Year 7 Geography: Geomorphology Knowledge Organiser - What shapes the earth? (HT2)

Erosion

Abrasion: The erosion of the river bed and banks, or coastline, by rocks carried in the water.

Attrition: The process by which rocks become smaller and rounder over time as they repeatedly crash into each other.

Hydraulic Action: The erosion of the river bed and banks, or coastline, due to the forces of the water. Water is forced into cracks in the rock and force the air deeper, causing the crack to increase in size.

Solution: Slightly acidic water can erode some types of rock, dissolving it over time.

Weathering

Chemical weathering: The breaking down of certain rock types (mainly carbonates) over time by the weak acid found in rainwater.

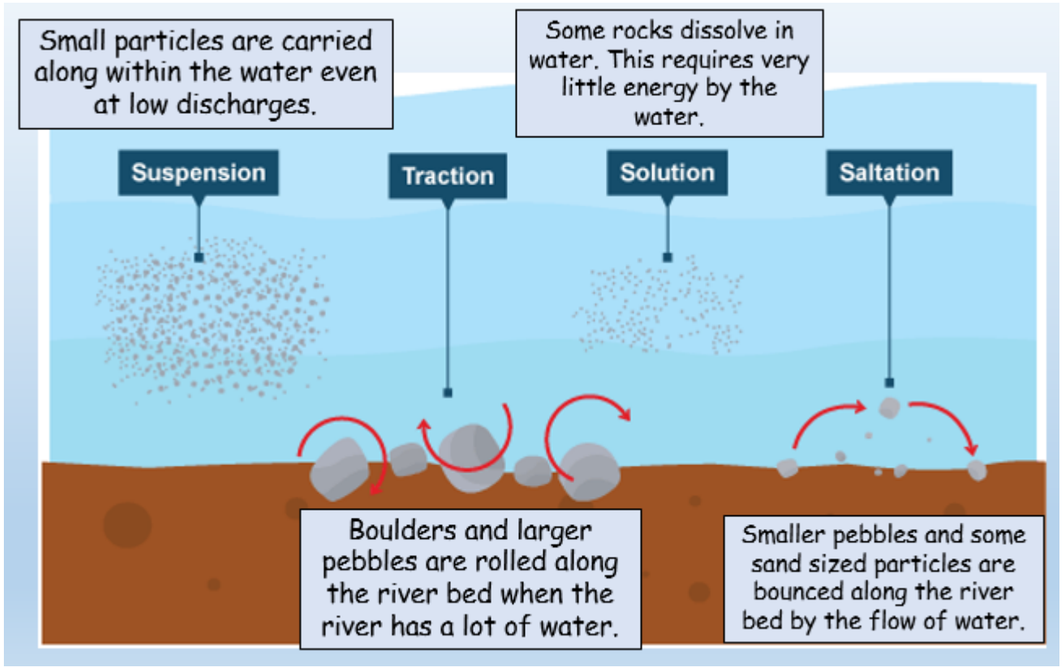
Onion Skin Weathering: This type of weathering is common in deserts. During the day, the rocks are heated by the sun, as they are good insulators only the outer layer is warmed. The outer layer expands, at night it cools and contracts.

Biological Weathering: This is the action of plants and animals in wearing away rock.

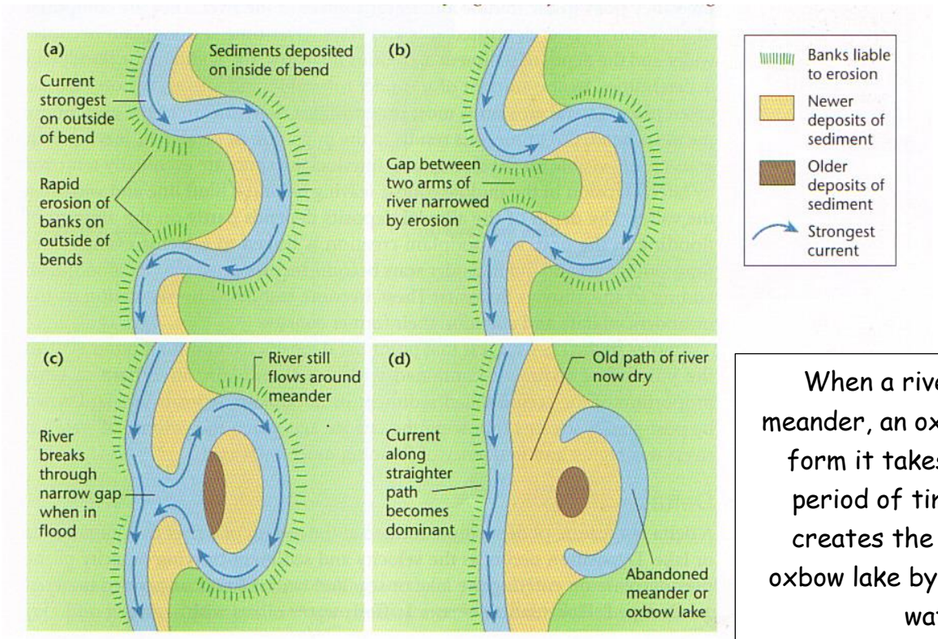
Frost Shattering: Frost shattering happens when it rains and water gets into cracks in a rock. At night-time, the temperature drops below 0 ^{0}C and the water freezes and turns to ice. When water freezes, it expands pushing the rock apart.

Types of Transportation

Water transports materials of different sizes in different ways.

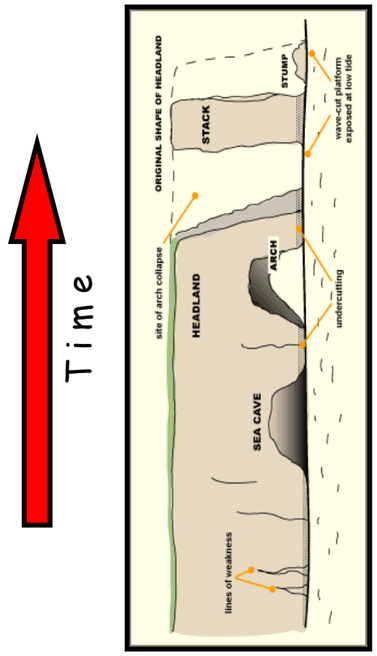


Meander and Oxbow Lake Formation



When a river creates a meander, an oxbow lake is the form it takes after a long period of time. The river creates the meander and oxbow lake by erosion of the water.

Cave, Arches Stacks and Stumps



Formation Process

- **Cracks** are widened in the headland through the processes of hydraulic action and abrasion.
- As the waves continue to grind away at the crack, it begins to open up to form a **cave**.
- The cave becomes larger and eventually breaks through the headland to form an **arch**.
- The base of the arch continually becomes wider through further erosion, until its roof becomes too heavy and collapses into the sea. This leaves a **stack** (an isolated column of rock).
- The stack is undercut at the base until it collapses to form a **stump**.