

KS4 Module 1: Urban issues and challenges	KS4 Module 2: The changing economic world	KS4 Module 3: Coastal Landscapes in the UK
Knowledge <i>What pupils will know</i>	Knowledge <i>What pupils will know</i>	Knowledge <i>What pupils will know</i>
<ul style="list-style-type: none"> • A case study of a major city in an LIC or NEE to illustrate: • the location and importance of the city, regionally, nationally and internationally – • causes of growth: natural increase and migration • how urban growth has created opportunities: • social: access to services - health, education; access to resources - water supply, energy • economic: how urban industrial areas can be a stimulus for economic development • How urban growth has created challenges: • managing urban growth: ‘slums’, ‘squatter settlements’. • providing clean water, sanitation systems and energy • providing access to services: health and education, • reducing unemployment, crime • managing environmental issues: waste disposal, air and water pollution, traffic congestion • an example of how urban planning is improving the quality of life for the urban poor. • Overview of the distribution of population and the major cities in the UK. • A case study of a major city in the UK to illustrate: • the location and importance of the city in the UK and the wider world • impacts of national and international migration on the growth and character of the city • how urban change has created opportunities: • social and economic: cultural mix, recreation and entertainment, employment, integrated transport systems • environmental: urban greening • How urban change has created challenges: 	<ul style="list-style-type: none"> • Different ways of classifying parts of the world according to their level of economic development and quality of life • Different economic and social measures of development: gross national income (GNI) per head, birth and death rates, infant mortality, life expectancy, people per doctor, literacy rates, access to safe water, Human Development Index (HDI) • Limitations of economic and social measures • Links between stages of the Demographic Transition Model and the level of development • Causes of uneven development: physical, economic and historical • Consequences of uneven development: disparities in wealth and health, international migration. • Overview of the strategies used to reduce the development gap: • Investment • industrial development • tourism • aid • using intermediate technology • fair trade • debt relief • microfinance loans. • One example of how the growth of tourism in an LIC or NEE helps to reduce the development gap • A case study of one LIC or NEE to illustrate: • the location and importance of the country regionally and globally • the wider political, social, cultural and environmental context within which the country is placed 	<ul style="list-style-type: none"> • Wave types and characteristics • Coastal processes: • weathering processes: mechanical, chemical • mass movement: sliding, slumping and rock falls • erosion: hydraulic power, abrasion and attrition • transportation: longshore drift deposition. Why sediment is deposited in coastal areas. • How geological structure and rock type influence coastal forms • Characteristics and formation of landforms resulting from erosion: headlands and bays, cliffs and wave cut platforms, caves, arches and stacks • Characteristics and formation of landforms resulting from deposition: beaches, sand dunes, spits and bars • An example of a section of coastline in the UK to identify its major landforms of erosion and deposition. • The costs and benefits of the following management strategies: • hard engineering: sea walls, rock armour, gabions and groynes • soft engineering: beach nourishment and re-profiling, dune regeneration • managed retreat: coastal realignment • One example of a coastal management scheme in the UK to show: • the reasons for management • the management strategy the resulting effects and conflicts.

<ul style="list-style-type: none"> • social and economic: urban deprivation, inequalities in housing, education, health and employment • environmental: dereliction, building on brownfield sites, waste disposal • the impact of urban sprawl on the rural-urban fringe and the growth of commuter settlements • An example of an urban regeneration project to show: • reasons why the area needed regeneration • the main features of the project. • Features of sustainable urban living: • water and energy conservation • waste recycling • creating green space • how urban transport strategies are used to reduce traffic congestion. 	<ul style="list-style-type: none"> • the changing industrial structure. The balance between different sectors of the economy. How manufacturing industry can stimulate economic development • the role of transnational corporations (TNCs) in relation to industrial development. Advantages and disadvantages of TNC(s) to the host country • the changing political and trading relationships with the wider world • international aid: types of aid, impacts of aid on the receiving country • the environmental impacts of economic development • the effects of economic development on the quality of life for the population. • Economic futures in the UK: • Causes of economic change: de-industrialisation and decline of traditional industrial base, globalisation and government policies • Moving towards a post-industrial economy: development of information technology, service industries, finance, research, science and business parks • Impacts of industry on the physical environment. An example of how modern industrial development can be more environmentally sustainable • Social and economic changes in the rural landscape in one area of population growth and one area of population decline • Improvements and new developments in road and rail infrastructure, port and airport capacity • The north–south divide. Strategies used in an attempt to resolve regional differences • The place of the UK in the wider world. Links through trade, culture, transport, and electronic communication. Economic and political links: the European Union (EU) and Commonwealth. 	
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KS4 Module 4: Rivers	KS4 Module 5: Natural Hazard	KS4 Module 6: Ecosystems
Knowledge What pupils will know	Knowledge What pupils will know	Knowledge What pupils will know
<ul style="list-style-type: none"> • The long profile and changing cross profile of a river and its valley • Fluvial processes: • erosion – hydraulic action, abrasion, attrition, solution, vertical and lateral erosion • transportation – traction, saltation, suspension and solution • deposition – why rivers deposit sediment. • Characteristics and formation of landforms resulting from erosion: interlocking spurs, waterfalls and gorges • Characteristics and formation of landforms resulting from erosion and deposition: meanders and ox-bow lakes 	<ul style="list-style-type: none"> • Definition of a natural hazard – natural events occur all across our planet, but these events turn hazardous if they impact human lives. • Types of natural hazard – atmospheric (Topical storms, tornadoes etc) geological (earthquakes, volcanic eruptions) • Factors affecting hazard risk – The chance that at hazard may occur – this can relate to three factors such as, vulnerability, capacity to cope and nature of the hazard. • Plate tectonics theory • Global distribution of earthquakes and volcanic eruptions and their relationship to plate margins • The physical processes taking place at different types of plate margins (constructive, destructive 	<ul style="list-style-type: none"> • One example of a small-scale UK ecosystem, to illustrate the concept of inter-relationships within a natural system, an understanding of producers, consumers, decomposers, food chain, food web and nutrient cycle • The balance between components. The impact on the ecosystem of changing one component • An overview of the distribution and characteristics of large scale, natural, global ecosystems • The physical characteristics of a tropical rainforest • The interdependence of climate, water, soils, plants, animals and people

<ul style="list-style-type: none"> • Characteristics and formation of landforms resulting from deposition: levées, flood plains and estuaries • An example of a river valley in the UK to identify its major landforms of erosion and deposition. • How physical and human factors affect the flood risk – precipitation, geology, relief and land use • The use of hydrographs to show the relationship between precipitation and discharge • The costs and benefits of the following management strategies: • hard engineering: dams and reservoirs, straightening, embankments, flood relief channels • soft engineering: flood warnings and preparation, flood plain zoning, planting trees and river restoration • One example of a flood management scheme in the UK to show: • why the scheme was required • the management strategy • the social, economic and environmental issues. 	<p>and conservative) that lead to earthquakes and volcanic activity.</p> <ul style="list-style-type: none"> • Reasons why people continue to live in areas at risk from a tectonic hazard • How monitoring, prediction, protection and planning can reduce the risks from a tectonic hazard. General atmospheric circulation model: pressure belts and surface winds. • Global distribution of tropical storms (hurricanes, cyclones, typhoons) • An understanding of the relationship between tropical storms and general atmospheric circulation • Cause of tropical storms and the sequence of their formation and development • The structure and features of a tropical storm • How climate change might affect the distribution, frequency and intensity of tropical storms • How climate change might affect the distribution, frequency and intensity of tropical storms. • Primary and secondary effects of tropical storms • Immediate and long-term responses to tropical storms • Use a named example of a tropical storm to show its effects and responses • How monitoring, prediction, protection and planning can reduce the effects of tropical storms. • Overview of types of weather hazard experienced in the UK. • One example of a recent extreme weather event in the UK to illustrate: • causes • social, economic and environmental impacts • how management strategies can reduce risk • evidence that weather is becoming more extreme in the UK Evidence for climate change from the beginning of the Quaternary period to the present day • Possible causes of climate change 	<ul style="list-style-type: none"> • How plants and animals adapt to the physical environment • Issues related to biodiversity Changing rates of deforestation • A case study of a tropical rainforest to illustrate: • causes of deforestation – subsistence and commercial farming, logging, road building, mineral extraction, energy development, settlement, population growth • impacts of deforestation - economic development, soil erosion, loss of biodiversity, contribution to climate change Value of tropical rainforests to people and the environment • Strategies used to manage the rainforest sustainably: • selective logging and replanting • conservation and education • ecotourism and international agreements about the use of tropical hardwoods • debt reduction. • The physical characteristics of a hot desert • The interdependence of climate, water, soils, plants, animals and people • How plants and animals adapt to the physical conditions • Issues related to biodiversity. • A case study of a hot desert to illustrate: • development opportunities in hot desert environments: mineral extraction, energy, farming, tourism • challenges of developing hot desert environments: extreme temperatures, water supply, inaccessibility • Causes of desertification: • climate change • population growth
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	<ul style="list-style-type: none"> • Natural factors: orbital changes, volcanic activity and solar output • Human factors: use of fossil fuels, agriculture and deforestation • Overview of the effects of climate change on people and the environment Managing climate change: • Mitigation: alternative energy production, carbon capture, planting trees, international agreements • Adaptation: change in agricultural systems, managing water supply, reducing risk from rising sea levels 	<ul style="list-style-type: none"> • removal of fuel wood • overgrazing • over-cultivation and soil erosion • Strategies used to reduce the risk of desertification: • water and soil management, • tree planting and use of appropriate technology
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KS4 Module 4: Resource Management		
Knowledge <i>What pupils will know</i>		
<ul style="list-style-type: none"> • The significance of food, water and energy to economic and social well-being • An overview of global inequalities in the supply and consumption of resources. <p>An overview of resources in relation to the UK</p> <ul style="list-style-type: none"> • Food: <ul style="list-style-type: none"> ○ the growing demand for high value food exports from low income countries and all year demand for seasonal food and organic produce ○ larger carbon footprints due to the increasing number of 'food miles' travelled and moves towards local sourcing of food ○ the trend towards agribusiness • Water: <ul style="list-style-type: none"> ○ the changing demand for water ○ water quality and pollution management ○ matching supply and demand, areas of deficit and surplus ○ the need for transfer to maintain supplies • Energy: <ul style="list-style-type: none"> ○ the changing energy mix: reliance on fossil fuels, growing significance of renewables ○ reduced domestic supplies of coal, gas and oil ○ economic and environmental issues associated with exploitation of energy sources. • Areas of surplus (security) and deficit (insecurity): <ul style="list-style-type: none"> ○ global distribution of energy consumption and supply ○ reasons for increasing energy consumption: economic development, rising population, technology ○ factors affecting energy supply: physical factors, cost of exploitation and production, technology and political factors 		

<ul style="list-style-type: none"> • Impacts of energy insecurity: exploration of difficult and environmentally sensitive areas, economic and environmental costs, food production, industrial output, potential for conflict where demand exceeds supply • Overview of strategies to increase energy supply: <ul style="list-style-type: none"> ○ renewable (biomass, wind, hydro, tidal, geothermal, wave and solar) and non-renewable (fossil fuels and nuclear power) sources of energy ○ an example to show how the extraction of a fossil fuel has both advantages and disadvantages • Moving towards a sustainable resource future: <ul style="list-style-type: none"> ○ individual energy use and carbon footprints. Energy conservation: designing homes, workplaces and transport for sustainability, demand reduction, use of technology to increase efficiency in the use of fossil fuels ○ an example of a local renewable energy scheme in an LIC or NEE to provide sustainable supplies of energy 		
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