Geography - Year 13 - Manifest

Paper 1 and Paper 2 Combined

2 Hours 30 mins

Content overview:	R	A	G
3.1.1 Water and carbon cycles This section of our specification focuses on the major stores of water and carbon at or near the Earth's surface and the dynamic cyclical relationships associated with them. These are major elements in the natural environment and understanding them is fundamental to many aspects of physical geography. This section specifies a systems approach to the study of water and carbon cycles. The content invites students to contemplate the magnitude and significance of the cycles at a variety of scales, their relevance to wider geography and their central importance for human populations. The section offers the opportunity to exercise and develop geographical skills including observation, measurement and geospatial mapping skills, together with data manipulation and statistical skills including those associated with and arising from fieldwork. **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. **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, evapo-transpiration 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.			

3.1.1.3 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. **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. **3.1.1.5 Quantitative and qualitative skills** Students must engage with a range of quantitative and relevant qualitative skills, within the theme water and carbon cycles. Students must specifically understand simple mass balance, unit conversions and the analysis and presentation of field data. **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.			
3.1.5 Hazards This optional section of our specification focuses on the lithosphere and the atmosphere, which intermittently but regularly present natural hazards to human populations, often in dramatic and sometimes catastrophic fashion. By exploring the origin and nature of these hazards and the various ways in which people respond to them, students are able to engage with many dimensions of the relationships between people and the environments they occupy. Study of this section offers the opportunity to exercise and develop observation skills, measurement and geospatial mapping skills, together with data manipulation and statistical skills, including those associated with and arising from fieldwork. **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. **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. **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. **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.			
3.2.1 Global systems and global governance This section of our specification focuses on globalisation – the economic, political and social changes associated with technological and other driving forces which have been a key feature of global economy and society in recent decades. Increased interdependence and transformed relationships between peoples, states and environments have prompted more or less successful attempts at a global level to manage and govern some aspects of human affairs. Students engage with important dimensions of these phenomena with particular emphasis on international trade and access to markets and the governance of the global commons. Students contemplate many complex dimensions of contemporary world affairs and their own place in and perspective on them. Study of this section offers the opportunity to exercise and develop both qualitative and quantitative approaches to gathering, processing and interpreting relevant information and data, including those associated with and arising from fieldwork. **3.2.1.1 Globalisation Dimensions of globalisation:** flows of capital, labour, products, services and information; global marketing; patterns of production, distribution and consumption. Factors in globalisation: the development of technologies, systems and relationships, including financial, transport, security, communications, management and information systems and trade agreements. **3.2.1.2 Global systems**			

Form and nature of economic, political, social and environmental interdependence in the contemporary world. Issues associated with interdependence including how: • unequal flows of people, money, ideas and technology within global systems can sometimes act to promote stability, growth and development but can also cause inequalities, conflicts and injustices for people and places • unequal power relations enable some states to drive global systems to their own advantage and to directly influence geopolitical events, while others are only able to respond or resist in a more constrained way. **3.2.1.3 International trade and access to markets** Global features and trends in the volume and pattern of international trade and investment associated with globalisation. Trading relationships and patterns between large, highly developed economies such as the United States, the European Union, emerging major economies such as China and India and smaller, less developed economies such as those in sub-Saharan Africa, southern Asia and Latin America. Differential access to markets associated with levels of economic development and trading agreements and its impacts on economic and societal well-being. The nature and role of transnational corporations (TNCs), including their spatial organisation, production, linkages, trading and marketing patterns, with a detailed reference to a specified TNC and its impacts on those countries in which it operates. World trade in at least one food commodity or one manufacturing product. Analysis and assessment of the geographical consequences of global systems to specifically consider how international trade and variable access to markets underly and impacts on students' and other people's lives across the globe. **3.2.1.4 Global governance** The emergence and developing role of norms, laws and institutions in regulating and reproducing global systems. Issues associated with attempts at global governance, including how: • agencies, including the UN in the post-1945 era, can work to promote growth and stability but may also exacerbate inequalities and injustices • interactions between the local, regional, national, international and global scales are fundamental to understanding global governance. **3.2.1.5 The 'global commons'** The concept of the ‘global commons’. The rights of all to the benefits of the global commons. Acknowledgement that the rights of all people to sustainable development must also acknowledge the need to protect the global commons. **3.2.1.5.1 Antarctica as a global common** An outline of the contemporary geography, including climate, of Antarctica (including the Southern Ocean as far north as the Antarctic Convergence) to demonstrate its role as a global common and illustrate its vulnerability to global economic pressures and environmental change. Threats to Antarctica arising from: • climate change • fishing and whaling • the search for mineral resources • tourism and scientific research. Critical appraisal of the developing governance of Antarctica. International government organisations to include United Nations (UN) agencies such as United Nations Environment Programme (UNEP) and the International Whaling Commission. The Antarctic Treaty (1959), the Protocol on Environmental Protection to the Antarctic Treaty (1991); IWC Whaling Moratorium (1982) – their purpose, scope and systems for inspection and enforcement. The role of NGOs in monitoring threats and enhancing protection of			

Antarctica. Analysis and assessment of the geographical consequences of global governance for citizens and places in Antarctica and elsewhere to specifically consider how global governance underlies and impacts on students' and other people's lives across the globe. **3.2.1.6 Globalisation critique** The impacts of globalisation to consider the benefits of growth, development, integration, stability against the costs in terms of inequalities, injustice, conflict and environmental impact.			