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Paper 1A Physical Geography 1 Hot Desert Systems and Landscapes

Mark scheme

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Version: 1.0 Final Mark Scheme



2 1 1 X G G 0 1 B / 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 Examiner.

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.

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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 - Living with hazards

Total for this section: 40 marks

Question	Part	Marking guidance	Total marks
01	1	Seafloor spreading happens: Key - B	1 AO1=1
01	2	One approach to land use zoning involves having low value land use in high risk areas to reduce the vulnerability of people. This is classed as: Key - A	1 AO1=1
01	3	Which of the following are all environmental impacts of wildfires? Key - D	1 AO1=1
01	4	A mixture of super-heated gas, volcanic rock and ash that travels at high speed down the sides of a volcano describes: Key - C	1 AO1=1
01	5	Liquefaction happens when: Key - C	1 AO1=1

Question	Part	Marking guidance	Total marks
02		<p>Figure 1 shows wildfires and rainfall in an area between 2004 and 2014.</p> <p>Analyse the data shown in Figure 1.</p>	<p>6</p> <p>AO3=6</p>

Level	Marks	Descriptor
2	4 - 6	AO3 - Clear selection and analysis of the evidence that has been provided linked to the rainfall and fires. There is an element of comparison. Links are made between frequency and type of land to rainfall patterns. Data is used frequently to demonstrate analysis.
1	1 - 3	AO3 - Some basic selection and analysis of the evidence that has been provided, and then appropriate, if simplistic links to the frequency of wildfires over time and/or the vegetation with wildfires. Some basic links are established and suggestions are made. Comparison may be limited. Data is used simplistically or in a limited way to support the answer.
0	0	No creditable content.

Indicative Content

There is a variety of ways of approaching this unseen material. Students must select the relevant data from the graph and look at patterns and relationships to fires and rainfall. Students should be able to look at the figure and see anomalies and links between the data.

AO3

- Overall wildfire frequency has decreased over the time period with some fluctuations and peaks.
- Rainfall is generally between 400 - 700 mm.
- Generally, a negative correlation with wildfires and rainfall - such as low rainfall in 2006 (380mm), but the highest rate of wildfires with approximately 480.
- 2006 had the greatest amount of wildfires (approximately 480) and the least rainfall (approximately 380 mm).
- The most rainfall in a year occurred in 2010 (approximately 960 mm) and had one of the lowest amount of wildfires (approximately 150) - but this was not the least number of wildfires.
- Largest variation occurs with the forest or wood fires.
- Smallest variation occurs with the crop fire - but not all years have fires on this land.
- 2004 and 2009 had similar amounts of rainfall (approximately 450 mm) but drastically more wildfires in 2009 - over three times as many.

Question	Part	Marking guidance	Total marks
03		<p>For a multi-hazardous environment that you have studied, assess the nature of the hazards and the relative risks they present.</p> <p>AO1 - Knowledge and understanding of the multi-hazardous environment's specific hazards.</p> <p>AO2 - Application of knowledge and understanding to analyse the relative risk posed by the hazards faced in the multi-hazardous environment.</p>	<p>9</p> <p>AO1=4 AO2=5</p>

Level	Marks	Descriptor
3	7 - 9	<p>AO1 - Demonstrates detailed knowledge and understanding of concepts, processes, interactions and change associated with multi-hazardous environment and social, economic and environmental risk presented.</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>
2	4 - 6	<p>AO1 - Demonstrates clear knowledge and understanding of concepts, processes, interactions and change associated with multi-hazardous environment and social, economic and environmental risk presented.</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>
1	1 - 3	<p>AO1 - Demonstrates basic knowledge and understanding of concepts, processes, interactions and change associated with multi-hazardous environment and social, economic and environmental risk presented. May refer to one or more hazard in the multi-hazardous area in a descriptive way.</p> <p>AO2 - Applies limited knowledge and understanding to the novel situation, offering some basic analysis and evaluation, drawn from the context provided. Connections and relationships between different aspects of study are basic and of limited relevance.</p>
0	0	No creditable content.

Indicative Content

Knowledge and application should be specific to a multi-hazard zone studied, therefore responses should refer to this. The content will depend upon the multi-hazard zone studied.

AO1

- The nature, forms and potential impacts of nature hazards.
- Hazards can be geophysical, atmospheric and hydrological.
- The nature and characteristics of multi-hazardous environment.
- Cultural determinates of risk.
- Economic determinates of risk.
- The nature of vulcanicity.
- The nature of seismic hazards.
- The nature of wildfires.
- The nature of tropical storms.
- Distribution and frequency of hazards.
- Primary and secondary impacts of hazards.
- Immediate and long-term responses to hazards.
- Challenges facing people living in multi-hazardous environment.
- Use of the hazard management cycle in multi-hazardous zones.

AO2

- Linking multi-hazardous environment to the relative nature of the hazards studied.
- Drawing comparisons between the natures of the hazards eg tropical storms are more frequent than earthquakes in...
- Drawing comparisons between the risks posed by the hazards eg tropical storms are a bigger risk as they not only bring strong winds but the storm surge inundates land with water, whereas...
- The relative importance of links between nature/frequency and risk eg the predictability of tropical storms lessens the risk as... however, earthquakes are much less easy to predict and so...
- Linking and applying ideas on risk, nature and vulnerability to the place studied in the case study.
- Analysis of the risks involved in the multi-hazard zone to make a decision or evaluation on relative risk.
- Apply ideas to assess the nature of the hazard and risk from the hazard.

Question	Part	Marking guidance	Total marks
04		<p>‘The level of economic development is the most important factor in reducing the impact of, and aiding recovery from, tropical storms.’</p> <p>Evaluate this statement with reference to examples you have studied.</p> <p>AO1 - Knowledge of two tropical storms in contrasting areas of the world. Knowledge of the concept of a hazard in a geographical context.</p> <p>AO2 - Application of knowledge and understanding to evaluate whether wealth and development is influential in reducing impacts of tropical storms.</p>	<p>20</p> <p>AO1=10 AO2=10</p>

Level	Marks	Descriptor
4	16 - 20	<p>AO2 - Detailed evaluative conclusion that is rational and firmly based on knowledge and understanding which is applied to the context of the question.</p> <p>AO2 - Detailed, coherent and relevant analysis and evaluation in the application of knowledge and understanding throughout.</p> <p>AO2 - Full evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts.</p> <p>AO1 - Detailed, highly relevant and appropriate knowledge and understanding of place(s) and environments used throughout.</p> <p>AO1 - Full and accurate knowledge and understanding of key concepts and processes throughout.</p> <p>AO1 - Detailed awareness of scale and temporal change which is well integrated where appropriate.</p>
3	11 - 15	<p>AO2 - Clear evaluative conclusion that is based on knowledge and understanding which is applied to the context of the question.</p> <p>AO2 - Generally clear, coherent and relevant analysis and evaluation in the application of knowledge and understanding.</p> <p>AO2 - Generally clear evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts.</p> <p>AO1 - Generally clear and relevant knowledge and understanding of place(s) and environments.</p> <p>AO1 - Generally clear and accurate knowledge and understanding of key concepts and processes.</p>

		AO1 - Generally clear awareness of scale and temporal change which is integrated where appropriate.
2	6 - 10	<p>AO2 - Some sense of an evaluative conclusion partially based upon knowledge and understanding which is applied to the context of the question.</p> <p>AO2 - Some partially relevant analysis and evaluation in the application of knowledge and understanding.</p> <p>AO2 - Some evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts.</p> <p>AO1 - Some relevant knowledge and understanding of place(s) and environments which is partially relevant.</p> <p>AO1 - Some knowledge and understanding of key concepts, processes and interactions and change.</p> <p>AO1 - Some awareness of scale and temporal change which is sometimes integrated where appropriate. There may be a few inaccuracies.</p>
1	1 - 5	<p>AO2 - Very limited and/or unsupported evaluative conclusion that is loosely based upon knowledge and understanding which is applied to the context of the question.</p> <p>AO2 - Very limited analysis and evaluation in the application of knowledge and understanding. This lacks clarity and coherence.</p> <p>AO2 - Very limited and rarely logical evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts.</p> <p>AO1 - Very limited relevant knowledge and understanding of place(s) and environments.</p> <p>AO1 - Isolated knowledge and understanding of key concepts and processes.</p> <p>AO1 - Very limited awareness of scale and temporal change which is rarely integrated where appropriate. There may be a number of inaccuracies.</p>
0	0	No creditable content.

Indicative Content

Content will depend on recent examples chosen.

AO1

- Hazard perception is controlled by people's cultural and socio-economic circumstances which will influence risk management of both tropical storms.
- Hazard, risk and disaster are not interchangeable terms but can be used within the question to look at the impacts of tropical storms.
- There is no one set response to a natural hazard and these are determined by governments and individuals.
- Success of responses to tropical storms depend on incidence, magnitude and distribution of a hazard alongside frequency, magnitude and vulnerability.
- Recovery from tropical storms can be supported by specific examples of economic activity such as high levels of tourism in LICs which helps fund disaster relief eg Jamaica and Thailand - whilst the countries may be less economic development the development of tourism may also bring about stronger infrastructure, better defences and more suited buildings to avoid heavy economic losses in areas.
- Level of development of an area will influence how well tropical storms can be prepared for and responded to, (eg may lack wealth and technology).
- The causes of tropical storms and their link/relationship to risk management.
- The causes and factors increasing the impact of tropical storms and their link/relationship to risk management.
- Primary and secondary impacts of tropical storms and their link/relationship to risk management.
- Short and long-term responses to tropical storms and their link/relationship to risk management.
- Place knowledge of two recent tropical storms in contrasting areas of the world.

AO2

- Analysis and explanation of the interactions between incidence, magnitude and distribution of tropical storms.
- Analysis and explanation of the interactions between causes, impacts and response to tropical storms.
- Evaluation of how risk management can reduce the impacts of tropical storms.
- Analysis of the role of economic development in reducing the impact of tropical storms.
- Analysis of the role of economic development in recovering from tropical storms.
- Analysis of examples to suggest whether economic development has reduced impacts of a tropical storm.
- Analysis to suggest whether specific locational factors of risk influenced the reduction (or not) of the impacts of the tropical storm examples studied.
- Comparison between the two storm events.
- Evaluation and explanation of the importance of economic development on reducing impacts and recovery from the tropical storms covered - comparison and contrasts.

Section B - Hot desert systems and landscapes

Total for this section: 40 marks

Question	Part	Marking guidance	Total marks
05	1	A barchan is: Key - A	1 AO1=1
05	2	Desert soils are typically: Key - C	1 AO1=1
05	3	Within a desert system, solar radiation, precipitation and descending air are all classed as: Key - B	1 AO1=1
05	4	Which source of water in a hot desert has all the following characteristics? <ul style="list-style-type: none"> • Flows intermittently. • Can occur as a result of storm events. • May be fed by mountain snow melt. • Can vary dramatically and be important to erosion. • Runs into channels. Key - B	1 AO1=1
05	5	A steep sided gorge on the edge of high land in a desert formed by flash flooding after occasional rain storms, describes which feature? Key - C	1 AO1=1

Question	Part	Marking guidance	Total marks
06		<p>Figure 2 shows characteristics of 'calligonum mongolicum', a desert plant, in three different conditions.</p> <p>Analyse the data shown in Figure 2.</p>	<p>6</p> <p>AO3=6</p>

Level	Marks	Descriptor
2	4 - 6	AO3 - Clear selection of evidence from the graphs provided and appropriate comparison of evidence. Making appropriate use of specific characteristics to support the analysis.
1	1 - 3	AO3 - Some basic selection of evidence from the graphs provided and appropriate comparison from the evidence. Some specific characteristics are referred to support the analysis ideas or are isolated or show basic ideas.
0	0	No creditable content.

Indicative Content

There is a variety of ways of approaching this unseen material. Students should analyse the graphs to identify plant characteristics and their relative growth in different conditions.

AO3

- The plant generally survives better with moderate sand burial - it grows the tallest (210 cm).
- There is the most variety in plant height overall - 210 cm for modest burial, 90 cm for heavy burial and 110 cm for heavy erosion - a range of 100 cm which shows the modest burial plants grow more than twice the height of the other conditions.
- There is generally similar plant growth for plants with heavy burial and heavy erosion - they are similar in height (only 20 cm difference) and have similar crown areas of 1 m² and 1.2 m² respectively.
- The crown area differs only slightly between all conditions - whereas other characteristics have a more marked change.
- All plants have a crown between 1 m² and 1.8 m² (range of 0.8 m²).
- The taller the plant the bigger the crown is the general trend as shown by the heavily buried only having a 1 m² crown and being 90 cm tall; the modest burial having a 1.8 m² crown and standing at 210 cm tall.
- The modest burial is taller than its crown, whereas the heavy burial's crown is bigger than its height - the plants have different overall dimensions and shapes.
- Density of species is inverse to height and crown.
- Smaller species have a greater density.
- The density of heavily eroded plants is less than expected as this generally is the 'middle' of the three plants in these conditions - the density is the lowest - however similar to moderate burial 110 per km² difference.

Question	Part	Marking guidance	Total marks
07		<p>For a hot desert environment you have studied, evaluate the role of wind in shaping the landscape.</p> <p>AO1 - Knowledge and understanding of sources of energy in hot desert environments. Knowledge and understanding of hot desert processes of erosion, transportation and deposition from wind and water. Knowledge and understanding of landforms created by high wind and water. Knowledge and understanding of the role of weathering in hot deserts. Knowledge and understanding of other factors shaping deserts eg humans, management, desertification etc. Understanding of the interactions between wind and water processes and landforms.</p> <p>AO2 - Application of knowledge and understanding of the specific landforms created by wind and water processes. There should be an application of how wind creates erosional and depositions features including sand dunes, deflation hollows etc. An application of the link between wind processes such as surface creep and features such as sand dunes. Knowledge and application of how processes shape landforms. Students should apply their ideas to areas they have studied. Accounting for characteristics of features from processes shaped by the desert processes and systems.</p>	<p>9</p> <p>AO1=4 AO2=5</p>

Level	Marks	Descriptor
3	7 - 9	<p>AO1 - Demonstrates detailed knowledge and understanding of the concepts of wind (and water) processes. Clear ideas on the processes and landforms of hot desert environments.</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>
2	4 - 6	<p>AO1 - Demonstrates clear knowledge and understanding of wind (and water) processes. Basic ideas on the processes and landforms of hot desert environments.</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>

1	1 - 3	<p>AO1 - Demonstrates basic knowledge and understanding of wind (and water) landforms and the processes.</p> <p>AO2 - Applies limited knowledge and understanding to the novel situation, offering some basic analysis and evaluation, drawn from the context provided. Connections and relationships between different aspects of study are basic and of limited relevance.</p>
0	0	No creditable content.

Indicative Content

AO1

- Wind is an input to the desert system.
- Wind action is most noticeable in sandy deserts.
- Particles can be carried in wind dependant on size and wind strength.
- Wind (aeolian) can erode, transport and deposit materials.
- Deflation removes loose material from areas.
- Abrasion uses wind-blown particles to scratch and abrade surfaces.
- Surface creep involves moving particles along the ground using wind energy.
- Sand dunes are resultant of wind deposition of materials and change shape.
- Ventifacts, deflation hollows, yardangs etc all form as a result of wind erosion.
- Water can influence deserts and create features.
- Wind and water both rely on weathering of substrates.
- Knowledge of case study of landscapes.

AO2

- A clear explanation of the links between wind processes and landforms.
- The landscape features should be linked and associated with specific processes and landscapes that may or may not be a result of a wind.
- The landscape features should be linked and associated with specific processes and landscapes that may result from water action.
- The landscape should be evaluated against the processes creating it - wind and/or water.
- Other factors could be discussed (such as water).
- Landforms can be created by multiple processes interacting including human influence.
- Landforms and processes may have changed over time and the dominant outcome may have altered.
- Some landscapes may show evidence of water and wind interacting.
- The scale of the landscape could be considered.

Question	Part	Marking guidance	Total marks
08		<p>With reference to a case study, to what extent are human impacts a greater cause of desertification than climate change?</p> <p>AO1 - Knowledge and understanding of natural and human causes of desertification.</p> <p>AO2 - Application of knowledge and understanding to evaluate the relative importance of human causes and climate change in creating desertification.</p>	<p>20</p> <p>AO1=10 AO2=10</p>

Level	Marks	Descriptor
4	16 - 20	<p>AO2 - Detailed evaluative conclusion that is rational and firmly based on knowledge and understanding which is applied to the context of the question.</p> <p>AO2 - Detailed, coherent and relevant analysis and evaluation in the application of knowledge and understanding throughout.</p> <p>AO2 - Full evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts.</p> <p>AO1 - Detailed, highly relevant and appropriate knowledge and understanding of place(s) and environments used throughout.</p> <p>AO1 - Full and accurate knowledge and understanding of key concepts and processes throughout.</p> <p>AO1 - Detailed awareness of scale and temporal change which is well integrated where appropriate.</p>
3	11 - 15	<p>AO2 - Clear evaluative conclusion that is based on knowledge and understanding which is applied to the context of the question.</p> <p>AO2 - Generally clear, coherent and relevant analysis and evaluation in the application of knowledge and understanding.</p> <p>AO2 - Generally clear evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts.</p> <p>AO1 - Generally clear and relevant knowledge and understanding of place(s) and environments.</p> <p>AO1 - Generally clear and accurate knowledge and understanding of key concepts and processes.</p> <p>AO1 - Generally clear awareness of scale and temporal change which is integrated where appropriate.</p>

2	6 - 10	<p>AO2 - Some sense of an evaluative conclusion partially based upon knowledge and understanding which is applied to the context of the question.</p> <p>AO2 - Some partially-relevant analysis and evaluation in the application of knowledge and understanding.</p> <p>AO2 - Some evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts.</p> <p>AO1 - Some relevant knowledge and understanding of place(s) and environments which is partially relevant.</p> <p>AO1 - Some knowledge and understanding of key concepts, processes and interactions and change.</p> <p>AO1 - Some awareness of scale and temporal change which is sometimes integrated where appropriate. There may be a few inaccuracies.</p>
1	1 - 5	<p>AO2 - Very limited and/or unsupported evaluative conclusion that is loosely based upon knowledge and understanding which is applied to the context of the question.</p> <p>AO2 - Very limited analysis and evaluation in the application of knowledge and understanding. This lacks clarity and coherence.</p> <p>AO2 - Very limited and rarely logical evidence of links between knowledge and understanding to the application of knowledge and understanding in different contexts.</p> <p>AO1 - Very limited relevant knowledge and understanding of place(s) and environments.</p> <p>AO1 - Isolated knowledge and understanding of key concepts and processes.</p> <p>AO1 - Very limited awareness of scale and temporal change which is rarely integrated where appropriate. There may be a number of inaccuracies.</p>
0	0	No creditable content.

Indicative Content

AO1

- The margins of hot deserts have been changing for years and have been influenced by glaciations, tectonics etc.
- Desertification is a form of land degradation.
- Semi-arid land becomes more arid and less useful.
- Desertification leaves 1/3rd of the world at risk.
- Climate change is a physical/natural cause of desertification due to lower rainfall and higher temperatures.
- Fewer plants and trees leaves soil exposed and at risk of soil erosion.
- Human activity such as population growth, fuelwood and over irrigation cause desertification.
- Desertification impacts people, environments and ecosystems.

- Predicted climate change will increase desertification.
- There is an uncertain future for those who dwell in deserts.
- Humans can also reduce the risk of desertification.
- Humans induce climate change and exacerbate.
- Feedback loops - both positive and negative create a balance and change in deserts.

AO2

- Human's induce climate change and this may be discussed as a relative factor.
- An evaluation of the differing impacts of humans, eg population growth stimulates other causes such as over farming.
- Different regions commit different causes due to wealth and development.
- There are variations in the importance of human and physical/natural causes.
- There are interactions between natural and human causes which blurs the line of which is the more important cause or may lead us to believe human causes are a greater threat.
- Some desertification may be connected to areas without deserts such as industry in the UK, and this will influence the role of human causes.
- Time is an important factor and has created changes in desert landscapes over time and could again.
- Examples of desert areas should be linked in.
- Desertification management can alter the role of humans and make physical/natural more influential currently - role of time and change.
- A conclusion of which impact(s) are having a greater influence on desertification.

Assessment Objective grid

	AO1	AO2	AO3	Total
Section A				
01.1	1			1
01.2	1			1
01.3	1			1
01.4	1			1
01.5	1			1
02			6	6
03	4	5		9
04	10	10		20
Section B				
05.1	1			1
05.2	1			1
05.3	1			1
05.4	1			1
05.5	1			1
06			6	6
07	4	5		9
08	10	10		20
Unit total	38	30	12	80