Year 8 Geography

Knowledge Organiser:

Rivers, Coasts and Glaciers

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River Landscapes

The Water Cycle and Rivers

- Rivers are part of the water cycle.

Key processes: evaporation, condensation, precipitation, infiltration, surface runoff.

The Journey of a River

- Rivers begin in the mountains (source) and flow to the sea (mouth).

Three main courses: upper, middle, and lower.

How Rivers Change Along Their Course

Upper course: steep, fast-flowing, narrow channel.
Middle course: gentler gradient, wider and deeper.
Lower course: flat, slow-flowing, wide channel.

How Rivers Shape the Landscape

Erosion: wearing away of land (abrasion, attrition, hydraulic action).
Transportation: moving material (traction, saltation, suspension, solution).
Deposition: dropping material when the river loses energy.

River Landforms – Upper Course

- V-shaped valleys, interlocking spurs, waterfalls, gorges.

River Landforms – Middle Course

- Meanders (bends in the river), river cliffs, slip-off slopes.

River Landforms – Lower Course

- Floodplains, levees, oxbow lakes, deltas.

River Flooding

Causes: heavy rainfall, snowmelt, impermeable surfaces, deforestation.
Impacts: damage to homes, transport disruption, loss of life, economic costs.

Managing Rivers

Hard engineering: dams, levees, channel straightening.
Soft engineering: floodplain zoning, afforestation, flood warnings.

Coastal Landscapes

Waves and Tides

- Waves formed by wind blowing across the sea.
- Tides caused by the gravitational pull of the moon and sun.

The Rock Cycle and Coasts

- Rocks formed through processes: igneous, sedimentary, metamorphic.
- Rock type affects erosion rate at the coast.

How the Sea Shapes the Coastline

Erosion: hydraulic action, abrasion, attrition, solution.
Transportation: longshore drift.
Deposition: occurs when waves lose energy.

Erosional Coastal Landforms

- Headlands and bays.
- Cliffs, wave-cut platforms.
- Caves, arches, stacks, stumps.

Depositional Coastal Landforms

- Beaches, spits, bars, tombolos.

Coastal Erosion Problems

- Some coasts erode quickly (e.g. Holderness Coast).
- Risks to homes, businesses, farmland, and infrastructure.

Managing Coastal Erosion

Hard engineering: sea walls, groynes, rock armour.
Soft engineering: beach nourishment, managed retreat.

Glacial Landscapes

What Are Glaciers?

- Glaciers are large, slow-moving masses of ice.
- Formed where snowfall exceeds melting.

How Glaciers Shape Landscapes

Erosion: plucking and abrasion.
Transport: moving rock and debris.
Landforms: U-shaped valleys, corries, arêtes, pyramidal peaks.

Glaciers in the UK

Evidence: U-shaped valleys in the Lake District, **Snowdonia,** Cairngorms.

Uses of UK Glacial Landscapes Today

- Tourism, farming, reservoirs, conservation, outdoor recreation.

Glacial Landscapes Around the World

- Found in the Alps, Himalayas, Rockies, Andes, Antarctica.

Future of Glaciers

- Melting due to climate change.
- Impacts on sea levels, water supply, and ecosystems.

Key Terms

- Erosion: Wearing away of land.
- Deposition: Dropping of material.
- Longshore Drift: Movement of sediment along the coast.
- Plucking: Ice pulls pieces of rock from the ground.
- U-shaped Valley: Formed by glacial erosion.

Revision Questions

1) What are the three stages of a river?
2) Name two landforms in the upper course of a river.
3) What causes river flooding?
4) What is longshore drift?
5) Name one erosional and one depositional coastal landform.
6) Why is coastal erosion a problem?
7) What is a glacier?
8) How do glaciers shape the landscape?
9) Where is there evidence of glaciers in the UK?
10) How could climate change affect glaciers?