maximum of **4 marks**.

*e* In an answer to this question, you can develop one factor fully and cover another in not so much depth (note the plural 'factors' in the question), or present a simple description of four factors. Both approaches done well will get you to the maximum of 4 marks. The information that you present can refer to the glacier as a whole or to parts of it, for example, at different depths within the ice.

**c With reference to specific examples, contrast the nature and origin of one landform produced by glacial deposition with one landform produced by fluvioglacial deposition.** (7 marks)

| Level | Marks | Descriptor |
|---|---|---|
| **Level 1** | 1–4 | Basic awareness of the contrast between the two landforms presented. Distinction made in terms of form or origin. If one landform well described but other only mentioned, keep marks within Level 1. |
| **Level 2** | 5–7 | Fuller account dealing with both form and origin with an explicit contrast drawn. For higher marks within level, detailed knowledge should be shown with clear relationships between nature and origin shown in the answer. Exemplification which enhances the response should be credited at this level. Diagrams can be credited, but without supporting text should not be given more than 5 marks. |

*e* You should choose the landforms carefully, making sure that you are not confusing *fluvioglacial* landforms with *periglacial* landforms. For a high mark, you must make it clear in your answer that you possess a detailed knowledge of the landforms that you have chosen. The best contrast, in this instance, would be between a terminal moraine and an esker. The moraine is formed by ice melting, consists of unsorted material, is crescent-shaped and runs across a glacial valley at right angles to the direction of ice advance, whereas an esker is formed by deposition from glacial meltwater, its material is sorted, it has a sinuous shape and it runs along glacial valleys in the direction of ice advance.

**d To what extent are there inevitable conflicts between the settlement and development of cold environments and the wellbeing of their natural environments and local populations?** (15 marks)

| Level | Marks | Descriptor |
|---|---|---|
| **Level 1** | 1–6 | Simple descriptive references to the major features of settlement and development with basic references to their impact upon the people and the environment. |
| **Level 2** | 7–12 | Answer begins to explain the conflicts that exist between settlement and development and the natural environment and the population. Specific references to actual examples within the cold environments. |
| **Level 3** | 13–15 | The impacts of settlement and development on the environment and population are clearly identified. Answer addresses the question as to whether such developments inevitably must lead to conflict. Some indication that benefits might result from such developments. |

*e* In order to access the higher mark levels, it is important that you address your answer to the whole of the wording of the question. In this respect, two points stand out:

- 'To what extent' must be covered, which means that in your last paragraph you must try to assess the impact of settlement and development, emphasising that there are some benefits to the native population.
- Try to show how these conflicts might be considered inevitable or what could be done to lessen that inevitability. Do not forget that the term 'environments' here covers both terrestrial and marine environments, e.g. the Southern Ocean.

# Q3 Coastal environments

**a What are the differences between constructive and destructive waves?** (3 marks)

**1 mark** for each correct and appropriate statement to maximum of **3 marks**.

*e* Questions requiring differences to be identified between two features are common. The correct way to answer such a question is to provide statements which give the differences in the same sentence, or following immediately one after the other. Hence, in this case, you should write 'Constructive waves are/have…, *whereas* destructive waves are/have…'. Responses that list the characteristics of each feature (here, each type of wave) in separate paragraphs, and therefore with no link, are weaker as they require the examiner to do the comparison on your behalf.

In comparing waves, refer to factors such as height, wavelength, frequency and the relative strength of swash and backwash.

**b Using an example(s), describe the main features of a wave-cut platform.** (5 marks)

| Level | Marks | Descriptor |
|---|---|---|
| **Level 1** | 1–3 | Simple description of a wave-cut platform using very general terms; name of example. |
| **Level 2** | 4–5 | Detailed description of a wave-cut platform, with accurate use of scale, deposits, field location etc. May refer to the precise characteristics of a named feature. |

*e* The key here is to understand what is required to move the answer to Level 2. This can be achieved by good-quality description — detail of size, shape, what the landform is made of and field location (where it is in relation to other features). The best answers provide this detail in relation to a specific and named landform that has been studied, for example, at Flamborough Head.

**c Salt marshes and sand dunes are landforms often found along coastlines. Choose either a salt marsh or an area of dunes, describe its main characteristics and explain the role of vegetation and other factors in its formation.** (7 marks)

| Level | Marks | Descriptor |
|---|---|---|
| **Level 1** | 1–4 | Simple description of the chosen feature; naming of processes that lead to formation. |
| **Level 2** | 5–7 | Detailed description of the chosen feature, including detail of scale and the vegetation. Credit links between a formation factor and the feature. |

*e* There are two requirements for this question: a description of the feature, and an explanation of the role of vegetation and other factors in its development. To access the higher level, clear links between the two must be given, with higher marks being awarded for detail of either the characteristics of the feature or the process. Marks for detailed description are awarded for good verbal clarity of the main characteristics of a landform — a picture in words — as well as detail of size and field location (where it is in relation to other features). Better responses would provide a thorough explanation regarding the formation of the chosen landform.

**d With reference to one or more case study(ies) of coastal management, discuss whether the benefits outweigh the costs.** (15 marks)

| Level | Marks | Descriptor |
|---|---|---|
| **Level 1** | 1–6 | Describes the case study(ies); refers to what has been done. |
| **Level 2** | 7–12 | Identifies costs and/or benefits — may be a clear imbalance. Some reference to case study(ies), facts in support. Tentative/implicit assessment. |
| **Level 3** | 13–15 | Clear identification of costs and benefits — a balanced response. There is specific and detailed reference to the case study(ies) in support. Clear explicit comment which reflects earlier content. |

*e* A lengthy piece of extended writing is required to answer this question. It is clear that at least one named case study should be provided and that detail of this should form the basis of the answer. The second clause of the question tells you to discuss both the costs and the benefits of the scheme(s) — how they were successful and if there were any problems or issues that arose during construction/implementation. It also asks you to consider whether the benefits were greater than the costs — an exercise in evaluation that will access the highest marks.

The nature of coastal management is such that although there are costs and benefits to the area directly affected — costs in terms of the financial layout for the scheme and benefits in terms of the buildings/land/economic aspects that are protected — there are also significant costs and benefits for areas downstream of management schemes. As has been seen on the Norfolk coastline in recent years, protection of one section simply passes the problem elsewhere. Such an overall assessment of the scheme(s) that you have chosen to discuss will be needed to access Level 3.

# Q4 Desert environments

**a Figure B shows the diurnal temperature range for a desert recording station. Account for this temperature range.** (4 marks)

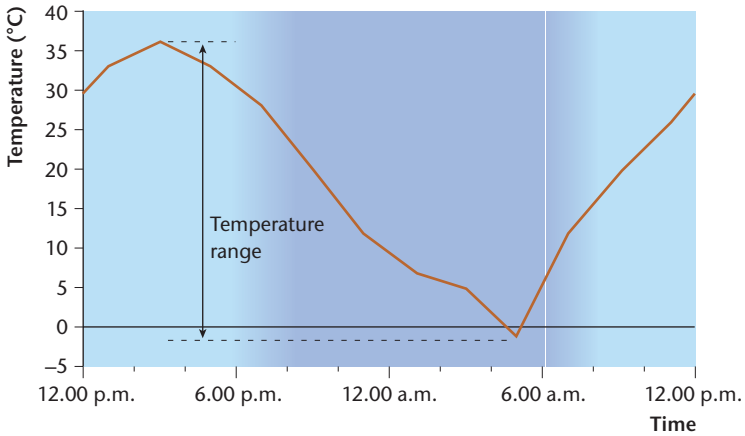



*Figure B Diurnal temperature range for a hot desert station*

Any of the following ideas can be credited for **2 marks** up to the maximum for the section of **4 marks**: lack of cloud cover — this allows continuous radiation by day, which raises temperature; at night there is nothing to hold heat in, therefore heat radiates away into space, allowing rapid cooling.

Allow credit for any statement referring to the fact that the diurnal range is very large or to actual range in figures (approximately 37°C).

*e* This is a straightforward question. You simply have to account for the high temperatures by day and the low ones by night. This can be related to cloud cover.

**b (i) Explain what is meant by the term 'wadi'.**

**(ii) Flash floods are a desert phenomenon associated with wadis. Why do flash floods occur in such areas?** (5 marks)

**1 mark** for a correct definition of the term. Reference must be made to the fact that a wadi is formed by water (or rivers/streams).

Any of the following points can be credited with reference to flash flooding for **1 mark**, up to the maximum of **4 marks** allowed for the second part of the question:

- Desert rainfall can be extremely heavy over a short period.
- The amount of rain falling often exceeds the infiltration capacity of the ground.
- Hard ground, following drought, can also make it difficult for the water to penetrate.
- Lack of vegetation in desert areas means that there is little or no interception taking place when it rains; rainwater therefore flows quickly overground to run into the nearest valley, which is usually a wadi.

*e* Any definition of 'wadi' must include some reference to water. The explanation of flash flooding is all based on the concept of water changing extremely quickly from rainwater to river discharge. This happens because of either the sheer volume of water falling or the state of the surface that allows most of the water to find its way into the river valley (wadi) quickly (or, of course, both).

**c Explain the formation of alluvial fans in desert areas.** (6 marks)

| Level | Marks | Descriptor |
|---|---|---|
| **Level 1** | 1–4 | The answer consists of simple statements with regard to formation describing the work of water and the resultant deposition at the base of the uplands and at the mouths of wadis. No real analysis is made of the shape of the fan or why the material is graded. |
| **Level 2** | 5–6 | Much more detailed information on the processes operating at the base of the uplands and why the river often carries a large load. The role of water in fan formation is clearly understood. Any diagrams are clear and well labelled. Diagrams can be credited but without supporting text can only reach a maximum of 5 marks. |

*e* This question is only concerned with explaining how the feature is formed. While some description is necessary within the explanation, do not specifically devote writing time to it. Key points should refer to the role of rivers, energy loss, the amount and nature of the load, and deposition processes.

**d Evaluate the strategies adopted with regard to land use and agriculture in a desert region that is part of a developed country.** (15 marks)

| Level | Marks | Descriptor |
|---|---|---|
| **Level 1** | 1–6 | Simple statements with regard to land use and agriculture in the candidate's chosen area. Very little or no attempt at evaluation. |
| **Level 2** | 7–12 | Wider coverage of various forms of land use and agriculture. Some attempt at evaluation, probably concentrating on the level of success for each type of development. |
| **Level 3** | 13–15 | Wide coverage of types of land use and agriculture. Detailed evaluation to include the way in which the area has been developed, any conflicts that have arisen and some measurement of success. |

*e* Evaluation should refer to the way in which the area has been developed, to any conflicts that have arisen and to a measurement of success. The exploitation of water resources in the Colorado Basin is a good example. Because too much water has been allocated to various users, inevitable conflicts have arisen between states, different water users and environmentalists. One of the consequences of over-exploitation has been the increasing level of salinity in the basin, which has led to some areas becoming unfit for agriculture. There is also a conflict developing between the demands of land for urban expansion (particularly with regard to the numbers of people retiring to this area) and agriculture. Great benefits have resulted from water developments, but there have also been problems and you need to put these into context.

# Q5 Population change

**a Define the term 'infant mortality rate'.** (2 marks)

**1 mark** for each correct idea to a maximum of **2 marks**.

*e* As with any definition question, there is a basic answer and a good answer. The key is to develop any two of the three main points: 'infant', 'mortality' and 'rate'.

**b Outline some of the issues for economic development linked with a population structure that has a very high proportion of people who are over 65 years old.** (6 marks)

| Level | Marks | Descriptor |
|---|---|---|
| **Level 1** | 1–4 | The answer is basic. Points are not developed. A series of isolated points are given. |
| **Level 2** | 5–6 | The answer is clearly developed with links made between different aspects of the topic. If a link is developed, the answer can reach the bottom of the level; as more links are made, the mark moves to the top of the level. |

*e* Note that you are required to discuss more than one issue, and each issue must link *economic* development with old age. Be careful not to introduce irrelevant material on social issues.

There is often the temptation to over-emphasise the negative aspects of issues, yet these can also be positive. Negative economic issues related to the high and increasing proportion of over-65-year-olds include the pressure on pensions and health provision, with increasing amounts of care for the elderly. However, this latter point can be viewed positively: there are many employment opportunities for people to work in such places. Furthermore, some pensioners have high disposable incomes that can be exploited profitably.

**c With reference to evidence of support, outline one positive view regarding the relationship between global population and resources.** (7 marks)

| Level | Marks | Descriptor |
|---|---|---|
| **Level 1** | 1–4 | Simple identification of, or naming of protagonists of, a positive view of the relationship, with bare references only to evidence. Statements of support are simplistic. |
| **Level 2** | 5–7 | Detailed outline of the theory/view with clear statements as to why the view has a positive outlook. Evidence is clear and well documented. |

*e* One way in which weaker candidates cause problems for themselves is by giving an incorrect name of a protagonist of a view. There can be confusion here. Be sure that you attach the right name to the view about which you are going to write. The view should then be outlined in detail — there are many texts that give this information. Evidence should be place-specific, rather than offered in general terms. As elsewhere in the study of geography, answers that develop a sense of place score more highly.

There are well-known protagonists of both positive and negative views about this relationship (Boserup and Malthus respectively). You might want to research the views of other writers in this area.

**d With reference to a named country, evaluate attempts to manage population change.**

(15 marks)

| Level | Marks | Descriptor |
|---|---|---|
| **Level 1** | 1–6 | Description of development plans is basic with isolated facts not linked into coherent account. Any attempt to assess the level of success is purely descriptive and not justified or backed up by facts or figures. |
| **Level 2** | 7–12 | Description is clear and coherent. Clear links are made between the needs of the people and the developments that have been planned or are taking place. An attempt is made to assess the degree of success and justify this assessment. |
| **Level 3** | 13–15 | Description is thorough. Assessment is clear and detailed with statements supported by clearly organised evidence. |

*e* Although this is a short question, there are several requirements. First, a named country must be offered — make sure that you name a country that has attempted to manage population change. Thereafter, your response must relate to that country, and not another. Second, the question states 'attempts' — the plural implies that more than one attempt should be discussed. These can be linked to the same common goal, such as reducing population growth (for example, in China), and they can vary through time as different policies have been put in place. Third, the overriding command word is 'evaluate', which means that some assessment of success or otherwise has to be given to reach the highest level. If a country has adopted a variety of strategies over time, as China has, then an assessment of the success or otherwise of each strategy would be a valid approach to adopt. Finally, note that the question refers to the management of population change. Although most candidates will write about the ways in which countries try to reduce population growth, the attempts by some countries to *increase* their populations are also relevant.

# Q6 Food supply issues

**a Figure C shows world per-capita cereal production between 1951 and 1997. Describe the changes in production between those years.** (3 marks)

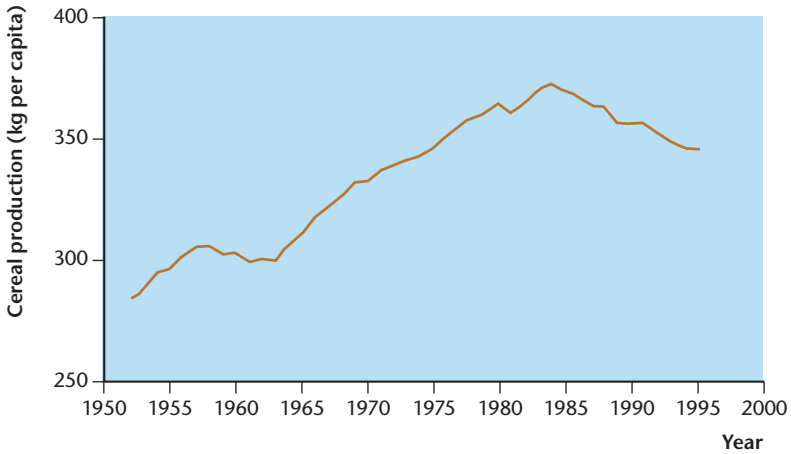



*Figure C Global cereal production (per capita), 1951–97*

Credit any of the following points for **1 mark** up to the section maximum of **3 marks**:

- Through most of the period, per capita production has grown.
- Since the mid-1980s, per capita production has fallen.
- At end of period, production began to steady.
- Before the mid-1980s, falls in production were recorded in the late 1950s/early 1960s and in the early 1980s (credit 2 if both these times are recognised).

*e* This is a straightforward exercise where you are required to describe the rise and fall of cereal production on the graph. Try to look at broad patterns rather than giving a year-by-year, piecemeal analysis.

**b Describe, with reference to an example(s), one strategy through which food production has been increased in recent years.** (6 marks)

| Level | Marks | Descriptor |
|---|---|---|
| **Level 1** | 1–4 | Simple description of chosen method. Exemplar material little more than a simple 'e.g.…' |
| **Level 2** | 5–6 | More detailed description of method with clear statements to show how the methodology has raised food production. Examples are given in more detail and are clearly linked to the method. |

*e* If you take the Green Revolution as your strategy, you have to show how the methodology has been directly responsible for food-production increases. You could start by showing how new high-yielding varieties (HYV) have been successful in this respect, particularly with regard to the rice crop of many Asian countries.

**c What do you understand by the term 'environmental stewardship'? Describe how such a scheme has been applied in any agricultural area that you have studied.** (6 marks)

| Level | Marks | Descriptor |
|---|---|---|
| **Level 1** | 1–4 | Simple definition of environmental stewardship. Basic references to how the scheme can apply in an area such as the UK — i.e. looking after the environment, protecting wildlife. |
| **Level 2** | 5–6 | A more detailed definition linked to area chosen. Details given on how such a scheme works — i.e. managing hedgerows, creating buffer zones (and their purpose), ditch and pond management. |

*e* The question asks for a description of environmental stewardship. You are not required to make any comment on such schemes or evaluate their success. Good examples of environmental stewardship occur within the UK. Such schemes involve the following: farmers receive money for a variety of initiatives such as hedgerow management, stone-wall maintenance, ditch and pond management, tree protection, bird and flower conservation, and the careful management of archaeological sites.

Other schemes are contracted with organic farmers who can deliver greater environmental benefits than those practising traditional farming. The setting up of 'buffer zones' is another good example of environmental stewardship. These protect a wide range of animals and plants (particularly from sprays and fertilisers) and can stabilise the banks of ponds, water courses and ditches and minimise runoff of pollutants.

**d In recent years, transnational corporations (agribusinesses) have had an increasing role in the production, processing and distribution of food. What reservations have been expressed about the increasing importance of such companies?** (15 marks)

| Level | Marks | Descriptor |
|---|---|---|
| **Level 1** | 1–6 | Simple statements with regard to agribusinesses having too much power, making too much money, causing local populations to have less land, causing food shortages in places. All material at a very general level. |
| **Level 2** | 7–12 | At least one reservation covered at a detailed level, i.e. reservation is linked to evidence, particularly in terms of exemplar material. Other reservations at a more superficial level. |
| **Level 3** | 13–15 | Material at a detailed level with points on reservations linked to evidence and exemplar material. Good range of reservations covered. |

*e* This is a relatively straightforward question on agribusinesses as it only asks you to look at some of the objections that have arisen against their operations. Higher levels of the mark scheme will be accessed by covering those objections in detail and avoiding simple statements such as 'they might have too much power', 'they could make too much money', 'they interfere in a country's politics'. Although there is no specific reference in the question to exemplar material, you should make some reference to it in your answer as this will increase the level of detail and therefore give you access to the higher marks.

# Q7 Energy issues

**a Outline the differences between hydroelectric and nuclear power.** (4 marks)

**1 mark** for the basic distinction between the two forms of power, to a maximum of **4 marks** for elaboration of either. Maximum **3 marks** for a discussion of just one form.

*e* The basic difference is that hydroelectric power (HEP) is renewable while nuclear power is non-renewable. Other points may include the fact that HEP is generated from running water, is a non-polluting/clean source of energy and produces no waste, while nuclear power is generated from raw uranium and produces radioactive waste that is potentially damaging to the environment.

**b Figure D shows world primary energy supply by source in 2007.**

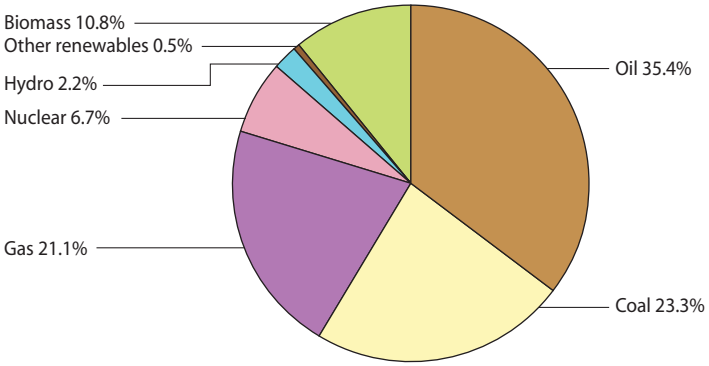



*Figure D*

**(i) How does the UK's primary energy mix compare with that shown in Figure D?**

(5 marks)

| Level | Marks | Descriptor |
|---|---|---|
| **Level 1** | 1–3 | At least one relevant point is made, most probably comparing the importance of the fossil fuels/non-renewable energy with renewable sources at a basic level. |
| **Level 2** | 4–5 | The comparison is clear with observed and learned facts used in support. It is more likely that individual sources of energy will be compared. |

*e* Overall, the non-renewable fossil fuels make the greatest contribution in both. Globally, some 80% of energy is sourced from fossil fuels, while in the UK it is nearer 90%. Worldwide, coal is a more important contributor than it is in the UK by 10%. In the UK, gas makes a bigger contribution (approximately 40%) than it does globally (21.1%). Oil makes a similar contribution to the total in the UK as worldwide. Renewable energy, particularly biomass energy, makes a greater contribution to primary energy supply in the world than it does in the UK (by around 10%). Nuclear power is a more important source of energy in the UK (19%) than it is worldwide (6.7%).

Note that in answering such a question, it is important that you make use of accurate data from the figure.

**(ii) Assess the future potential of renewable sources of energy as major contributors to the UK's primary energy supply.** (15 marks)

| Level | Marks | Descriptor |
|---|---|---|
| **Level 1** | 1–6 | A basic response, which predominantly provides a simple description of one or two renewable energy sources currently utilised in the UK, probably wind and/or HEP. |
| **Level 2** | 7–12 | A clear assessment of the feasibility (or non-feasibility) of at least two sources of renewable energy, and the likelihood of their development in the near future. |
| **Level 3** | 13–15 | Assessment of the potential of three or more types of renewable energy in an organised fashion, with some use of examples in support. More detailed knowledge of the present contribution of the various sources of non-renewable energy will be evident. |

*e* The UK government plans to increase significantly the contribution of renewable sources of energy to the country's primary energy supply: by 2010, 10% of total electricity should be generated from such sources, going up to 20% by 2020. Some sources of renewable energy are more viable than others and so have greater potential: wind energy, biomass, HEP, tidal energy, wave energy, geothermal power.

In order to access the higher levels of response to such a question, you should provide some assessment of the viability/feasibility of the possible success of the sources/schemes. Case-study detail of areas where renewable sources are being used successfully, or unsuccessfully, will add strength to your argument.

**c Photograph A shows a recent development of 'eco-housing' in the east midlands. With reference to Photograph A and examples from your studies, explain how housing can be designed for long-term sustainability.** (6 marks)

Amanda Barker

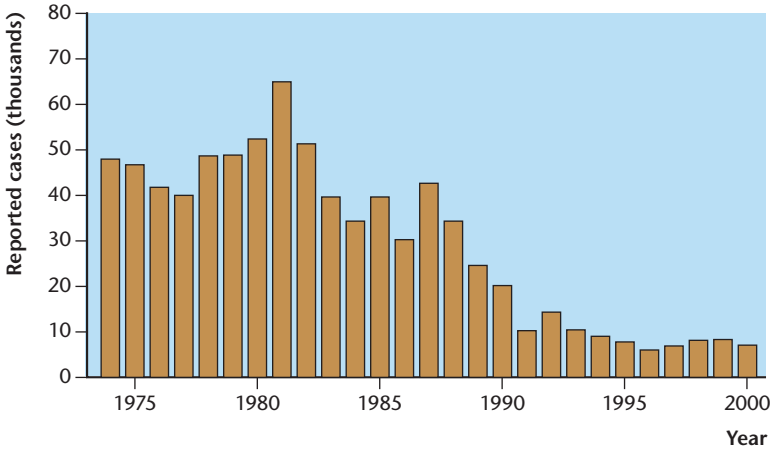
*Photograph A Eco-housing in the east midlands*

| Level | Marks | Descriptor |
|---|---|---|
| **Level 1** | 1–4 | A basic answer, which will probably over-rely on Photograph A, noting the solar panels and/or the lack of garages. There may be a simple acknowledgement that homes for the future need to be more energy efficient. |
| **Level 2** | 5–6 | A clear response, which uses Photograph A sensibly and adds to this with knowledge about other ways in which homes can be built to be less damaging to the environment and to preserve existing resources in the long term. |

*e* The key here is both to refer to the photograph and to use your own knowledge, making sure that you link what you can see, and what you know in terms of design features of housing, to long-term sustainability. The photo shows: housing with a relatively high density and buildings up to four stories high (larger floor space, yet taking up less ground floor area); solar panels on the roofs (renewable source of energy); large windows designed for maximum daylight. There are no garages evident, which suggests the use of public transport or bicycles rather than cars.

# Q8 Health issues

**a Study Figure E. Describe the changes in the number of global reported cases of polio between 1974 and 2000.** (4 marks)




Source: World Health Organization (2005)

*Figure E Global annual reported cases of polio, 1974 – 2000*

**1 mark** for each appropriate statement to a maximum of **4 marks**.

Credit any of the following points for **1 mark** to a maximum of **4 marks**:

- Overall there has been a fall in the number of polio cases (this could gain 2 marks if the fall is quantified).
- There have been reversals in this trend, in the early 1980s (a significant peak) and late 1980s; a fluctuating decade.
- Case numbers have been constant over the last 10 years — it appears a difficult disease to eradicate totally.

*e* When answering questions that ask you to describe changes in data, first you need to look for overall patterns of change, and then for trends, peaks or troughs *within* the overall pattern of change. On no account should you describe minor changes — simple ups and downs — and you should certainly not put the data into words. Examiners call this low-level descriptive material 'data waffle'.

**b For one named area that you have studied where periodic famine has taken place:**

**(i) Describe the causes of famine in that area.** (5 marks)

| Level | Marks | Descriptor |
|---|---|---|
| **Level 1** | 1–3 | Simple statements of causes, generalised in nature and not specific to the area named by the student. |
| **Level 2** | 4–5 | More detailed and/or sophisticated statements of causes. Specific reasons that apply to the area named access this level. |

*e* There is an overall 'stem' that applies to both parts of this question. This requires you to name an area that you have studied and to refer to this area in terms of causes of, and then actions to prevent, famine. In order to access the higher level, your answer must refer to the named area given in detail. Generalised factors that may have caused famine — such as drought and population increase — that could apply to any area in the world

suffering famine keep the answer within Level 1. Note also that the mark scheme refers to 'sophisticated statements': this means that you need to give a cause that goes beyond a simple statement and demonstrates greater depth of understanding. An example of this is that famine is often caused by economic factors — the price of food spirals out of control and the economic control mechanisms are too weak to react and have a significant calming effect.

**(ii) Outline the actions taken to prevent famine from arising there again.** (6 marks)

| Level | Marks | Descriptor |
|---|---|---|
| **Level 1** | 1–4 | Simple statements of actions, generalised in nature and not specific to the area named by the student. |
| **Level 2** | 5–6 | More detailed and/or sophisticated statements of actions. Specific reasons that apply to the area named access this level. |

*e* The same commentary as above can be given here. Your answer should refer to specific actions that have taken place in your named area to access Level 2. Note also that the question asks for 'actions' (plural). It is always better to have a range of options that you can write about — another route to higher marks. This can be exemplified in this context by the fact that actions after a famine can be short term and long term. In response to the question, the more longer-term actions that have been introduced, the more likely they are to have the effect of preventing famine from occurring in the area again.

**c Discuss the impact of one infectious disease on the health, economic development and lifestyle of the area(s) where it occurs.** (15 marks)

| Level | Marks | Descriptor |
|---|---|---|
| **Level 1** | 1–6 | Simple statements of impact, with no depth or detail. Statements are generalised and not related to a named/located area. |
| **Level 2** | 7–12 | Detailed statements of impact, which are likely to have some imbalance. References to detailed impacts in areas studied access this level. |
| **Level 3** | 13–15 | A wide-ranging account of impacts, which examines at least two of health, economic development and lifestyle in detail, and in relation to the area(s) affected. The answer is balanced and sophisticated. |

*e* There are a variety of infectious diseases that could be studied, from sexual transmitted diseases such as AIDS, to insect vector diseases such as malaria, to water-borne diseases such as cholera. Each of these will have an impact that affects the overall health, economic development and lifestyle of the area in question, but to varying degrees. Hence, although three separate forms of impact are given in the question, examiners recognise that not all diseases have the same impact on every area. Indeed, the nature of the area affected will influence the overall impact. You will note that this is reflected in the mark scheme, where only two impacts are required to be discussed in detail to access the highest level. As elsewhere in the assessment of the specification, the key to accessing Level 2 is to provide specific detail of impact in a named area, and the more this is done (in terms of both depth and level of sophistication), the more marks will be awarded.