Long-term planning

Geography - Year 10

Year 10 Themes	The Challenge of Natural Hazards	Urban Issues and Challenges	Physical Landscapes in the UK	Fieldwork
	Students will know that			
	Running through each section of the unit • Natural hazards are physical events that threaten people and property, and hazard risk is influenced by vulnerability, capacity to cope, and nature of the hazard. **Tectonics** • **The global distribution of earthquakes and volcanoes** is linked to tectonic plate boundaries. • **Different plate margins** (constructive, destructive and conservative) produce different physical processes leading to earthquakes and volcanic eruptions. • Tectonic hazards have **primary and secondary effects**, as well as **immediate and long-term responses**, which vary between countries of different wealth levels as exemplified by studying the Haiti and Christchurch earthquakes. • **People continue to live in tectonic hazard zones** for economic, social and cultural reasons. • **Monitoring, prediction, protection and planning** can reduce the impacts of tectonic hazards.	**A case study of a major city in an LIC or NEE- Rio** • **A growing proportion of the world's population lives in urban areas,** with different rates of urbanisation in HICs, LICs and NEEs. • **Urbanisation results from natural increase and rural–urban migration (push–pull factors).** • **Megacities** are large urban areas with more than 10 million people, found mainly in LICs and NEEs. • **Rapid urban growth in Rio creates social, economic and environmental opportunities** (e.g. better access to services, employment, energy and water). • **Rapid urban growth in Rio also creates challenges** such as informal settlements, poor services, unemployment, pollution and traffic congestion. • **Urban planning in Rio can improve the quality of life for the urban poo**r through improving housing, transport and service provision.	**UK Physical Landscapes** • The UK has diverse upland, lowland and river landscapes with distinctive physical characteristics. **Coastal Landscapes** • **Waves vary by energy** (constructive vs destructive) and shape coastal environments. • **Coastal landscapes are shaped by weathering** (mechanical, chemical and biological) • **Coastal landscapes are shaped by mass movement** (slumps, landslides and rockfalls) • **Coastal landscapes are shaped by marine erosion** (abrasion, attrition, hydraulic action) • **Coastal landscapes are shaped by transportation** (longshore drift, solution, suspension, saltation and traction). • **Geological structure and rock type** influence the formation of erosional and depositional landforms • **Erosion occurs when** wave energy is high, leading to distinctive landforms (caves,	**Unfamiliar fieldwork** • Geographical fieldwork must begin with a clear enquiry question linked to physical or human geography. • Enquiries require the selection of appropriate primary and secondary data, justified against the aims of the investigation. • Different sampling methods (systematic, random, stratified) can be used to collect data and must be chosen carefully. • A range of presentation techniques (graphs, maps, sketches, proportional symbols, annotated photographs) can be used depending on the data collected. • Fieldwork data must be described, analysed and explained, identifying patterns, relationships and anomalies. • Conclusions must link directly to the enquiry question and be supported by evidence. • Fieldwork must be evaluated by identifying limitations and suggesting improvements to methods or data collection. **Hornsea fieldwork**

Weather

- **Global atmospheric circulation** creates pressure belts and influences world weather patterns.
- **Tropical storms develop under specific physical conditions** and have a recognisable structure including the eye, eyewall and spiral rainbands.
- Climate change may alter the **frequency, intensity and distribution** of tropical storms.
- **Tropical storms and UK weather hazards create significant social, economic and environmental impacts** as exemplified by the Hurricane Katrina and the Storm Desmond case studies
- **The UK experiences a range of extreme weather events**, and evidence suggests **UK weather is becoming more extreme**.

Climate change

- **Climate change has natural causes** (orbital cycles, volcanic activity, solar output) and human causes (fossil fuels, agriculture, deforestation).
- **Climate change produces global impacts on people and the environment.**
- Climate change can be addressed through **mitigation** (e.g. carbon capture, renewable energy, reforestation) and **adaptation** (e.g. coastal defence, water management, changing agriculture).

Case study of a major city in the UK- Manchester

- **UK cities have distinctive spatial patterns** and have experienced significant change due to population movements and urban regeneration.
- **Urban change in Manchester creates opportunities** (e.g. cultural mix, integrated transport, urban greening)
- **Urban change in Manchester creates challenges** (e.g. deprivation, dereliction, waste, housing pressures).
- **Urban sprawl in Manchester** affects the rural–urban fringe and contributes to commuter settlements.

Urban sustainability

- **Sustainable urban living includes water and energy conservation**, waste reduction, green spaces and sustainable transport strategies as exemplified by a case study of **sustainable living in Freiburg.**

arches, stacks, stumps, wave cut platforms, wave cut notches)

- **Deposition occurs when** wave energy decreases, leading to distinctive landforms (beaches, spits, sand dunes)
- Coastal management uses **hard engineering** (sea walls, gabions, groynes) and **soft engineering** (dune regeneration, beach nourishment), as well as managed retreat to reduce coastal risks.
- **The Holderness coast is** a case study of a UK coastline that has distinctive coastal features of erosion and deposition
- **Management schemes aim to** balance social, economic and environmental factors and can create conflicts among stakeholders as exemplified by the Hornsea case study

River Landscapes

- River valleys change from upland to lowland areas, shown by **long profile** and **cross-profile** changes.
- **Rivers shape landscapes through erosion** (vertical and lateral as well as hydraulic action, abrasion, attrition and solution), **transportation** (traction, saltation, suspension, solution**) and deposition**.
- **Distinctive upper course landforms created by erosion** (V shaped valleys, interlocking spurs, waterfalls and gorges)
- **Distinctive middle course landforms created by erosion and deposition** (meanders and oxbow lakes)

- Sediment characteristics can be used to investigate how groynes affect longshore drift.
- Transects taken perpendicular to the shoreline provide data on beach shape and sediment distribution.
- Grain size measurements and comparisons across transects can show the effectiveness of groynes
- Data must be recorded accurately and collected in the same way by all to give accurate results
- The use of dispersion diagrams show gran size distributions and help to make conclusions but they have limitations.
- Human error and small sample sizes **can make data and conclusions unreliable and unrepresentative**

Salford Quays fieldwork

- Urban regeneration changes the built environment
- Environmental quality can be assessed using bipolar surveys, which allow students to score aspects of the built environment
- **Bipolar surveys create measurable data** about perceptions of place, helping to identify improvements linked to regeneration however they have limitations in that they are very **subjective and biased.**
- **Data is collected systematically** across different zones using route-based or point sampling, ensuring fair representation of the study area.

			• **Distinctive lower course landforms created by deposition** (floodplains, levees, estuaries) • **The River Tees is** a case study of a UK river that has distinctive river features of erosion and deposition • **Flood risk is influenced by physical** (relief, geology, rainfall) **and huma**n (land use, urbanisation) **factors**. • **Hydrographs show how discharge responds to precipitation,** affected by catchment characteristics. • River management uses **hard engineering** (dams, embankments, straightening) and **soft engineering** (flood warnings, floodplain zoning, afforestation, river restoration). • Management schemes have social, economic and environmental costs and benefits as exemplified by the Tees Barrage case study.	• **The results from bipolar surveys can be compared using stacked bar charts across locations** to show spatial patterns of environmental quality within Salford Quays. • Human error and small sample sizes **can make data and conclusions unreliable and unrepresentative.**
	Students will know how to			
	To use geographical terminology for hazards and processes; interpret graphs, maps, climate data and storm tracks; analyse case studies with cause–effect–response frameworks; evaluate contrasting responses in LICs and HICs; apply enquiry skills in a DME; construct extended exam responses (6 and 9 markers).	To define urbanisation terms; interpret maps, graphs and photos of urban growth; analyse case studies (Rio, Manchester); evaluate regeneration projects; assess sustainability of urban strategies; write extended exam-style responses (6 and 9 markers).	To use geographical terms for processes and landforms; interpret maps, cross-sections, hydrographs and photos; annotate diagrams to explain formation of landforms; apply case study evidence (Holderness, River Tees); evaluate management strategies; construct exam responses including 4 and 6 markers.	To plan and justify an enquiry; use appropriate sampling methods; present data using graphs and diagrams; interpret and analyse results; draw evidenced conclusions linked to enquiry questions; evaluate reliability and limitations; write evaluative essays.
	Vocabulary and the concepts they link to			
	Cause, effect, impact, response, risk, vulnerability, resilience, prediction,	Urbanisation, megacity, migration, natural increase, opportunity,	Weathering, mass movement, hydraulic action, abrasion, attrition, solution, longshore	Enquiry, sampling, transect, quadrat, dispersion diagram, bi-polar survey, stacked

	protection, mitigation, adaptation, tectonic plate, plate margin, earthquake, volcano, global atmospheric circulation, tropical storm, greenhouse effect, carbon capture.	challenge, inequality, regeneration, sustainability, favela, squatter settlement, waste management, transport system.	drift, headland, wave-cut platform, spit, bar, meander, oxbow lake, levee, discharge, hydrograph, hard engineering, soft engineering.	bar chart, validity, reliability, accuracy, bias, representativeness.
	Assessment			
	• **Ongoing recall and retrieval starters** at the beginning of each lesson to reinforce key knowledge and subject-specific vocabulary. • **Extended decision-making and evaluative writing**, recommending the most effective strategy for reducing earthquake risk in San Francisco using evidence from provided resources and their own geographical knowledge. • **Knowledge and skills checks** to assess recall, identify gaps in understanding, and inform future learning. • **Structured written responses** outlining how climate change may affect tropical storms in the future. • **Explanatory responses** demonstrating understanding of how different types of evidence show that climate change is occurring. • **End-of-unit exam practice**, reflecting the structure and demand of an exam paper, including a range of low-, medium-, and extended-mark questions alongside geographical skills questions.	• **Ongoing recall and retrieval starters** at the beginning of each lesson to reinforce key knowledge and subject-specific vocabulary. • **Knowledge and skills questions** designed to check understanding of key concepts and geographical skills. • **Structured written responses**, using resources and a case study of a city in a **LIC or NEE** to assess the challenges of providing services for a growing urban population. • **Knowledge and skills checks** to assess recall, identify gaps in understanding, and inform future learning. • **Case study–based explanations**, using a UK city to explain how urban regeneration projects can reduce levels of urban deprivation. • **End-of-unit exam practice**, reflecting the structure and demand of an exam paper, including a range of low-, medium-, and extended-mark	• **Ongoing recall and retrieval starters** at the beginning of each lesson to reinforce key knowledge and subject-specific vocabulary. • **Explanatory responses** using figures and images to explain the processes involved in the formation of coastal landforms. • **Resource-based written questions**, analysing photographic and graphical evidence of UK coastal landscapes. • **Extended decision-making and justification tasks**, evaluating coastal management strategies along the Holderness Coast within a set budget, using resources and geographical knowledge. • **Knowledge and skills checks** to assess recall, identify gaps in understanding, and support progress. • **End-of-unit exam practice**, reflecting the structure and demand of an exam paper, including a range of 1–6 mark questions and geographical skills questions	• **Ongoing recall and retrieval starters** at the beginning of each lesson to reinforce key knowledge and subject-specific vocabulary. • **Evaluative written responses**, assessing the effectiveness of data presentation techniques used to represent results from a physical geography fieldwork enquiry. • **Extended reflective writing**, using methods, results, and conclusions to suggest improvements to a physical geography fieldwork enquiry, including accuracy, reliability, and quality of written communication. • **Explanatory responses**, explaining how data presentation techniques used in a human geography fieldwork enquiry support interpretation and the drawing of conclusions. • **Extended evaluative writing**, assessing the extent to which the accuracy of results and reliability of conclusions in a human geography fieldwork enquiry could be improved.

		questions alongside geographical skills questions.		
	Diversity & development of cultural capital			
	Students explore contrasting hazard case studies (Haiti, Christchurch, Katrina, Storm Desmond), developing awareness of global inequality in vulnerability, different cultural responses to disasters and the shared global challenge of climate change.	Case studies of Rio and Manchester expose students to diverse urban experiences, inequality, regeneration and sustainability, while building appreciation of cultural diversity in global and UK cities.	Holderness Coast and River Tees case studies develop understanding of varied UK landscapes, the differing impacts of flooding and erosion, and the importance of climate change adaptation and sustainable management.	First-hand experience of coastal and urban environments builds real-world understanding of landscape management and urban regeneration, linking local issues to wider national geographical challenges.
	Cross-curricular opportunities and enrichment			
	Maths (graphs, proportional data), Science (earth structure, convection, climate), Literacy (extended evaluative writing) **Careers:** Seismologist, meteorologist, climate scientist, disaster risk manager.	Maths (graphs, population data), Citizenship (inequality, urban planning), Literacy (debates, extended writing), links to local Manchester fieldwork. **Careers:** Urban planner, architect, regeneration officer, transport planner.	Maths (graphs, hydrographs, data analysis), Science (rock types, weathering, water cycle), Literacy (explanations, extended writing), opportunities for coastal/river fieldwork. **Careers:** Coastal engineer, hydrologist, flood risk analyst.	Maths (data handling, graphs), Literacy (extended writing, evaluation), Science (field sampling methods), field trips to Hornsea and Salford Quays. **Careers:** Environmental consultant, urban regeneration officer, data analyst.