



Geography Department A2 Topic Summary:

A2 - AQA, Specification A

Geomorphological Processes and Hazards



At the end of the unit, read through the list of key questions, issues and case study information and tick the appropriate box. This will highlight any areas that may need extra revision for the examination!

Key Questions, Issues and Case Study Information	What do I know?		
	I do not know or understand this topic.	I understand some aspects of this topic.	I understand this topic completely.
<p>Plate tectonics and landforms:</p> <ul style="list-style-type: none"> • Plate tectonics theory. The early ideas of Wegener regarding continental drift and the jigsaw fit of the continents. The rapid development of related ideas in the 1960s and 70s to include seafloor spreading and magnetic striping. • The different types of plate margins to include the three sub-types of destructive, constructive and conservative margins. • Hot spots associated with plumes of lava and how these may relate to plate movements. • The global distribution, nature and causal factors associated with the following: fold mountains, faults, rift valleys, ocean ridges, deep sea trenches and island arcs. 			
<p>Volcanic activity:</p> <ul style="list-style-type: none"> • Variations in the form, type and frequency of eruption to be considered in relation to types of plate margin, vents and lava. • The distinction between intrusive and extrusive volcanic activity. • Extrusive landforms: volcanic cones the major sub-types being noted, lava plateaux, and minor forms such as geysers, hot springs/boiling mud. • Intrusive landforms: batholiths, laccoliths, dykes and sills. • Case studies are needed for the above and these must range from the small scale, e.g. for dykes and sills to the global when considering types of eruption. • Candidates must be made aware of landforms in the UK which are related to volcanic activity. 			
<p>Earthquakes:</p> <ul style="list-style-type: none"> • The main characteristics: focus, epicentre and the main types of waves (P and S waves). • The measurement of earthquakes related to an understanding of the Richter scale. • The global distribution of earthquakes and the links with the three major types of plate margins. • The link between minor earthquakes and fault lines. • Tsunamis/tidal waves - characteristics and causes. • Candidates need to study a range of examples ranging from small scale to global and need to be familiar with recent earthquake activities. 			
<p>Weathering and mass movement:</p> <ul style="list-style-type: none"> • Definitions with particular reference to the distinction between weathering and erosion. • Knowledge of the main types of mechanical, chemical and biological weathering. The processes and the causal factors involved. • The relationship between weathering types and rate and variations in rock type and climatic conditions to be studied on a small and global scale. • The human involvement in weathering with particular reference to the urban landscape. • The main types of mass movement on slopes: flows, slides and heaves. In relation to flows the causes and any associated landforms attributable to soil creep, solifluction and earth/mud flows, and in relation to slides, landslides, rock fall/avalanche and rotational slipping. Small scale examples are required. • The relationships between weathering, mass movement and processes of erosion. 			

Key Questions, Issues and Case Study Information	What do I know?		
	I do not understand this topic.	I understand some aspects of this topic.	I understand this topic completely.
<p>The impact and responses to geomorphological processes and hazards:</p> <ul style="list-style-type: none"> • Impacts on the natural world: effect on the atmosphere's energy cascade and the impact on ecosystems and ecological succession. • Impacts of hazards on human activity. Analysis of examples of hazard perceptions and response and to human adjustment to a hazard event. • Adjustments to be discussed in terms of attempts at predictions and modification, reduction of vulnerability or adaptation and recovery processes. • Case studies are to be on a small or regional/national scale and must emphasise the contrasting impacts, perception, response and adjustment in the context of the MEDCs and LEDCs. • The concept of global interdependence to be explored in respect of aid to hazard devastated areas. Candidates are to explore their own attitudes and values in relation to this theme. • The positive impacts: volcanic soils, geothermal energy, tourism and mineralisation. 			

Further reading:

As part of your AS/A2 studies, **there is an expectation that you will undertake outside reading.** Any essay that you submit should show evidence that you have read **at least two** resources outside of your reference textbooks. You should quote these both in the text and at the end of your essay. Any text taken from a book should be put in quotation marks and have the name(s) of the author, year published and page reference in brackets after the quote. For example:

"Ice is a powerful agent of erosion-transportation-deposition, capable of creating spectacular landforms." (Bishop and Prosser, 2001, pg. 130)

The following list will help you target your reading around the subject:

Reference texts:

Bowen, A. and Pallister, J. (2001) "A2 Geography". Heinemann - Chapter 3.

Wagh, D. (2002) "Geography: An integrated approach 3rd Edition". Nelson Thornes - Chapters 1 & 2.

Other texts:

Bishop, V. (2001) "Hazards and Responses - 2nd Edition". Collins.

Nagle, G. (2000) "Advanced Geography". Oxford - Chapters 1, 2 and 3.

Goudie, A. and Gardner, R. (1992) "Discovering Landscape in England and Wales". Chapman and Hall - Sites 1, 6, 8, 13, 14, 18, and 60.

Collard, R. (1994) "The Physical Geography of Landscape". Collins - Chapters 2, 3 and 4.

Atkinson, D. (2004) "Weathering, Slopes and Landforms". Access to Geography series - Hodder and Stoughton.

Skinner, M. (2004) "Hazards". Access to Geography series - Hodder and Stoughton.

Ollier, C. (1990) "Weathering and Landforms". Nelson Thornes.

Journals and other articles:

Geography Review:

Volume 20, Number 4, March 2007, page 38 "Kobe ten years on".

Volume 19, Number 5, May 2006, page 10 "Hazards resulting from earthquakes".

Volume 19, number 4 March 2006, page 2 "Cappadocia: the impact of past volcanism".

Volume 19, Number 1, September 2005, page 21 "Asian Tsunami: the aftermath".

Volume 18, Number 4, March 2005, page 40 "Renewable Iceland".

Volume 17, Number 3, January 2004, page 32 "Natural hazards in Japan".

Volume 16, Number 4, March 2003, page 18 "Visitor pressure on Yellowstone".

Volume 16, Number 3, January 2003, page 2 "The Yellowstone hot spot".

Volume 15, Number 2, November 2001, page 34 "Soil erosion and landslide hazards in Basilicata".

Volume 14, Number 5, May 2001, page 22 "Managing earthquake hazards in Los Angeles".

Volume 14, Number 2, November 2000, page 10 "Hawaii - Volcanism".

GeoFile for AS/A2:

Series 19, Number 401 "Montserrat Volcanic Eruptions 1995-1998".

Series 20, Number 417 "Update on recent volcanoes and earthquakes."

Series 20, Number 406 "Tectonic activity in Iceland - physical causes and human impacts."

Series 21, Number 436 "Granite landscapes: Dartmoor".

Series 23, Number 477 "Geological slant on plates."

Series 23, Number 492 "Island Arcs".

Series 24, Number 510 "The Asian Tsunami".

Series 25, Number 526 "Hotspots in plate tectonics - evolution of a theory".