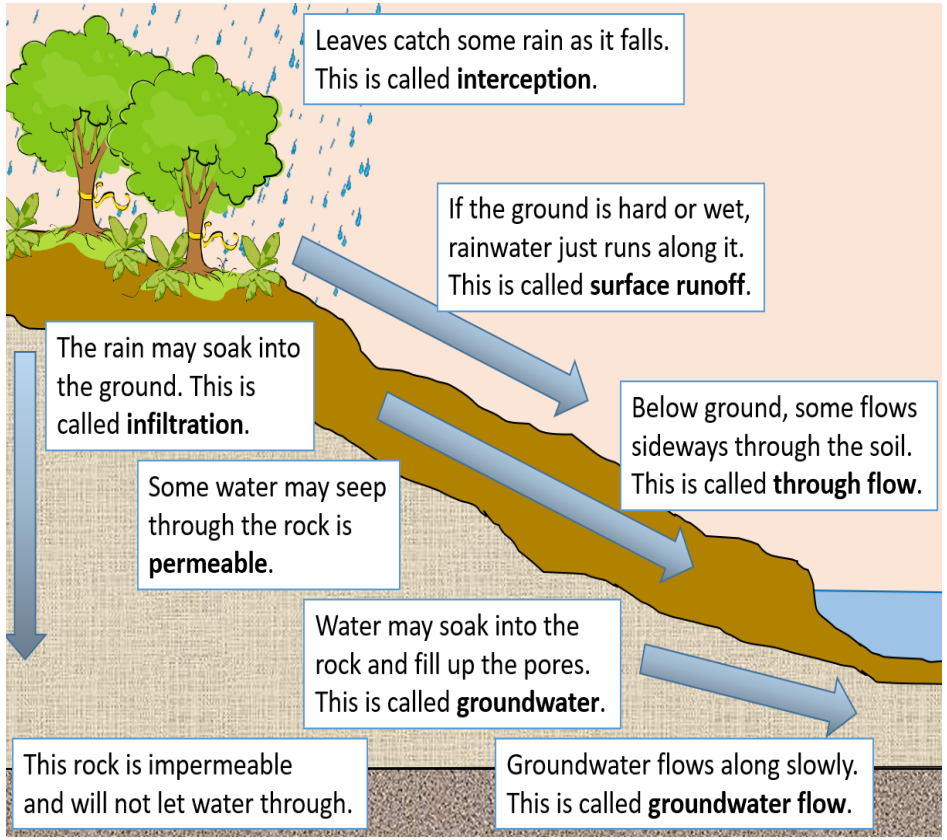
Year 7 - Rivers

What should I already know?

- A river is a moving channel of water from its **source** (start point) on high ground flowing to its **mouth** (end point) on lowland flowing into another body of water (lake or ocean).
- Rivers usually begin in **upland** areas, when rain falls on high ground and begins to flow **downhill**. They always flow downhill because of **gravity**.

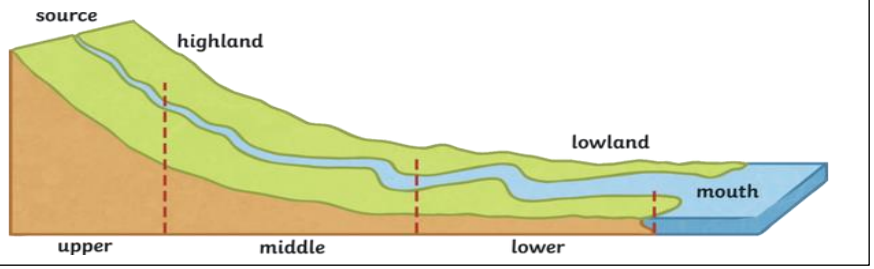
The Water Cycle



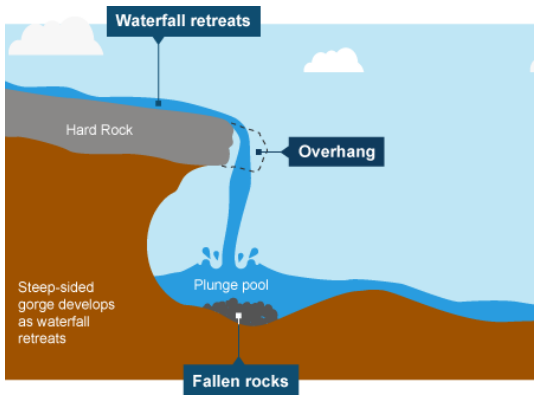
Key Vocabulary and definitions

Erosion	The breaking down or wearing away of rock in the river channel.
Hydraulic action	Water enters cracks and compresses the air, crack then expands.
Abrasion	Stones rub/bang against river bed/banks, breaking it down.
Attrition	Stones in the river bash together to become smoother/round.
Solution	Chemicals in the water react with the stone and dissolve it.
Transportation	A natural process where material/sediment is carried or moved.
Traction	Large stones and pebbles pushed along the river bed.
Saltation	Small pebbles and stones bouncing along the river bed.
Suspension	Sediment floating in the water of the river.
Solution	Sediment dissolved in the water of the river.
Deposition	When sediment is dropped due to a lack of energy.

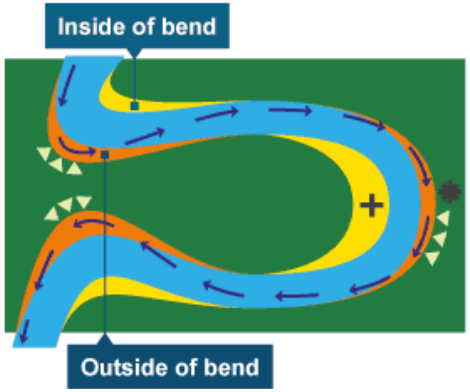
Long profile of a river

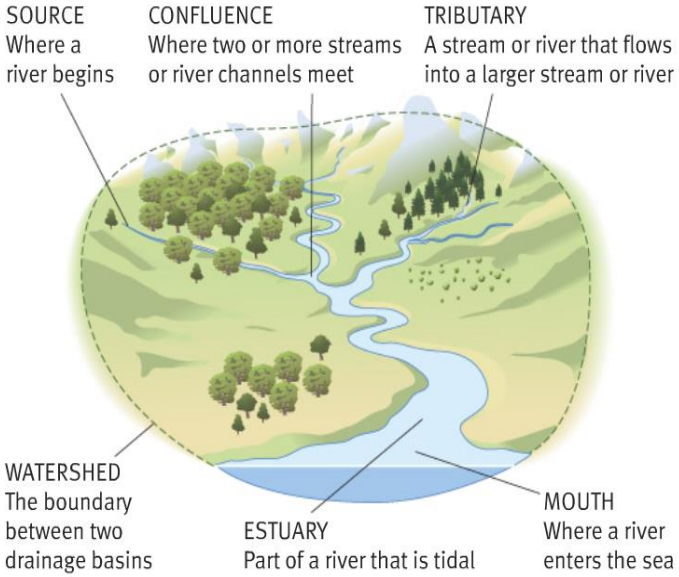


Water Fall: (Upper Course)



Meander: (Middle/Lower Course)





Flooding:

- A river floods when the water normally flowing in the channel overflows its banks and spreads out onto the surrounding land.
- **Physical Factors** affecting flooding: Steep Slopes, Very wet soil, Very dry soil, Rock type
- **Human Factors** affecting flooding: Deforestation, Urbanisation & Over Farming

Bangladesh Flood

- Heavy monsoon rains between May and October caused river levels to rise.
- Melting snow from Himalayas added water into rivers flowing through Bangladesh
- 80% of the country was covered by at least 1 metre of flood water.
- Rocks sand and mud from the Himalayas was washed into the river channel

Boscastle Flood (UK) – 2004

- Heavy rain caused by extreme frontal activity.
- 3 million tonnes of water added to a small drainage basin of just 40 square kilometres.
- 185mm of rain in just under 5 hours – infiltration excess overland flow
- 3 valleys steep and narrow – broader floodplain would have increased hydraulic radius
- Surrounding vegetation agricultural land: limited interception storage
- High tide in the bay – restricted rate of exit of floodwater