Yr 8 Geography – Rivers and Flooding

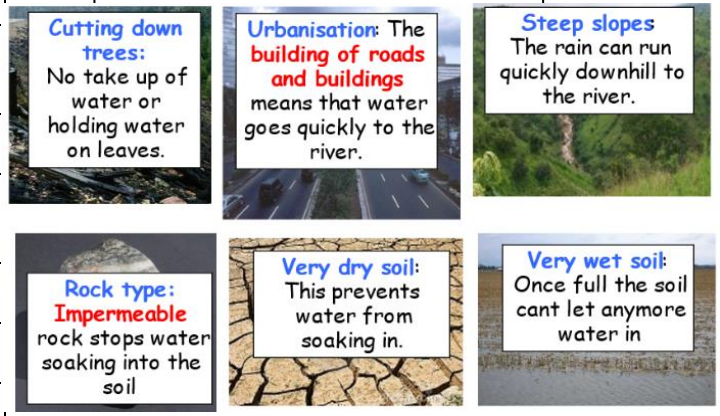
Why am I learning this? I will be able to name the locations of several global and national rivers. I will be able to explain how water shapes the landscape. I will be able to explain how floods are usually a combination of many physical and human factors working together. Finally, I will be able to describe ways to manage floods.

Key Word	Definition
Severn	The longest river in Great Britain
Nile	The longest river in the world, flowing in north eastern Africa
Evaporation	When water heats up and turns into water vapour
Condensation	When water vapour cools down and turns into water
Precipitation	Water that is falling out of the sky eg rain, snow, hail
Drainage Basin	An area of land drained by a major river and its tributaries
Tributary	A river or stream flowing into a larger river or lake
Source	The place where a river begins
Mouth	Where the river meets the sea
Waterfalls	A steep drop encountered by the water in a river
Meander	A bend in the river
Erosion	The wearing away and removal of material by move ins force, such a river, a breaking wave or a glacier
Transportation	The movement of sediment by rivers, glaciers or waves
Deposition	A process where sediments are dropped by the river, glacier or waves that carried them
Floodplain	An area of flat land in the lower course that regularly floods.
Levee	The naturally raised bank of sediment along a riverbank, which may be artificially strengthened or heightened
Estuary	The mouth of a river which broadens into the sea and is affected by the tides
Impermeable Rock	Rocks that are impermeable, like clay, do not allow water to pass through them
Flood Hydrograph	A graph showing changes in a river's discharge and rainfall over time

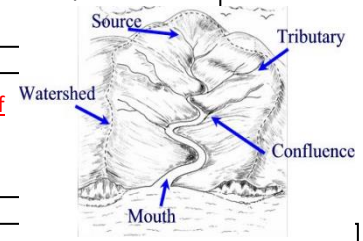
How does water shape the landscape?

1. Weathering: causes rocks to break down
   - **a)** **Freeze-Thaw** = Water/crack/freeze/expand
   - **b)** **Exfoliation** = Heat/Cool – repeat = rock surface expands/contracts
   - **c)** **Chemical weathering** eg Acid rain
2. Erosion x4 : wearing away and removal of rocks
   - a) **Abrasion** –rocks and pebbles **wear away the river bed and banks**.
   - b) **Attrition** – rocks and pebbles **knock together and are broken down** into rounder and smaller pieces.
   - c) **Solution** – weak **acids in the water dissolve** the beds and banks of the river.
   - d) **Hydraulic action** – the sheer **force of water hitting the banks** of the river wearing the banks away
3. Transportation: – the carrying along of the eroded material
   - a) **Traction** – **rolling** along the riverbed (pebbles & rocks
   - b) **Saltation** – **bouncing** along (gravel & sand)
   - c) **Suspension** - carried along '**suspended'** in the river flow (silt)
   - d) **Solution** – being **dissolved** in the river flow
4. Deposition is the dropping of material and building up of new land – this **occurs when a river loses its energy**.

What are the causes of flooding?

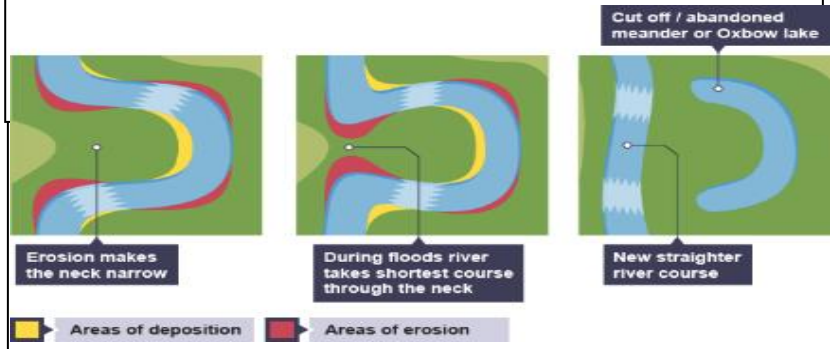


What is a Drainage basin? = an area of land from which all precipitation flows to a single river.

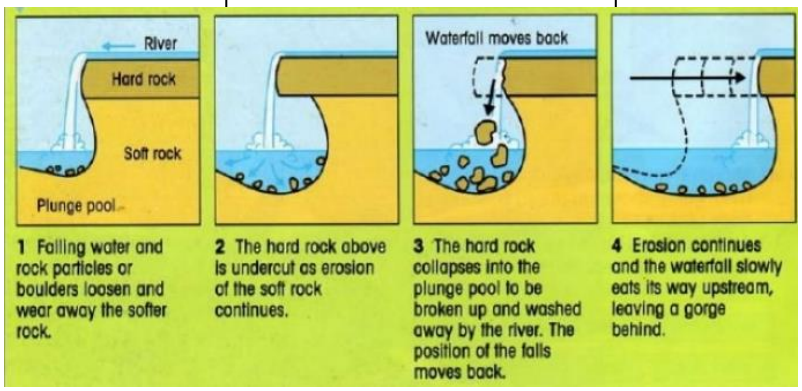


How are Meanders and Oxbow lakes formed?

On the inside of the meander the water is shallow. The current here is slower. This means that the river has less energy and some material is deposited.



How are Waterfalls formed?



Case study: The River Severn flood (2007)

- **Physical causes:** 2x large rivers (River Severn and the River Avon), heavy rain, saturated soil. **Human causes:** Building on flood plain, very few flood defences.
- **Social effects:** 13 deaths, 50,000 homes flooded, no running water or electricity. **Economic effects**: cost local councils £140 million, total cost to UK economy estimated to be £3.2 billion, 180,000 insurance claims