

3.1.1.2 Tectonic hazards

Key idea	Specification content
Earthquakes and volcanic eruptions are the result of physical processes.	Plate tectonics theory. Global distribution of earthquakes and volcanic eruptions and their relationship to plate margins . Physical processes taking place at different types of plate margin (constructive, destructive and conservative) that lead to earthquakes and volcanic activity.
The effects of, and responses to, a tectonic hazard vary between areas of contrasting levels of wealth.	Primary and secondary effects of a tectonic hazard. Immediate and long-term responses to a tectonic hazard. Use named examples to show how the effects and responses to a tectonic hazard vary between two areas of contrasting levels of wealth.
Management can reduce the effects of a tectonic hazard .	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.

3.1.1.3 Weather hazards

Key idea	Specification content
Global atmospheric circulation helps to determine patterns of weather and climate.	General atmospheric circulation model: pressure belts and surface winds.
Tropical storms (hurricanes, cyclones, typhoons) develop as a result of particular physical conditions.	Global distribution of tropical storms (hurricanes, cyclones, typhoons). An understanding of the relationship between tropical storms and general atmospheric circulation. Causes 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.
Tropical storms have significant effects on people and the environment .	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.
The UK is affected by a number of weather hazards.	An overview of types of weather hazard experienced in the UK.
Extreme weather events in the UK have impacts on human activity.	An 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.

3.1.1.4 Climate change

Key idea	Specification content
Climate change is the result of natural and human factors, and has a range of effects .	Evidence for climate change from the beginning of the Quaternary period to the present day. Possible causes of climate change: • 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 involves both mitigation (reducing causes) and adaptation (responding to change).	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.

3.2.1 Section A: Urban issues and challenges

In this section, students are required to study all the themes.

Key idea	Specification content
A growing percentage of the world's population lives in urban areas.	The global pattern of urban change. Urban trends in different parts of the world including HICs and LICs. Factors affecting the rate of urbanisation – migration (push–pull theory), natural increase. The emergence of megacities.
Urban growth creates opportunities and challenges for cities in LICs and NEEs .	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 and 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 and 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.

Urban change in cities in the UK leads to a variety of social, economic and environmental opportunities and challenges.	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: • social and economic: urban deprivation , inequalities in housing, education, health and employment • environmental: dereliction, building on brownfield and greenfield 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.
Urban sustainability requires management of resources and transport.	Features of sustainable urban living: • water and energy conservation • waste recycling • creating green space. How urban transport strategies are used to reduce traffic congestion.

Students will have **either** studied Coastal landscapes in the UK or River landscapes in the UK and should revise for whichever unit they have been taught in lessons. This will be an option question in their exam, based on which unit they have previously studied.

3.1.3.2 Coastal landscapes in the UK

Key Idea	Specification content
The coast is shaped by a number of physical processes.	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.
Distinctive coastal landforms are the result of rock type, structure and physical processes.	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.
Different management strategies can be used to protect coastlines from the effects of physical processes.	The costs and benefits of the following management strategies: • hard engineering – sea walls, rock armour, gabions and groynes • soft engineering – beach nourishment and reprofiling, dune regeneration • managed retreat – coastal realignment. An example of a coastal management scheme in the UK to show: • the reasons for management • the management strategy • the resulting effects and conflicts.

3.1.3.3 River landscapes in the UK

Key Idea	Specification content
The shape of river valleys changes as rivers flow downstream.	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.
Distinctive fluvial landforms result from different physical processes.	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. 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.
Different management strategies can be used to protect river landscapes from the effects of flooding.	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 . An 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.