

OXFORD

INTERNATIONAL
AQA EXAMINATIONS

INTERNATIONAL AS GEOGRAPHY GG02

Paper 2: Human Geography 1

Mark scheme

June 2019

Version: 1.0 Final



1 9 6 X G G 0 2 / M S

Mark schemes are prepared by the Lead Assessment Writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every associate understands and applies it in the same correct way. As preparation for standardisation each associate analyses a number of students' scripts. Alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Assessment Writer.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

Further copies of this mark scheme are available from aqa.org.uk

International AS Geography mark scheme

How to mark

Aims

When you are marking your allocation of scripts your main aims should be to:

- recognise and identify the achievements of students
- place students in the appropriate mark band and in the appropriate part of that mark band (high, low, middle) for **each** Assessment Objective
- record your judgements with brief notes, annotations and comments that are relevant to the mark scheme and make it clear to other examiners how you have arrived at the numerical mark awarded for each Assessment Objective
- ensure comparability of assessment for all students, regardless of question or examiner.

Approach

It is important to be **open-minded** and **positive** when marking scripts.

The specification recognises the variety of experiences and knowledge that students will have. It encourages them to study geography in a way that is relevant to them. The questions have been designed to give them opportunities to discuss what they have found out about geography. It is important to assess the quality of **what the student offers**.

Do not mark scripts based on the answer **you** would have written. The mark schemes have been composed to assess **quality of response** and not to identify expected items of knowledge.

Assessment Objectives

This component requires students to:

AO1	Demonstrate knowledge and understanding of places, environments, concepts, processes, interactions and change, at a variety of scales.
AO2	Apply knowledge and understanding in different contexts to interpret, analyse and evaluate geographical information and issues.
AO3	Use a variety of relevant quantitative, qualitative and fieldwork skills to: <ul style="list-style-type: none"> • investigate geographical questions and issues • interpret, analyse and evaluate data and evidence • construct arguments and draw conclusions.

The marking grids

Do not think of levels equaling grade boundaries.

Depending on the part of the examination, the levels will have different mark ranges assigned to them. This will reflect the different weighting of Assessment Objectives in particular tasks and across the examination as a whole.

Using the grids

Having familiarised yourself with the descriptors and indicative content, read through the answer and annotate it (as instructed below) to identify the qualities that are being looked for and that it shows. You can now check the levels and award a mark.

Step 1 Determine a level

Start at the lowest level of the mark scheme and use it as a ladder to see whether the answer meets the descriptors for that level. The descriptors for the level indicate the different qualities that might be seen in the student's answer for that level. If it meets all the descriptors for the lowest level then go to the next one and decide if it meets this level, and so on, until you have a match between the level descriptors and the answer. With practice and familiarity you will find that for better answers you will be able to skip through the lower levels of the mark scheme quickly.

When assigning a level you should look at the overall quality of the answer and not look to pick holes in small and specific parts of the answer where the student has not performed quite as well as the rest. If the answer covers different aspects of different levels of the mark scheme you should use a best-fit approach for defining the level and then use the variability of the response to help decide the mark within the level.

Step 2 Determine a mark

Once you have assigned a level you need to decide on the mark.

It is often best to start in the middle of the level's mark range and then check and adjust. If there is a lot of indicative content fully identifiable in the work you need to give the highest mark in the level. If only some is identifiable or it is only partially fulfilled, then give the lower mark.

The exemplar materials used during standardisation will also help. There will be an answer in the standardising materials that will correspond with each level of the mark scheme. This answer will have been awarded a mark by the lead examiner. You can compare the student's answer with the example to determine if it is of the same standard, better or worse than the example. You can then use this to allocate a mark for the answer based on the lead examiner's mark on the example.

You may well need to read back through the answer as you apply the mark scheme to clarify points and assure yourself that the level and the mark are appropriate.

In addition to the levels descriptors, question specific indicative content is provided as a guide for examiners. This is not intended to be exhaustive and you must credit other valid points.

An answer that contains nothing of relevance to the question must be awarded no marks.

Annotating scripts

You should write a summative comment at the end for each Assessment Objective and indicate the marks for each Assessment Objective being tested at the end of the answer in the margin in sequence. It is vital that the way you arrive at a mark should be recorded on the script. This will help you with making accurate judgements and it will help any subsequent markers to identify how you are thinking. Please do not write negative comments about students' work or their alleged aptitudes.

Section A – Global systems and governance

Question	Marking guidance	Mark
01.1	<p>Which of the following best describes the mesopelagic oceanic zone?</p> <p>Key - A</p>	<p>1</p> <p>AO1 = 1</p>
01.2	<p>Which of the following organisations aims to recognise and reward sustainable fishing practices?</p> <p>Key - B</p>	<p>1</p> <p>AO1 = 1</p>
01.3	<p>Which of the following best describes what trading agreements aim to achieve?</p> <p>Key - B</p>	<p>1</p> <p>AO1 = 1</p>
01.4	<p>Which of the following agencies aims to ‘achieve international co-operation in solving international problems whilst encouraging respect for human rights and fundamental freedoms’?</p> <p>Key - D</p>	<p>1</p> <p>AO1 = 1</p>
01.5	<p>Which of the following are all ideal environmental conditions for the development of coral reefs?</p> <p>Key - A</p>	<p>1</p> <p>AO1 = 1</p>

Question	Marking guidance	Mark												
02	<p>Analyse the remittance flows to and from the UK shown in Figure 1a and Figure 1b.</p> <table border="1" data-bbox="344 461 1219 943"> <thead> <tr> <th>Level</th> <th>Marks</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>4-6</td> <td>AO3 – Clear selection and analysis of the evidence that has been provided which makes appropriate use of data to support. Clear connections between different aspects of the data.</td> </tr> <tr> <td>1</td> <td>1-3</td> <td>AO3 – Some basic selection and analysis of the evidence that has been provided which makes limited use of data to support. Basic or limited connections between different aspects of the data.</td> </tr> <tr> <td></td> <td>0</td> <td>No creditable content.</td> </tr> </tbody> </table> <p><u>Indicative Content</u> This question requires analysis of remittance flows from and to the United Kingdom in 2016. They should use both figures for maximum marks. For maximum marks there should also be use of specific data. Explanations for patterns identified are not credited.</p> <p>AO3</p> <ul style="list-style-type: none"> • There were clearly more remittances made from the UK than to the UK- the flow of money out of the United Kingdom far exceeded the amount into the United Kingdom. The number of countries who receive remittances is far greater than the number who send remittances. • Several countries received greater than \$1 billion USD in remittances such as Nigeria, India, France, Pakistan, Germany and Poland many of these largest receivers were located in Europe. The data suggests the continents of Africa and South America receive the least remittances from the UK although Nigeria did receive greater than \$1 billion. Remittances were received by countries at all levels of development and across all continents. • Australia was the only country to send greater than \$1 billion USD in 2016. Countries who sent \$100 - \$999 million USD included the United States, Canada, Spain, South Africa, Ireland, New Zealand and Germany. There appeared to be a greater flow of money from more developed countries in 2016. • Countries who appear to have large flows of money both to and from the United Kingdom in 2016 include the United States, Spain, Ireland, Germany and Italy. 	Level	Marks	Description	2	4-6	AO3 – Clear selection and analysis of the evidence that has been provided which makes appropriate use of data to support. Clear connections between different aspects of the data.	1	1-3	AO3 – Some basic selection and analysis of the evidence that has been provided which makes limited use of data to support. Basic or limited connections between different aspects of the data.		0	No creditable content.	<p>6 AO3 = 6</p>
Level	Marks	Description												
2	4-6	AO3 – Clear selection and analysis of the evidence that has been provided which makes appropriate use of data to support. Clear connections between different aspects of the data.												
1	1-3	AO3 – Some basic selection and analysis of the evidence that has been provided which makes limited use of data to support. Basic or limited connections between different aspects of the data.												
	0	No creditable content.												

Question	Marking guidance	Mark
<p>03</p>	<p>Using an example of a transnational corporation (TNC) you have studied, evaluate the impacts it has on one country in which it operates.</p> <p>AO1 – Knowledge and understanding of the spatial organisation of TNCs. Knowledge and understanding of the impacts of a specified Transnational Corporation on one country in which it operates.</p> <p>AO2 – Application of knowledge and understanding to evaluate the impacts the specified TNC has on one country in which it operates.</p> <p><u>Mark scheme</u></p> <p>Level 3 (7–9 marks) AO1 – Demonstrates detailed knowledge and understanding of the spatial organisation of TNCs and their impacts on countries in which they operate.</p> <p>AO2 – Applies knowledge and understanding to the novel situation, offering detailed analysis and evaluation, drawn appropriately from the context provided. Connections and relationships between different aspects of study are thorough and relevant.</p> <p>Level 2 (4 – 6 marks) AO1 – Demonstrates clear knowledge and understanding of the spatial organisation of TNCs and their impacts on countries in which they operate.</p> <p>AO2 – Applies knowledge and understanding to the novel situation, offering clear analysis and evaluation, drawn appropriately from the context provided. Connections and relationships between different aspects of study are evident with and relevant.</p> <p>Level 1 (1 – 3 marks) AO1 – Demonstrates basic knowledge and understanding of the spatial organisation of TNCs and their impacts on countries in which they operate.</p> <p>AO2 – Applies limited knowledge and understanding to the novel situation, offering some basic analysis and evaluation. Connections and relationships between different aspects of study are basic with limited relevance. Analysis and evaluation are basic and of limited relevance.</p>	<p>9 AO1 = 4 AO2 = 5</p>

	<p><u>Indicative Content</u></p> <p>This question requires links to be made between different parts of the specification content on Global Systems and Governance, specifically the spatial organisation of TNCs, the impacts on countries in which it operates and issues associated with interdependence (stability, growth and development as well as inequality, conflicts and injustices for people and places). Students must refer to a specified TNC but credit can be given if more than one is used for comparison.</p> <p>AO1 –</p> <ul style="list-style-type: none"> • Knowledge and understanding of the nature of TNCs and their spatial organisation. • Awareness that the impact of TNCs can be both positive and negative on both host countries as well as countries of origin. • Awareness that impacts can be wide ranging affecting people and places. • Knowledge and understanding of the spatial organisation of a specified TNC. • Knowledge and understanding of the uneven flows of capital and labour a TNC may be associated with. • Awareness of the global economic power TNCs have. <p>AO2 –</p> <ul style="list-style-type: none"> • Evaluation of the impacts on people the TNC has had in host countries. E.g. Apple Inc. has created 4,000 jobs directly in Cork (Ireland) and 2,500 further indirect jobs. However, labour practices have been criticised in China with reports of poor health and safety records and working conditions. • Evaluation of the impacts on places as a result of the TNC. E.g. Coca Cola replenishes water it uses and has invested in rainwater harvesting systems to minimise the environmental impact it has in China for example. However, in 2012, Coca Cola used more water overall than 25% of the world's population and has been linked to water pollution in Kerala, India. • Analysis of different values and attitudes concerning TNCs e.g. the desire for cheap fashion in Western countries vs working conditions in host countries. • Some students may bring in issues surrounding interdependence and the power this gives TNCs globally. <p>An overall evaluation of the impact a specified TNC has on the chosen country in which it operates.</p>	
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Question	Marking guidance	Mark
<p>04</p>	<p>‘Climate change is a greatest threat to the world’s oceans’</p> <p>To what extent do you agree with this statement?</p> <p>AO1 – Knowledge and understanding of the oceans as the global common. Knowledge and understanding of the threats to the world’s oceans arising from; climate change, fishing and whaling, pollution by oil and plastics and shipping, trade and tourism. Knowledge and understanding of the developing governance of the world’s oceans.</p> <p>AO2 – Application of knowledge to evaluate the threats to world’s oceans arising from; climate change, fishing and whaling, pollution by oil and plastics and shipping, trade and tourism. Application of knowledge and understanding to assess the governance of the world’s oceans.</p> <p><u>Indicative Content</u></p> <p>The question links different parts of the Global Systems and Governance part of the specification, specifically the oceans as a global commons section. The question requires the relative threats to the world’s oceans to be assessed and reach a conclusion.</p> <p>AO1</p> <ul style="list-style-type: none"> • Knowledge and understanding of the concept of the global commons and the role of the world’s oceans. • Knowledge and understanding of climate change and the awareness that it has varying impacts on the world’s oceans. • Knowledge and understanding that there a lag time between the absorption of heat and overall oceanic temperature. • Knowledge and understanding of the collective impacts of a rise in sea level of a global average of 2mm per year in the last century and 3mm per year afterwards as well as the expanding warmer waters. • Awareness of the impact of climate change on ocean circulation and the short term changes causing the phenomena El Niño and La Niña. • Knowledge and understanding of the thermal stress reactions to coral reefs and the impact this has on such a fragile ecosystem. E.g. in 2005, the U.S. lost half of its coral reefs in the Caribbean in one year due to bleaching. • Knowledge and understanding of the source of marine pollution; discharges from ships, land based discharges, oil exploration and waste disposal. 	<p>20</p> <p>AO1 = 10</p> <p>AO2 = 10</p>

	<ul style="list-style-type: none"> • Awareness of the varying impact of pollution by oil on both coastal and marine ecosystems; oyster beds, threat to endangered species such as turtles and the impact on fragile coral reefs. • In the case of oil spills, bacteria digest the oil and result in plankton being unable to survive in waters with such little oxygen. Due to being the basis for marine food webs, this has far reaching consequences. The 2010 Deepwater Horizon oil rig disaster in the Gulf of Mexico is an example of the impact of large scale oil spills; 40,000 barrels of oil equivalent were released daily during the disaster. • Awareness of the growing concern of oceanic pollution by plastics. The disposable way in which we live has become a global concern with an estimated 7 million tonnes of plastic waste ending up in oceans each year. • Due to the lightweight nature of plastics, they are carried by ocean currents and are broken into small pieces- many of which are entering the food chain. • Awareness of the growing concern of toxins from plastics such as BPA entering the food chain and links to health issues such as cancers, behavioural disorders and high blood pressure. • Awareness of the developing governance of the world's oceans and their purpose, scope and systems for inspection and enforcement. <p>AO2</p> <ul style="list-style-type: none"> • Analysis of the extent to which the threat from climate change and pollution from oil and plastics will impact societies across the globe. Those living in the poorest regions who rely upon the oceans for survival may see the greatest impact and indeed feel the impact first. • Evaluation of the governance of fishing. There is a reliance of fish as a major source of protein for 3 billion people globally as well as the income from fisheries for 4% of the population- largely in developing countries. • Analysis of the disparity between the location of the majority of fish catch and the location of the fastest growing populations. • Analysis of the varying temporal and spatial scales associated with the threat from climate change and other threats. • Analysis of the reliance of ocean transportation in global trade between countries. • Evaluation of the importance of international government organisations as well as NGOs and their role in mitigating the impact of climate change and pollution from oil and plastics. • Evaluation of the effectiveness of strategies implemented by government organisations such as the role of the International Maritime Organization (IMO) particularly in their role to combat oceanic pollution. 	
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	<ul style="list-style-type: none">• Evaluation of the work of NGOs at a range of scales and their combined efforts to implement marine protected areas and marine reserves. This is well illustrated by the work of the Antarctic Ocean Alliance in protecting East Antarctica, Antarctic Peninsula, the Ross Sea and the Weddell Sea.• Conclusion may indicate that the issues associated with climate change and other threats will undoubtedly affect people and places globally but that the impact may affect those who depend on the oceans for survival the greatest. <p>Note: Other threats to the ocean that are not stated in the specification to be credited.</p>	
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Level/ Mark Range	Criteria/Descriptor
Level 4 (16–20 marks)	<ul style="list-style-type: none"> • Detailed evaluative conclusion that is rational and firmly based on knowledge and understanding which is applied to the context of the question (AO2). • Detailed, coherent and relevant analysis and evaluation in the application of knowledge and understanding throughout (AO2). • Full evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). • Detailed, highly relevant and appropriate knowledge and understanding of place(s) and environments used throughout (AO1). • Full and accurate knowledge and understanding of key concepts and processes throughout (AO1). • Detailed awareness of scale and temporal change which is well integrated where appropriate (AO1).
Level 3 (11–15 marks)	<ul style="list-style-type: none"> • Clear evaluative conclusion that is based on knowledge and understanding which is applied to the context of the question (AO2). • Generally clear, coherent and relevant analysis and evaluation in the application of knowledge and understanding (AO2). • Generally clear evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). • Generally clear and relevant knowledge and understanding of place(s) and environments (AO1). • Generally clear and accurate knowledge and understanding of key concepts and processes (AO1). • Generally clear awareness of scale and temporal change which is integrated where appropriate (AO1).
Level 2 (6–10 marks)	<ul style="list-style-type: none"> • Some sense of an evaluative conclusion partially based upon knowledge and understanding which is applied to the context of the question (AO2). • Some partially relevant analysis and evaluation in the application of knowledge and understanding (AO2). • Some evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). • Some relevant knowledge and understanding of place(s) and environments which is partially relevant (AO1). • Some knowledge and understanding of key concepts, processes and interactions and change (AO1). • Some awareness of scale and temporal change which is sometimes integrated where appropriate. There may be a few inaccuracies (AO1).
Level 1 (1–5 marks)	<ul style="list-style-type: none"> • Very limited and/or unsupported evaluative conclusion that is loosely based upon knowledge and understanding which is applied to the context of the question (AO2). • Very limited analysis and evaluation in the application of knowledge and understanding. This lacks clarity and coherence (AO2). • Very limited and rarely logical evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). • Very limited relevant knowledge and understanding of place(s) and environments (AO1). • Isolated knowledge and understanding of key concepts and processes (AO1). • Very limited awareness of scale and temporal change which is rarely

	integrated where appropriate. There may be a number of inaccuracies. (AO1).
Level 0 (0 marks)	<ul style="list-style-type: none"> • Nothing worthy of credit.

Section B – Resource security

Question	Marking guidance	Mark
05.1	Which of the following are all issues commonly associated with the enhanced greenhouse effect? Key - A	1 AO1 = 1
05.2	Which of the following best describes ‘grey water’ recycling? Key - A	1 AO1 = 1
05.3	Which of the following are all examples of flow resources? Key - A	1 AO1 = 1
05.4	Which of the following are all strategies to manage water consumption in the home? Key - C	1 AO1 = 1
05.5	Which of the following are all strategies used to increase energy supply? Key - B	1 AO1 = 1

Question	Marking guidance	Mark												
<p>06</p>	<p>Use Figure 2a and Figure 2b to analyse the relationship between water scarcity and changing populations.</p> <p>AO3- There are a variety of ways of approaching this unseen material.</p> <p>This question requires analysis of physical and economic water scarcity and global population change. They should use both figures for maximum marks. For maximum marks there should also be use of specific data. Explanations for patterns identified are not credited</p> <table border="1" data-bbox="344 743 1220 1227"> <thead> <tr> <th>Level</th> <th>Marks</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>4-6</td> <td>AO3 – Clear selection and analysis of the evidence that has been provided which makes appropriate use of data to support. Clear connections between different aspects of the data.</td> </tr> <tr> <td>1</td> <td>1-3</td> <td>AO3 – Some basic selection and analysis of the evidence that has been provided which makes limited use of data to support. Basic or limited connections between different aspects of the data.</td> </tr> <tr> <td></td> <td>0</td> <td>No creditable content.</td> </tr> </tbody> </table> <p>Indicative content:</p> <ul style="list-style-type: none"> • Countries between the Tropic of Cancer and the Tropic of Capricorn are facing water scarcity the greatest. • It is clear the continent of Africa is affected by water scarcity the most with all estimated countries being affected for either physical or economic reasons. Sub Saharan Africa is facing economic water scarcity whereas the remaining countries such as Morocco and Tunisia and the coastal regions of Libya and Algeria are facing physical water scarcity. • Europe is facing little or no water scarcity issues with the exception of Ukraine who is approaching physical water scarcity. • There are some spatial variations within countries such as India which is facing economic water scarcity in the northern regions and physical water scarcity in the southern regions. • Again, the continent of Africa is facing the greatest increase in population represented in the majority of those countries with a greater than 3% increase being located here. • Countries between the Tropic of Cancer and the Tropic of Capricorn have many of the fastest growing populations. • There is a relationship between the location of the fastest growing populations and those countries facing economic water scarcity- predominantly in Africa. 	Level	Marks	Description	2	4-6	AO3 – Clear selection and analysis of the evidence that has been provided which makes appropriate use of data to support. Clear connections between different aspects of the data.	1	1-3	AO3 – Some basic selection and analysis of the evidence that has been provided which makes limited use of data to support. Basic or limited connections between different aspects of the data.		0	No creditable content.	<p>6</p> <p>AO3 = 6</p>
Level	Marks	Description												
2	4-6	AO3 – Clear selection and analysis of the evidence that has been provided which makes appropriate use of data to support. Clear connections between different aspects of the data.												
1	1-3	AO3 – Some basic selection and analysis of the evidence that has been provided which makes limited use of data to support. Basic or limited connections between different aspects of the data.												
	0	No creditable content.												

	<ul style="list-style-type: none">• Some of the faster growing populations in Asia are facing physical water scarcity such as the United Arab Emirates, Oman, Jordan and Iraq.• Bolivia and Peru are facing economic water scarcity; however, population change is only slightly increasing.• Ukraine is one of the only countries in Europe facing water scarcity (physical), however, it has a decreasing population therefore demand may be reducing.	
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Question	Marking guidance	Mark
<p>07</p>	<p>Assess the success of strategies used to maintain water security for populations.</p> <p>AO1 – Knowledge and understanding of components of water demand and water stress. Knowledge and understanding of strategies to increase water supply and/or to manage water consumption (including reducing demand).</p> <p>AO2 – Application of knowledge and understanding to analyse and evaluate water strategies in order to maintain water security for populations.</p> <p><u>Mark scheme</u></p> <p>Level 3 (7–9 marks) AO1 – Demonstrates detailed knowledge and understanding of the components of water demand and water stress and strategies to increase water supply and/or manage water consumption.</p> <p>AO2 – Applies knowledge and understanding to the novel situation, offering detailed analysis and evaluation, drawn appropriately from the context provided. Connections and relationships between different aspects of study are thorough and relevant.</p> <p>Level 2 (4 – 6 marks) AO1 – Demonstrates clear knowledge and understanding of the components of water demand and water stress and strategies to increase water supply and/or manage water consumption</p> <p>AO2 – Applies knowledge and understanding to the novel situation, offering clear analysis and evaluation, drawn appropriately from the context provided. Connections and relationships between different aspects of study are evident and relevant.</p> <p>Level 1 (1 – 3 marks) AO1 – Demonstrates basic knowledge and understanding of the components of water demand and water stress and strategies to increase water supply and/or manage water consumption</p> <p>AO2 – Applies limited knowledge and understanding to the novel situation, offering some basic analysis and evaluation. Connections and relationships between different aspects of study are basic with limited relevance. Analysis and evaluation are basic and of limited relevance.</p>	<p>9</p> <p>AO1 = 4</p> <p>AO2 = 5</p>

Indicative Content

This question requires links to be made between different parts of the specification content on Resource Security, namely within the water security element; the components of water demand and water stress, strategies to increase water supply as well as strategies to manage consumption. Some may also draw on the global patterns of water availability and demand. Answers are likely to be wide ranging depending on the strategies assessed. Question asks for strategies- therefore responses should contain two or more strategies.

AO1 –

- Knowledge and understanding of the components of water demand; the pressures of increasing populations, urbanisation and improved standards of living as countries continue to develop.
- Awareness of the concept of water stress and the links between water supply and demand.
- Knowledge and understanding of strategies to increase water supply. Examples could include additional catchment areas, diversion, storage, transfers and desalination. Larger scale water supply schemes may be referred to by some students.
- Knowledge and understanding of strategies to manage water consumption. Examples could include those within the food industry as well strategies to manage consumption both domestically and through the agricultural industry. Some students may also reference sustainability issues.
- Awareness that water strategies can be implemented at a range of scales.
- Awareness of the role of physical geography and economic development in maintaining water security.

AO2 –

- Evaluation of the extent to which water supply strategies are successful in maintaining water security.
- The creation of reservoirs is often at the cost of the environment and has socio-economic impacts; e.g. Lake Nasser (an element of the Aswan Dam scheme).
- Diversion strategies are used at varying scales with varying successes. In developing countries affected by water stress, irrigation is an important element of water security e.g. in the Sindh province of Pakistan. Diversion can often be affected by evaporation. Larger scale transfers can also be undertaken e.g. from the Colorado River Basin to Southern California (300km) but at large economic cost.
- Desalination would enable large supplies of water to be created but is very expensive and is not considered sustainable in maintaining water security. Often developed in wealthier countries affected by water stress such as Saudi Arabia, Oman, the USA and Australia.

	<ul style="list-style-type: none">• Analysis of the extent to which strategies to manage water consumption are successful.• Reducing demand in the home is often very much dependent on the education and willingness of individuals. Food retailers may need to start to consider water footprint but inevitably the success of strategies will be bound in economics.• Reducing consumption in agriculture is often very effective e.g. through low-flow technology such as drip feed irrigation and micro sprayers. However, this is likely to have significant financial outlay and therefore may not be an accessible method for all.• Overall, the extent to which strategies are successful is often dependent on a wide range of factors and bound by social and economic pressures. For some, particularly developed countries, the need to maintain water security is worth the economic and environmental cost. For developing countries, the same options are simply not accessible.	
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Question	Marking guidance	Mark
<p>08</p>	<p>“In order to achieve a sustainable energy future, countries must ensure their major focus is on developing renewable sources of energy.”</p> <p>To what extent do you agree with this view?</p> <p>AO1 – Knowledge and understanding of strategies to increase energy supply and sustainability issues associated with energy production. Knowledge and understanding of alternative energy futures and the relationship with a range of technological, economic, environmental and political developments.</p> <p>AO2 – Application of knowledge and understanding to evaluate the relative sustainability of strategies to increase energy supply.</p> <p><u>Indicative Content</u></p> <p>The question links different parts of the Resource Security part of the specification, namely energy security and resource futures. The question requires the assessment of relative sustainability of renewable energy, nuclear power and oil and gas exploration in achieving alternative energy futures.</p> <p>AO1 –</p> <ul style="list-style-type: none"> • Knowledge and understanding of sources of energy, both primary and secondary. Components of demand and energy mixes. • Knowledge and understanding of the relationship between energy supply and key aspects of physical geography; climate, geology and drainage. • Knowledge and understanding of renewable energy sources. These may include solar, wind, biomass, geothermal, hydroelectricity and tidal. • Knowledge and understanding of nuclear power and the contentious nature of the energy source. • Knowledge and understanding of the nature of fossil fuels and their geographical location. • Awareness of the concept of a sustainable energy future-meeting the energy needs of the present without compromising the ability of future generations to meet their own needs. • Knowledge and understanding of alternative energy futures and the relationship with a range of technological, economic, environmental and political developments. 	<p>20</p> <p>AO1 = 10</p> <p>AO2 = 10</p>

	<p>AO2 –</p> <ul style="list-style-type: none"> • Evaluation of renewable energy as a source; the economic cost vs environmental gain. Analysis of the ability to meet current and future demand for energy with renewables. Renewable technologies will need greater investment at an increased rate in order to meet future demand and therefore achieve a sustainable energy future. • Evaluation of nuclear power and its controversial nature. Concerns over safety after the 1986 Chernobyl disaster and the long lasting impacts. Further concerns highlighted by the 2011 Japanese earthquake and tsunami and the Fukushima Daiichi nuclear power plant although development of stringent safety policies has occurred as a result. Issues surrounding nuclear waste and the management of this. Despite safety concerns, nuclear power generates large amounts of energy and has the ability to meet future energy demands. It generates far less pollutants than fossil fuels therefore could be seen as sustainable. • Evaluation of oil and gas exploration- environmental cost vs the ability to meet energy demands utilising existing infrastructure. The challenge of recovery of fossil fuels in areas of challenging accessibility. The increased use of hydraulic fracturing (fracking) and the often contentious nature of this method. • Consideration that energy futures will be affected by competing national interests and that TNCs play a powerful part. Six of the world’s biggest TNCs are petrochemical companies. • Consideration that countries may need to consider reducing their energy demand in conjunction with reducing reliance on non-renewables. • Success linked to socio-economic factors. An imbalance between energy supply and demand may affect those living in poorest regions more. These countries are least likely to be able to develop strategies for a sustainable energy future. Compounded by the likely increase in the cost of stock resources as their availability diminishes. • Consideration that emerging economies in particular will see a greater increase in demand as their development continues. The drive for continued economic development may well outweigh a focus on environmentally sustainable sources of energy. 	
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Level/ Mark Range	Criteria/Descriptor
Level 4 (16–20 marks)	<ul style="list-style-type: none"> • Detailed evaluative conclusion that is rational and firmly based on knowledge and understanding which is applied to the context of the question (AO2). • Detailed, coherent and relevant analysis and evaluation in the application of knowledge and understanding throughout (AO2). • Full evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). • Detailed, highly relevant and appropriate knowledge and understanding of place(s) and environments used throughout (AO1). • Full and accurate knowledge and understanding of key concepts and processes throughout (AO1). • Detailed awareness of scale and temporal change which is well integrated where appropriate (AO1).
Level 3 (11–15 marks)	<ul style="list-style-type: none"> • Clear evaluative conclusion that is based on knowledge and understanding which is applied to the context of the question (AO2). • Generally clear, coherent and relevant analysis and evaluation in the application of knowledge and understanding (AO2). • Generally clear evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). • Generally clear and relevant knowledge and understanding of place(s) and environments (AO1). • Generally clear and accurate knowledge and understanding of key concepts and processes (AO1). • Generally clear awareness of scale and temporal change which is integrated where appropriate (AO1).
Level 2 (6–10 marks)	<ul style="list-style-type: none"> • Some sense of an evaluative conclusion partially based upon knowledge and understanding which is applied to the context of the question (AO2). • Some partially relevant analysis and evaluation in the application of knowledge and understanding (AO2). • Some evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). • Some relevant knowledge and understanding of place(s) and environments which is partially relevant (AO1). • Some knowledge and understanding of key concepts, processes and interactions and change (AO1). • Some awareness of scale and temporal change which is sometimes integrated where appropriate. There may be a few inaccuracies (AO1).
Level 1 (1–5 marks)	<ul style="list-style-type: none"> • Very limited and/or unsupported evaluative conclusion that is loosely based upon knowledge and understanding which is applied to the context of the question (AO2). • Very limited analysis and evaluation in the application of knowledge and understanding. This lacks clarity and coherence (AO2). • Very limited and rarely logical evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts (AO2). • Very limited relevant knowledge and understanding of place(s) and environments (AO1). • Isolated knowledge and understanding of key concepts and processes (AO1). • Very limited awareness of scale and temporal change which is rarely

	integrated where appropriate. There may be a number of inaccuracies. (AO1).
Level 0 (0 marks)	<ul style="list-style-type: none"> • Nothing worthy of credit.