KS5 A-level Physical Geography: Topic Tracker for Y13 Mocks

SPECIFICATION: https://www.aqa.org.uk/subjects/geography/as-and-a-level/geography-7037/specification-at-a-glance

PAST PAPERS: https://www.aqa.org.uk/subjects/geography/as-and-a-level/geography-7037/assessment-resources?f.Component%7C7=Paper+1

Subject: Geography			
	What the specification is asking for:	**Case-studies**	✓
1	**3.1.1.1 Water and carbon cycles as natural systems** Systems in physical geography: systems concepts and their application to the water and carbon cycles inputs – outputs, energy, stores/components, flows/transfers, positive/negative feedback, dynamic equilibrium.		
2	**3.1.1.2 The water cycle** Global distribution and size of major stores of water – lithosphere, hydrosphere, cryosphere and atmosphere. Processes driving change in the magnitude of these stores over time and space, including flows and transfers: evaporation, condensation, cloud formation, causes of precipitation and cryospheric processes at hill slope, drainage basin and global scales with reference to varying timescales involved. Drainage basins as open systems – inputs and outputs, to include precipitation, evapotranspiration and runoff; stores and flows, to include interception, surface, soil water, groundwater and channel storage; stemflow, infiltration overland flow, and channel flow. Concept of water balance. Runoff variation and the flood hydrograph. Changes in the water cycle over time to include natural variation including storm events, seasonal changes and human impact including farming practices, land use change and water abstraction.		
3	**3.1.1.3 The carbon cycle** Global distribution, and size of major stores of carbon – lithosphere, hydrosphere, cryosphere biosphere, atmosphere. Factors driving change in the magnitude of these stores over time and space, including flows and transfers at plant, sere and continental scales. Photosynthesis, respiration, decomposition, combustion, carbon sequestration in oceans and sediments, weathering. Changes in the carbon cycle over time, to include natural variation (including wild fires, volcanic activity) and human impact (including hydrocarbon fuel extraction and burning, farming practices, deforestation, land use changes) The carbon budget and the impact of the carbon cycle upon land, ocean and atmosphere, including global climate.		

4	**3.1.1.4 Water, carbon, climate and life on Earth** The key role of the carbon and water stores and cycles in supporting life on Earth with particular reference to climate. The relationship between the water cycle and carbon cycle in the atmosphere. The role of feedbacks within and between cycles and their link to climate change and implications for life on Earth. Human interventions in the carbon cycle designed to influence carbon transfers and mitigate the impacts of climate change.		
5	**3.1.1.6 Case studies** Case study of a tropical rainforest setting to illustrate and analyse key themes in water and carbon cycles and their relationship to environmental change and human activity. Case study of a river catchment(s) at a local scale to illustrate and analyse the key themes above, engage with field data and consider the impact of precipitation upon drainage basin stores and transfers and implications for sustainable water supply and/or flooding.	The Amazon Rainforest The Eden Basin	
1	**3.1.3.1 Coasts as natural systems** Systems in physical geography: systems concepts and their application to the development of coastal landscapes – inputs, outputs, energy, stores/components, flows/transfers, positive/negative feedback, dynamic equilibrium. The concepts of landform and landscape and how related landforms combine to form characteristic landscapes.		
2	**3.1.3.2 Systems and processes** Sources of energy in coastal environments: winds, waves (constructive and destructive), currents and tides. Low energy and high energy coasts. Sediment sources, cells and budgets. Geomorphological processes: weathering, mass movement, erosion, transportation and deposition. Distinctively coastal processes: marine: erosion – hydraulic action, wave quarrying, corrasion/abrasion, cavitation, solution, attrition; transportation: traction, suspension (longshore/littoral drift) and deposition; sub-aerial weathering, mass movement and runoff		
3	**3.1.3.3 Coastal landscape development** This content must include study of a variety of landscapes from beyond the United Kingdom (UK) but may also include UK examples. Origin and development of landforms and landscapes of coastal erosion: cliffs and wave cut platforms, cliff profile features including caves, arches and stacks; factors and processes in their development. Origin and development of landforms and landscapes of coastal deposition. Beaches, simple and compound spits, tombolos, offshore bars, barrier beaches and islands and sand dunes; factors and processes in their development. Estuarine mudflat/saltmarsh environments and associated landscapes; factors and processes in their development. Eustatic, isostatic and tectonic sea level change: major changes in sea level in the last 10,000 years. Coastlines of emergence and submergence. Origin and development of associated landforms: raised beaches, marine platforms; rias, fjords, Dalmatian coasts. Recent and predicted climatic change and potential impact on coasts.		

	The relationship between process, time, landforms and landscapes in coastal settings.		
4	**3.1.3.4 Coastal management** Human intervention in coastal landscapes. Traditional approaches to coastal flood and erosion risk: hard and soft engineering. Sustainable approaches to coastal flood risk and coastal erosion management: shoreline management/integrated coastal zone management		
5	**3.1.3.6 Case studies** Case study(ies) of coastal environment(s) at a local scale to illustrate and analyse fundamental coastal processes, their landscape outcomes as set out above and engage with field data and challenges represented in their sustainable management. Case study of a contrasting coastal landscape beyond the UK to illustrate and analyse how it presents risks and opportunities for human occupation and development and evaluate human responses of resilience, mitigation and adaptation	The Holderness Coast The Sundarbans, Bangladesh	
1	**3.1.5.1 The concept of hazard in a geographical context** Nature, forms and potential impacts of natural hazards (geophysical, atmospheric and hydrological). Hazard perception and its economic and cultural determinants. Characteristic human responses – fatalism, prediction, adjustment/adaptation, mitigation, management, risk sharing – and their relationship to hazard incidence, intensity, magnitude, distribution and level of development. The Park model of human response to hazards. The Hazard Management Cycle.		
2	**3.1.5.2 Plate tectonics** Earth structure and internal energy sources. Plate tectonic theory of crustal evolution: tectonic plates; plate movement; gravitational sliding; ridge push, slab pull; convection currents and sea-floor spreading. Destructive, constructive and conservative plate margins. Characteristic processes: seismicity and vulcanicity. Associated landforms: young fold mountains, rift valleys, ocean ridges, deep sea trenches and island arcs, volcanoes. Magma plumes and their relationship to plate movement		
	3.1.5.3 Volcanic hazards The nature of vulcanicity and its relation to plate tectonics: forms of volcanic hazard: nuées ardentes, lava flows, mudflows, pyroclastic and ash fallout, gases/acid rain, tephra. Spatial distribution, magnitude, frequency, regularity and predictability of hazard events. Impacts: primary/secondary, environmental, social, economic, political. Short and long-term responses: risk management designed to reduce the impacts of the hazard through preparedness, mitigation, prevention and adaptation. Impacts and human responses as evidenced by a recent volcanic event	Montserrat, 1997	

	3.1.5.4 Seismic hazards The nature of seismicity and its relation to plate tectonics: forms of seismic hazard: earthquakes, shockwaves, tsunamis, liquefaction, landslides. Spatial distribution, randomness, magnitude, frequency, regularity, predictability of hazard events. Impacts: primary/secondary; environmental, social, economic, political. Short and long-term responses; risk management designed to reduce the impacts of the hazard through preparedness, mitigation, prevention and adaptation. Impacts and human responses as evidenced by a recent seismic event.	Kashmir, 2005	
	3.1.5.5 Storm hazards The nature of tropical storms and their underlying causes. Forms of storm hazard: high winds, storm urges, coastal flooding, river flooding and landslides. Spatial distribution, magnitude, frequency, regularity, predictability of hazard events. Impacts: primary/secondary, environmental, social, economic, political. Short and long-term responses: risk management designed to reduce the impacts of the hazard through preparedness, mitigation, prevention and adaptation. Impacts and human responses as evidenced by two recent tropical storms in contrasting areas of the world.	Hurricane Katrina, 2005 Cyclone Nargis, 2008	
	3.1.5.6 Fires in nature Nature of wildfires. Conditions favouring intense wild fires: vegetation type, fuel characteristics, climate and recent weather and fire behaviour. Causes of fires: natural and human agency. Impacts: primary/ secondary, environmental, social, economic, political. Short and long-term responses; risk management designed to reduce the impacts of the hazard through preparedness, mitigation, prevention and adaptation. Impact and human responses as evidenced by a recent wild fire event	South East Australia, 2009	
	3.1.5.7 Case studies Case study of a multi-hazardous environment beyond the UK to illustrate and analyse the nature of the hazards and the social, economic and environmental risks presented, and how human qualities and responses such as resilience, adaptation, mitigation and management contribute to its continuing human occupation. Case study at a local scale of a specified place in a hazardous setting to illustrate the physical nature of the hazard and analyse how the economic, social and political character of its community reflects the presence and impacts of the hazard and the community's response to the risk.	The Philippines L'Aquila 2009	