

OXFORD

INTERNATIONAL
AQA EXAMINATIONS

INTERNATIONAL AS GEOGRAPHY

(9635)

Schemes of work

Physical geography 1: Hot desert systems and landscapes

This scheme of work is not exhaustive or prescriptive; it is designed to suggest activities and resources that you might find useful in your teaching.

Physical geography

Hot desert systems and landscapes

Specification content Week number	Subject specific skills development	Learning outcomes	Suggested learning activities (including ref to differentiation and extension activities)	Resources
<p>Weeks 1–2</p> <p>Deserts as natural systems</p> <p>The global distribution of mid and low latitude deserts and their margins (arid and semi-arid).</p>	<p>Use of key subject specific and technical terminology.</p> <p>Opportunities to develop skills such as drawing, labeling and annotating diagrams.</p> <p>Opportunities to engage with a range of maps.</p>	<p>Students will be able to describe the distribution of mid and low latitude deserts and their margins, including:</p> <ul style="list-style-type: none"> • arid regions • semi-arid regions. <p>Students will be able to discuss and suggest reasons for the location of hot deserts and their margins.</p>	<p>Initial question and answer session/discussion to assess prior knowledge on the topic of deserts and where hot deserts are located.</p> <p>Draw and annotate world map to identify hot desert regions – practice examination questions on describing distribution and getting pupils to create multiple choice questions based up a map.</p>	<p>cliffsnotes.com/study-guides/geology/deserts-and-winds/distribution-and-causes-of-deserts</p> <p>thebritishgeographer.weebly.com/extreme-environments.html</p> <p>Simple introduction to deserts and their distribution: youtube.com/watch?v=SvdSHwbTs6o</p> <p>Some background to deserts: ucmp.berkeley.edu/glossary/gloss5/biome/deserts.html</p> <p>Detail of distribution of different categories of deserts: seos-project.eu/modules/world-of-images/world-of-images-c03-p20.html</p>
<p>Weeks 1–2</p> <p>Deserts as natural systems</p>	<p>Use of key subject specific and technical terminology.</p> <p>Opportunities to</p>	<p>Students will understand the water balance and aridity index.</p> <p>Students will develop an</p>	<p>Discussion to refer back to the idea of water balance from the Water and carbon unit. Students to analyse</p>	<p>Range of climate data found on climate-data.org to plot graphs of precipitation and temperature: <a 449="" 46="" 936="" 956"="" data-label="Page-Footer" href="http://en.climate-</p> </td> </tr> </tbody> </table> </div> <div data-bbox=">Copyright © 2017 Oxford International AQA Examinations and its licensors. All rights reserved.</p>

Specification content Week number	Subject specific skills development	Learning outcomes	Suggested learning activities (including ref to differentiation and extension activities)	Resources
Characteristics of hot desert environments and their margins: climate, soils and vegetation (and their interaction). Water balance and aridity index.	<p>develop skills such as drawing, labeling and annotating diagrams.</p> <p>Develop an understanding of water budgets and aridity index.</p> <p>Handling primary and secondary sources of data. Presenting data.</p> <p>Online research.</p>	<p>understanding of the features and interaction of characteristics of hot deserts, including:</p> <ul style="list-style-type: none"> • climate, including precipitation and temperature • soils, including characteristics and formation of • vegetation, including characteristics, adaptations. 	<p>the aridity index and look at the water balance graph.</p> <p>Students provided with basic notes on winds, precipitation and temperature and develop ideas.</p> <p>Opportunities to analyse real data on desert temperatures and precipitation and create graphs.</p> <p>Watch video showing diurnal temperature range to discuss and look at this concept.</p> <p>Students to research a desert soil(s). Opportunity to sketch a soil profile of a typical desert soil, with annotations to describe its characteristics and analyse its formation.</p> <p>Students to use textbooks and internet resources to research the characteristics of vegetation in hot deserts, and explain reasons for these characteristics and</p>	<p>data.org/location/796154/</p> <p>Although for GCSE this video provides clear ideas on diurnal temperature range in deserts: youtube.com/watch?v=LK6o0OY1Q_A</p> <p>This website shows how desert vegetation is adapted in the USA – can be adapted for your region: desertusa.com/du_plantsurv.html</p>

Specification content Week number	Subject specific skills development	Learning outcomes	Suggested learning activities (including ref to differentiation and extension activities)	Resources
			describe and explain various adaptations to the environment – this could be presented as you wish.	
<p>Weeks 1–2</p> <p>Deserts as natural systems</p> <p>The causes of aridity: atmospheric processes relating to pressure, winds, continentality, relief and cold ocean currents.</p>	<p>Opportunity to apply systems theory to identify the inputs, processes, and outputs operating in hot deserts.</p> <p>To identify connections and interrelationships between different aspects of geography.</p> <p>Use of key subject specific and technical terminology.</p> <p>Opportunities to develop skills such as drawing, labeling and annotating diagrams.</p>	<p>Students will understand and be able to describe, explain and analyse the causes of aridity, including:</p> <ul style="list-style-type: none"> • the general pattern of atmospheric circulation • distance from oceans or continentality • relief • cold ocean currents. 	<p>Question and answer session/discussion – why are hot deserts located in...?</p> <p>Possible discussion question – what are the reasons for aridity in deserts?</p> <p>Watch video and annotate diagram of global atmospheric circulation – identify what influence it has on desert location – ie falling air and high pressure.</p> <p>Focus on particular deserts to explain the influence of:</p> <ul style="list-style-type: none"> • cold ocean currents (eg Namib) • continentality/distance from ocean (eg Sahara) • relief and rain shadow (eg Atacama). <p>Opportunity to assess</p>	<p>Some excellent images and summary introductory material:</p> <p>nationalgeographic.org/encyclopedia/desert/</p> <p>faculty.unlv.edu/landau/desertgeography.htm</p> <p>fao.org/docrep/t0122e/t0122e03.htm</p> <p>pubs.usgs.gov/gip/deserts/atmosphere/</p> <p>climate.yale.edu/perspectives/what-causes-dryness-earths-subtropics</p> <p>britannica.com/science/continentality</p> <p>UK Met Office gives clear information about the global atmospheric circulation: metoffice.gov.uk/learning/learn-about-the-weather/how-weather-works/global-circulation-patterns</p> <p>Professor Sean Chamberlain has three videos on global atmospheric circulation which might be useful: youtube.com/watch?v=HWFDKdxK</p>

Specification content Week number	Subject specific skills development	Learning outcomes	Suggested learning activities (including ref to differentiation and extension activities)	Resources
			learning with a range of exam style questions relating to the distribution of hot desert environments and aridity – peer assessment opportunity.	75E
<p>Weeks 1–2</p> <p>Deserts as natural systems</p> <p>The concepts of landform and landscape and how related landforms combine to form characteristic landscapes.</p>	<p>Use of key subject specific and technical terminology.</p> <p>To identify connections and interrelationships between different aspects of geography.</p> <p>Constructing and using systems and models.</p> <p>Labelling and annotation of diagrams.</p> <p>Develop an understanding of the concept of 'landscape'.</p>	<p>Students will understand of the concept of 'systems frameworks' as a type of model fundamental to most areas of geographical understanding.</p> <p>Students will be able to identify, describe and explain the elements of geographical systems, including:</p> <ul style="list-style-type: none"> • stores/components • flows/connections • elements • attributes • relationships • boundaries • inputs • outputs • flows. 	<p>Get students to develop background reading into the systems approach to geography – an overview of the concept and use of 'models' by geographers as simplifications of a complex world.</p> <p>Small group discussions followed by feedback - what models used in geography do students know?</p> <p>Students to draw and annotate a model system to show the key elements of a system. Use key word flash cards/card sort to now make this applicable to the desert as a system. Use this to discuss the concept of open, closed and inter related systems.</p> <p>Students to draw and annotate a diagram of an</p>	<p>Chorley and Kennedy show how systems can be used to look at physical geography: paei.wikidot.com/chorely-kennedy-systems-approach-to-physical-geography</p> <p>Some material from Penn State is useful to give an overview of systematic geography: e-education.psu.edu/geog571/node/382</p> <p>Introductory presentation on natural systems: prezi.com/waun8urselvh/</p> <p>Website with simple summaries of a number of earth systems: eo.ucar.edu/kids/green/cycles1.htm</p> <p>Some detail on positive feedback system in a desert environment: ipcc.ch/ipccreports/tar/wg2/index.php?idp=403</p> <p>Details systems and feedback simply: thekidshouldseethis.com/post/feedback-loops-how-nature-gets-its-</p>

Specification content Week number	Subject specific skills development	Learning outcomes	Suggested learning activities (including ref to differentiation and extension activities)	Resources
		<p>Students will understand that deserts are open systems.</p> <p>Students will understand systems as being in a state of dynamic equilibrium that includes:</p> <ul style="list-style-type: none"> • positive feedback • negative feedback. 	<p>example of a positive feedback system and a negative feedback system.</p> <p>Practice low-tariff exam questions to assess learning – peer assessment opportunity.</p>	<p>rhythms</p>
<p>Weeks 1–2</p> <p>Deserts as natural systems</p> <p>The concepts of landform and landscape and how related landforms combine to form characteristic landscapes.</p>	<p>Use of key subject specific and technical terminology.</p> <p>To identify connections and interrelationships between different aspects of geography.</p> <p>Constructing and using systems and models.</p> <p>Labelling and annotation of diagrams.</p> <p>Develop an understanding of the concept of 'landscape'.</p>	<p>Desert as natural systems</p> <p>Students will be able to identify desert environments as open systems.</p> <p>Students will be able to identify the different elements of a desert system, including:</p> <ul style="list-style-type: none"> • inputs • components/stores • transfers/flows • outputs. <p>Students will be able to understand desert landscapes as being in dynamic equilibrium that includes:</p> <ul style="list-style-type: none"> • positive feedback 	<p>Reap the desert as a system – involve asking pupils to complete diagrams using flash card words and images</p> <p>Ask pupils to code ideas into categories eg the stores, the flows etc.</p>	<p>Images of desert landscapes from the National Geographic: environment.nationalgeographic.com/environment/photos/desert-landscapes/#/oman-dune_323_600x450.jpg</p> <p>Features of different deserts: mbgnet.net/sets/desert/index.htm</p> <p>The Sahara for Dummies – details features of the Sahara's landscapes which can be analysed: thesaharadesertfordummies.weebly.com/regs.html</p> <p>This video starts linking landscapes to wind erosion: bing.com/videos/search?q=desert+reg+erg+hamada&&view=detail&mid=D286FCF7B11B4B0B94B2D286FCF7B11B4B0B94B2&FORM=VRDGAR</p>

Specification content Week number	Subject specific skills development	Learning outcomes	Suggested learning activities (including ref to differentiation and extension activities)	Resources
		<ul style="list-style-type: none"> negative feedback. <p>Deserts as characteristic landscapes</p> <p>Students will all understand the concepts of:</p> <ul style="list-style-type: none"> landform landscape. <p>Students will appreciate that characteristic desert landscapes are the combination of related landforms.</p>	<p>Discuss what represents a characteristic desert landscape and the differences between regs, hamadas and ergs.</p> <p>Expand to basics of what creates these? – weathering, erosion, transport and deposition – basic annotation of desert landscapes and the processes which shape these.</p> <p>Look at the role of sediment cells for erosion and deposition and link these into desert systems and example of a positive or negative feedback in a desert landscape.</p> <p>(Specific landforms and landscapes are studied in detail later).</p>	
<p>Week 3</p> <p>Systems and processes</p> <p>Sources of energy in hot desert environments: insolation, winds, runoff.</p>	<p>Use of key subject specific and technical terminology.</p> <p>Opportunities to develop skills such as drawing, researching, labeling and</p>	<p>Students will be able to identify and analyse the characteristics of the sources of energy in hot desert systems, including:</p> <ul style="list-style-type: none"> insolation 	<p>Students to explore energy in hot deserts.</p> <p>Opportunities for questions and answers, discussion and research. including:</p> <ul style="list-style-type: none"> Insolation – insolation controlling changes in 	<p>Global insolation patterns: earthonlinemedia.com/eb3e/energy/global_patterns_of_heat_transfer.html looks/tpe_</p> <p>Interactive map of current surface winds: earth.nullschool.net/</p>

Specification content Week number	Subject specific skills development	Learning outcomes	Suggested learning activities (including ref to differentiation and extension activities)	Resources
Sediment sources, cells and budgets.	annotating diagrams.	<ul style="list-style-type: none"> • winds • runoff. <p>Students will be able to identify and analyse the sources of sediment for systems in hot deserts, including:</p> <ul style="list-style-type: none"> • weathering of underlying parent material • rivers bringing sediment into deserts • aeolian sediments transported into deserts and deposited by winds. <p>Students will be able to understand sediment budgets and cells in hot deserts, including:</p> <ul style="list-style-type: none"> • deserts as a source and recipient of sediment • net sediment loss and net sediment gain in hot deserts <p>to explore these using a systems approach.</p>	<p>temperature and driving processes; the high angle of incidence; lack of surface moisture for evaporation making more energy available to heat the air in contact with the ground.</p> <ul style="list-style-type: none"> • Wind – wind as a driver of processes; hot deserts located on mid-latitude high pressure belts being subject to localized winds blowing outwards; wind as an agent of erosion, transport and deposition; bare desert surfaces mean effects of winds are more notable. • Runoff – rainfall is spatially and temporally unpredictable so too are inputs of energy from runoff; Intense rain storms can produce huge amounts of rainfall in localised areas where run-off can have very significant effects. 	<p>Sediment in deserts: geolsoc.org.uk/ks3/gsl/education/resources/rockcycle/page3606.html earthsky.org/earth/how-did-the-sand-in-the-desert-get-there</p>

Specification content Week number	Subject specific skills development	Learning outcomes	Suggested learning activities (including ref to differentiation and extension activities)	Resources
			<p>Question and answer session/paired discussion about where sediment in hot deserts comes from and how hot deserts can be both sources and sinks for sediment.</p> <p>Practice low-tariff exam questions to assess learning – peer assessment opportunity.</p>	
<p>Week 3</p> <p>Systems and processes</p> <p>Geomorphological processes: weathering, mass movement, erosion, transportation and deposition.</p> <p>Distinctively arid geomorphological processes: weathering, thermal fracture, exfoliation, chemical weathering, block and granular disintegration.</p>	<p>Use of key subject specific and technical terminology</p> <p>Interconnections between landscapes and processes.</p>	<p>Students will understand the interconnections between weathering, mass movement, erosion, transportation and deposition.</p> <p>Students will demonstrate this using the systems approach.</p> <p>Students will understand that hot deserts are affected by distinctive geomorphological processes that produce distinctive landscape features.</p> <ul style="list-style-type: none"> • Weathering, including: <ul style="list-style-type: none"> • thermal fracture • exfoliation 	<p>Students use research to create flash cards and code the types of processes. Students can then show and make connections between these and link this to the systems approach.</p> <p>Diagrams of the types of weathering – students to research and match names, diagrams and explanations of the processes.</p> <p>Practice low-tariff exam questions to assess learning and create own questions from the learning.</p>	<p>Links to weathering processes: geolsoc.org.uk/ks3/gsl/education/resources/rockcycle/page3561.html</p> <p>geo.fu-berlin.de/en/v/geolearning/mountain_building/weathering/weathering2/index.html</p> <p>uregina.ca/~sauchyn/geog323/weather.html</p> <p>uwsp.edu/geo/faculty/lemke/geomorphology/lectures/06_weathering.html</p> <p>Short RGS guide to types of mass movement: rgs.org/NR/rdonlyres/424C2F64-6B11-4F62-810C-21276020E389/0/60sMassMovement.pdf</p>

Specification content Week number	Subject specific skills development	Learning outcomes	Suggested learning activities (including ref to differentiation and extension activities)	Resources
		<ul style="list-style-type: none"> • chemical weathering • crystal growth • hydration • hydrolysis • oxidation • block and granular disintegration. 		<p>Weathering and erosion introduction: pubs.usgs.gov/of/2004/1007/erosion.html</p> <p>Processes in deserts: uwcm-geog.wikispaces.com/Hot,+Arid+Environments</p> <p>General web page about deserts – contains information on processes: tulane.edu/~sanelson/eens1110/deserts.htm</p> <p>Simple 'onion skin weathering' animation: youtube.com/watch?v=nL8ZwPOP Mcc</p> <p>Simple notes on processes in deserts: ehow.co.uk/info_8272897_type-weathering-occurs-deserts.html</p> <p>Weathering and erosion in deserts: geologylearn.blogspot.co.uk/2016/01/1/weathering-and-erosional-processes-in.html</p>
<p>Weeks 4–6</p> <p>Systems and processes</p> <p>linked with...</p> <p>Arid landscape development in</p>	<p>Use of key subject specific and technical terminology.</p> <p>Opportunities to develop skills such as drawing, labelling and annotating diagrams and make connections</p>	<p>Students will understand the role of wind as an agent of:</p> <ul style="list-style-type: none"> • erosion: deflation and abrasion • transportation: suspension, saltation, surface creep 	<p>Show a video clip showing wind and sand storms in deserts – questioning on the impact of this on landscapes</p> <p>Question and answer session/paired discussion – what is the role of wind in</p>	<p>Animation of aeolian processes: edumedia-sciences.com/en/media/349-aeolian-process</p> <p>The role of wind: physicalgeography.net/fundamentals/10ah.html</p>

Specification content Week number	Subject specific skills development	Learning outcomes	Suggested learning activities (including ref to differentiation and extension activities)	Resources
<p>contrasting settings</p> <p>The role of wind – erosion: deflation and abrasion; transportation; suspension, saltation, surface creep; deposition.</p> <p>Origin and development of landforms of mid and low latitude deserts: aeolian – deflation hollows, desert pavements, ventifacts, yardangs, zeugens, barchans and seif dunes.</p> <p>The relationship between process, time, landforms and landscapes in mid and low latitude desert settings: characteristic desert landscapes.</p>	<p>between processes and landscapes.</p> <p>Opportunity to measure/study characteristics of wind and other aeolian processes including erosion, transportation, deposition and weathering (in the context of sand dune environment).</p> <p>Constructing and interpreting a range of graphical and statistical techniques.</p> <p>Using a range of maps, photographs and satellite imagery to identify desert features.</p>	<ul style="list-style-type: none"> deposition. <p>Students will be able to describe the characteristics and analyse the factors and processes in the development of landforms and landscapes associated with the action of wind in hot deserts, including:</p> <ul style="list-style-type: none"> deflation hollows desert pavements ventifacts yardangs zeugens barchans and seif dunes. <p>Students will explore the relationship between process, time, landforms and landscapes in characteristic desert landscapes.</p> <p>Students will revisit the idea of distinctive hot desert landscapes resulting from a combination of related landforms.</p>	<p>hot deserts? Ensure students have notes on how wind erodes, transports and deposits sediment.</p> <p>Look at the various types of erosion and draw diagrams to represent surface creep, deflation, abrasion etc.</p> <p>Use a variety of satellite images to identify aeolian landforms. Use research to explain their formation and discuss their characteristics.</p> <p>For each aeolian landform listed in the specification use a range of resources to produce a revision card/sheet (or electronic resource). To include:</p> <ul style="list-style-type: none"> annotated sketch/diagram showing its characteristics a flow diagram giving a sequenced explanation of formation – explaining processes in 	<p>pubs.usgs.gov/gip/deserts/eolian/</p> <p>youtube.com/watch?v=GbZBo7K4tuE</p> <p>Summary notes on aeolian processes: columbia.edu/~vjd1/deserts.htm</p> <p>Short video on wind erosion: youtube.com/watch?v=PQmon7Rj6ns</p> <p>Desert winds and place: desertdispatches.com/blog/2014/3/the-hundred-names-of-the-desert-wind)</p> <p>Has desert features – but includes a short section on wind and water in deserts: scienceclarified.com/landforms/Basins-to-Dunes/Dune-and-Other-Desert-Features.html</p>

Specification content Week number	Subject specific skills development	Learning outcomes	Suggested learning activities (including ref to differentiation and extension activities)	Resources
			<p>their development</p> <ul style="list-style-type: none"> • factors affecting their formation • reference to inputs, processes and outputs of desert landscapes. • a named illustrative example (not developed case study) • a summary of the timescales involved in the formation of the landforms and subsequent landscapes of which they are a part. <p>Practice mid-tariff exam questions to assess learning and create own questions from the learning – ie looking at photographs and diagrams to analyse the interactions between processes and landscapes.</p>	
<p>Weeks 4–6</p> <p>Systems and processes</p> <p>linked with...</p>	<p>Use of key subject-specific and technical terminology.</p> <p>Opportunities to develop skills such as drawing, labeling and</p>	<p>Students will understand the sources of water in hot deserts:</p> <ul style="list-style-type: none"> • exogenous 	<p>Look at videos of flooding in river areas to initiate discussion about the role of water.</p> <p>Match up three types of rivers to examples from</p>	<p>Endoreic water: unep.or.jp/ietc/publications/short_series/lakereservoirs-2/10.asp</p> <p>Amateur video of river Zin in Jordan: youtube.com/watch?v=S02RRTIWDPM</p>

Specification content Week number	Subject specific skills development	Learning outcomes	Suggested learning activities (including ref to differentiation and extension activities)	Resources
<p>Arid landscape development in contrasting settings</p> <p>Sources of water: exogenous, endoreic and ephemeral; the episodic role of water; sheet flooding, channel flash flooding.</p> <p>Origin and development of landforms of mid and low latitude deserts: water – wadis, bahadas, pediments, playas, inselbergs.</p> <p>The relationship between process, time, landforms and landscapes in mid and low latitude desert settings: characteristic desert landscapes.</p>	<p>annotating diagrams.</p> <p>Online research.</p> <p>Constructing and interpreting a range of graphical and statistical techniques.</p> <p>Using a range of maps, photographs and satellite imagery to identify desert features.</p> <p>Opportunity to apply systems theory to identify the inputs, processes, and outputs operating in hot desert environments.</p>	<ul style="list-style-type: none"> • endoreic • ephemeral. <p>The episodic role of water in hot deserts:</p> <ul style="list-style-type: none"> • sheet flooding • channel flash flooding. <p>Students will explore the relationship between process, time, landforms and landscapes in characteristic desert landscapes.</p> <p>Students will revisit the idea of distinctive hot desert landscapes resulting from a combination of related landforms.</p>	<p>maps.</p> <p>Opportunity to assess learning with a range of exam style questions – could involve some peer assessment.</p> <p>For each landform resulting from water action listed in the specification, use a range of resources to produce a revision card/sheet (or electronic resource). To include:</p> <ul style="list-style-type: none"> • annotated sketch/diagram showing its characteristics • a flow diagram giving a sequenced explanation of formation – explaining processes in their development • factors affecting their formation • reference to inputs, processes and outputs of desert landscapes. • a named illustrative example (not developed) 	<p>Colorado river: desertusa.com/colorado/intro/du_introcr.html</p> <p>A number of the general ‘desert’ links above have information about water and wind in deserts also.</p> <p>Desert features – but includes a short section on wind and water in deserts: scienceclarified.com/landforms/Basins-to-Dunes/Dune-and-Other-Desert-Features.html</p>

Specification content Week number	Subject specific skills development	Learning outcomes	Suggested learning activities (including ref to differentiation and extension activities)	Resources
			<p>case study)</p> <ul style="list-style-type: none"> a summary of the timescales involved in the formation of the landforms and subsequent landscapes of which they are a part. 	
<p>Weeks 4–6</p> <p>Systems and processes</p> <p>linked with...</p> <p>Arid landscape development in contrasting settings</p> <p>Origin and development of landforms of mid and low latitude deserts: aeolian – deflation hollows, desert pavements, ventifacts, yardangs, zeugens, barchans and seif dunes; water – wadis, bahadas, pediments, playas, inselbergs.</p> <p>The relationship between process, time, landforms and landscapes in mid and low latitude desert</p>	<p>Collecting and using primary and secondary data.</p> <p>Using a range of maps, photographs and satellite imagery to identify desert features and draw comparisons of landscapes.</p> <p>Opportunity to apply systems theory to identify the inputs, processes, and outputs operating in hot desert environments.</p> <p>Develop understanding of the concept of ‘landscape’ as a combination of related landforms.</p>	<p>Students will explore the relationship between process, time, landforms and landscapes in characteristic desert landscapes.</p>	<p>Identify a distinctive hot desert area – describe and assess the relative roles of water and wind in forming individual landforms and how they have combined to form the distinctive landscape they see. Students should discuss how a range of processes operate over different timescales and how the distinctive desert landscape has changed over time.</p> <p>(There is an opportunity to investigate landforms/landscapes in the field).</p>	<p>Aeolian processes and landforms: uregina.ca/~sauchyn/geog323/eolian.html</p> <p>Landforms created by wind: desertlandforms.weebly.com/desert-landforms.html</p> <p>Short video on deflation hollow: youtube.com/watch?v=-4iFhBBbqOc</p> <p>Desert pavement: http://desertlandforms.weebly.com/desert-landforms.html</p> <p>Examples of ventifact images: sandatlas.org/ventifacts-and-dreikanter/</p> <p>short video clip on ventifacts: youtube.com/watch?v=OOqOm3KgGMw</p> <p>The yardang landforms geo-area: dhdzgy.com/en/yardang</p>

Specification content Week number	Subject specific skills development	Learning outcomes	Suggested learning activities (including ref to differentiation and extension activities)	Resources
settings: characteristic desert landscapes.				<p>Examples of aeolian landforms: iasmania.com/landforms-of-wind-erosion-in-desert/</p> <p>Examples of types of dunes: pubs.usgs.gov/gip/deserts/dunes/</p> <p>Examples of dunes: nationalgeographic.org/encyclopedia/dune/</p> <p>Blog about desert landforms - mainly fluvial: courtenaygeo12.blogspot.co.uk/2010/04/desert-landforms.html</p> <p>Fieldwork of deserts in Oman: deepdyve.com/lp/wiley/geology-and-desert-fieldwork-in-oman-rNLbdbl0pS</p> <p>UGS desert fieldwork: usgs.gov/media/images/desert-perchlorate-field-work</p>
<p>Weeks 7–8</p> <p>Desertification</p> <p>The changing extent and distribution of hot deserts over the last 10,000 years.</p>	<p>Use of key subject specific and technical terminology.</p> <p>Opportunities to develop skills such as drawing, labeling and annotating diagrams.</p> <p>Opportunities to engage with a range</p>	<p>Students will be able to describe and analyse the changing extent and distribution of hot deserts over the last 10,000 years since the end of the last glacial period of the Pleistocene.</p>	<p>Match up of key definitions.</p> <p>Analysing a range of maps that show the extent of deserts and how these have changed over time.</p> <p>Opportunity for students to use atlases, textbooks and internet resources to research the changing</p>	<p>Unesco information on climate change and desertification: unesco.org/mab/doc/ekocd/chapter4.html</p> <p>Independent UK newspaper article refers to climate change and desertification: independent.co.uk/environment/desert-life-threatened-by-climate-change-and-human-exploitation-</p>

Specification content Week number	Subject specific skills development	Learning outcomes	Suggested learning activities (including ref to differentiation and extension activities)	Resources
	of maps. Develop an understanding of change through geological timescales.		distribution of hot deserts over the last 10,000 years. Students could produce maps of changing distribution which could be described and analysed.	481116.html
Weeks 7–8 Desertification The causes of desertification – climate change and human impact; distribution of areas at risk; impact on ecosystems, landscapes and populations. Predicted climate change and its impacts; alternative possible futures for local populations.	Use of key subject specific and technical terminology. Opportunities to develop skills such as drawing, labeling and annotating diagrams. Opportunities to engage with a range of maps. Opportunity to use a range of sources of information to research the impacts of historical, recent and predicted climate changes on the distribution of hot deserts and impacts of climate change.	Students will be able to describe and analyse the causes of desertification in relation to recent current arid areas, including: <ul style="list-style-type: none"> climate change – less and more unpredictable rainfall; higher temperatures; reduced water supply from rivers human impact – population growth; population pressure on land. Students will be able to describe and justify the distribution of areas at risk of desertification based upon specific causes Students will be able to assess the nature of predicted climate change and evaluate potential impacts of desertification, including:	Question and answer session/small group discussion for students to identify potential causes of desertification. Ideas to be shared with whole class. Use textbook or other wider reading to ensure students have a comprehensive range of causes. Further reading, coding, classification etc to develop more on specific causes. Map causes and plot against current deserts, margins and threatened areas.	Examples of causes of desertification: unesco.org/mab/doc/ekocd/chapter3.htm Examples of causes and effects: greentumble.com/causes-and-effects-of-desertification/ Info about areas at risk of desertification: ec.europa.eu/jrc/en/news/which-areas-planet-are-risk-desertification Info about areas at risk of desertification: unesco.org/mab/doc/ekocd/chapter2.html Info about impacts of desertification: ipcc.ch/ipccreports/tar/wg2/index.php?idp=404 Greenfacts have lots of ideas on desertification: greenfacts.org/en/desertification/l-2/4-causes-desertification.htm China's land degradation:

Specification content Week number	Subject specific skills development	Learning outcomes	Suggested learning activities (including ref to differentiation and extension activities)	Resources
		<ul style="list-style-type: none"> impacts on ecosystems impacts on populations impacts on landscapes. 		<p>geocases1.co.uk/printable/Desertification%20and%20land%20degradation%20in%20China.htm</p> <p><i>Geofile drought in the Sahel 339</i></p> <p><i>Geofact sheet 28</i></p>
<p>Weeks 7–8</p> <p>Desertification</p> <p>Impact on ecosystems, landscapes and populations.</p> <p>Predicted climate change and its impacts; alternative possible futures for local populations.</p>	<p>Online research.</p> <p>Opportunity to use a range of sources of information to research the impacts of historical, recent and predicted climate changes on the distribution of hot deserts and impacts of climate change.</p>	<p>Students will be able to discuss the effects and impacts of desertification on people and ecosystems</p> <p>Students will be able to assess alternative possible futures for populations affected by desertification, including:</p> <ul style="list-style-type: none"> opportunity to explore links and feedback between desertification, global climate change and biodiversity loss possible alternative development paths. <p>Focus on sustainable development.</p>	<p>Opportunity to research current observable impacts of climate change in hot desert environments, followed by research into predicted future impacts. Findings could be shared using a display, or electronic presentation shared via a VLE.</p> <p>Opportunity for question and answer session/group discussion/role play/debate about alternative possible futures for the different stakeholders involved depending on a different development paths.</p>	<p>Information on environmental impacts of desertification: unesco.org/mab/doc/ekocd/chapter11.html</p> <p>Article about desertification and its effects on people and land: worldinfo.org/wp-content/uploads/library/wer/english/2009_Spring_Vol_XXI_no_1.pdf</p> <p>Climatica.org information about land degradation under a changing climate (desertification and climate change): climatica.org.uk/desertification-land-degradation-changing-climate</p> <p>Article on desertification and the people whose land is turning to dust – BBC website article from 2015: bbc.co.uk/news/world-africa-34790661</p>
<p>Weeks 8–9</p> <p>Case study 1</p> <p>Case study of a hot desert setting to illustrate</p>	<p>Collect, analyse and interpret a range of quantitative data from a range of primary and</p>	<p>Students could either study aeolian processes in a local coastal sand dune landscape through the use of secondary data sources – including</p>	<p>An opportunity to either create a ‘virtual fieldwork investigation’ and provide students with a range of data relating to a local</p>	<p>Many of the accompanying textbooks will have illustrative examples of possible coastal fieldwork opportunities, other guidance may be</p>

Specification content Week number	Subject specific skills development	Learning outcomes	Suggested learning activities (including ref to differentiation and extension activities)	Resources
<p>and analyse key themes in hot desert landscapes and engage with field data (exemplifying field data may be gathered in settings that experience some of the aeolian processes associated with mid and low latitude desert environments such as coastal dunes).</p> <p>Case study 2</p> <p>Case study at a local scale of a landscape where desertification has occurred to illustrate and analyse key themes of desertification, causes</p>	<p>secondary sources.</p> <p>Present, analyse, draw conclusions and evaluate those findings using a range of geographical techniques (see skills checklist).</p> <p>Collect, analyse and interpret a range of qualitative and quantitative data from a range of primary and secondary sources – this could include discursive/creative material when looking</p>	<p>online digital mapping, secondary data, local authority websites and textbook resources, or students could engage first hand or complete fieldwork to collect primary data, or a combination of both.</p> <p>The aims of such work are to:</p> <ul style="list-style-type: none"> • illustrate how some places are affected by encroaching sand dunes • to investigate how geographers could employ fieldwork techniques to measure the aeolian processes at work • to show how such fieldwork could be practiced in a local sand dune setting. <p>Students will be able to describe, analyse and evaluate a range of themes relating to causes, impacts</p>	<p>coastal sand dune environment for students to investigate and address the themes of the enquiry.</p> <p>Or, an opportunity for students to conduct a short fieldwork enquiry of a local coastal sand dune environment to investigate the main themes of the lesson. Students could write up a mini-fieldwork enquiry to act as a case study of a local coastal sand dune environment.</p> <p>(This could feed into the completion of coursework for the non-examination assessment element of the specification).</p> <p>Opportunity for individual, paired or group research task, using a range of textual, digital or audiovisual resources. Findings could be shared in traditional classroom approaches or shared through a VLE on a blog for example.</p> <p>For a more active learning</p>	<p>found below.</p> <p>Guidance on coastal fieldwork techniques from the RGS: rgs.org/OurWork/Schools/Fieldwork+and+local+learning/Fieldwork+techniques/coasts.htm</p> <p>Guidance on coastal fieldwork from the Field studies council: https://www.geography-fieldwork.org/a-level/coasts/</p> <p>Many of the accompanying textbooks will have illustrative examples of possible case studies of populations affected by desertification, but other guidance relating to impacts of desertification can be found above.</p>

Specification content Week number	Subject specific skills development	Learning outcomes	Suggested learning activities (including ref to differentiation and extension activities)	Resources
and impacts, implications for sustainable development. Evaluation of human responses of resilience, mitigation and adaptation.	at the experiences of people in place. (It might be advisable to conduct an investigation of causes, impacts and implications of desertification in a named area in or close to a hot desert region).	and implications of desertification in an area currently affected by desertification: <ul style="list-style-type: none"> • how population pressure can lead to desertification • an analysis of the relationships between people and landscape in areas affected by desertification • showing how sustainable solutions can help people adapt to and mitigate the effects of desertification. 	approach students could research from the point of view of different stakeholders. Feedback could then take the form of a debate/role-play or construction of SWOT analysis in groups etc.	

Quantitative and qualitative skills

Students must engage with a range of quantitative and relevant qualitative skills.

Making connections

Students must consider connections across the themes within the theme of hot desert systems and landscapes, connections between this and other themes in the specification and connections with novel geographical themes beyond the specification.

GET HELP AND SUPPORT

Visit our website for information, guidance, support and resources at oxfordaqaexams.org.uk

You can contact the geography team directly;

E: geography@oxfordaqaexams.org.uk



OXFORD INTERNATIONAL AQA EXAMINATIONS
LINACRE HOUSE, JORDAN HILL, OXFORD, OX2 8TA
UNITED KINGDOM

enquiries@oxfordaqaexams.org.uk
oxfordaqaexams.org.uk

Permission to reproduce all copyright material has been applied for. In some cases, efforts to contact copyright-holders may have been unsuccessful and Oxford International AQA Examinations will be happy to rectify any omissions of acknowledgements. If you have any queries please contact the Copyright Team, AQA, Stag Hill House, Guildford, GU2 7XJ.