

Rivers

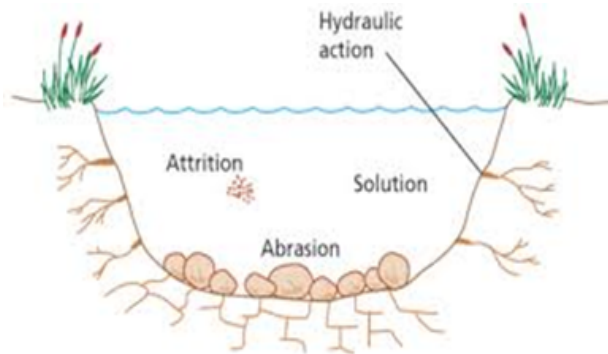
Erosion can happen either vertically (downwards) or laterally (sideways).

Hydraulic action – the force of the water hitting the river bed and banks.

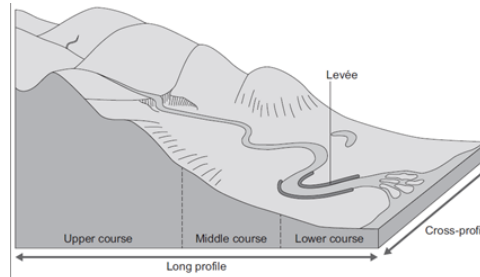
Abrasion – when the load carried by the river repeatedly hits the bed or banks dislodging particles into the flow of the river.

Attrition – when stones carried by the river knock against each other, gradually making the stones smaller and less rounded.

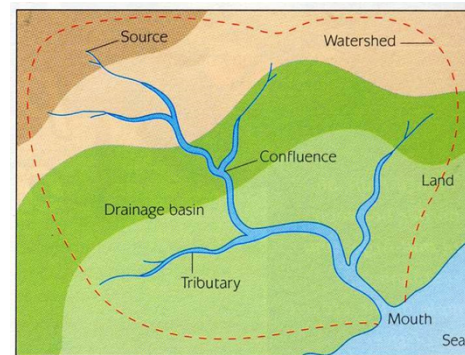
Solution – when the river flows over limestone or chalk, the rock is slowly dissolved. This is because it is soluble in mildly acidic river water.



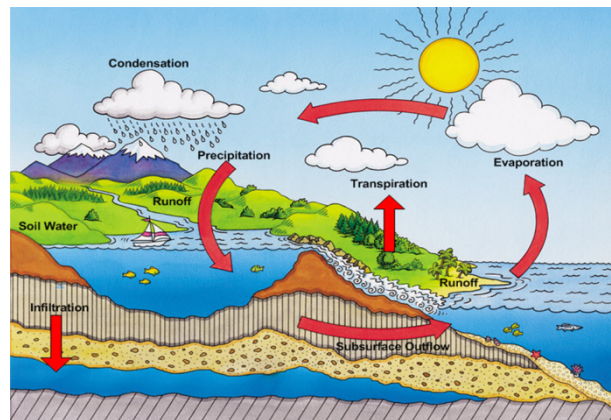
River Profile



River Drainage Basin



The water cycle



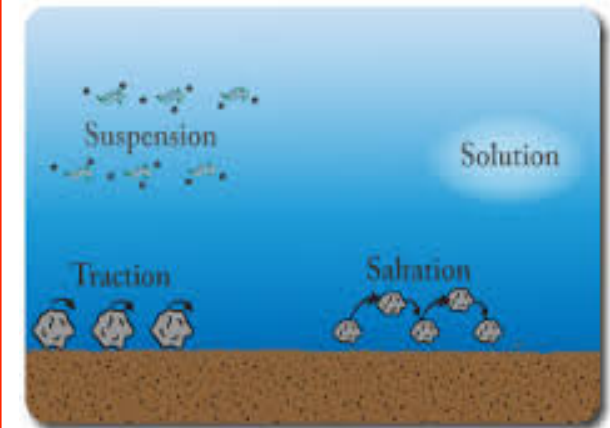
Transportation - Material is transported along the river bed.

Traction – large boulders and rocks are rolled along the river bed.

Saltation – small pebbles and stones are bounced along the river bed.

Suspension – fine, light material is held up and carried within the river's flow. This is called suspended load.

Solution – minerals are dissolved in the water. This is a chemical change affecting rocks such as limestone and chalk.



Rivers

UK Example of river landforms – The River Tees.



- The River Tees is in the north east of England.
- High Force **waterfall** is on the River Tees and is one of the UK's most impressive waterfalls. It is located close to Forest-in-Teesdale in the river's upper course and is followed by a spectacular gorge. The waterfall was formed due to a resistant band of igneous rock is followed by a softer / weaker limestone which is eroded more easily forming the waterfall.
- The River Tees has some excellent examples of meanders, levees and floodplains.

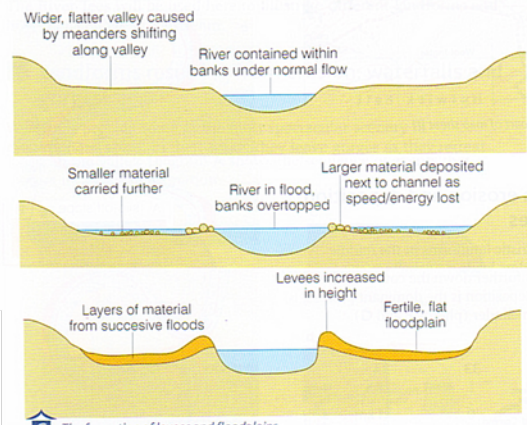
Floodplains

A floodplain is a wide, flat area of marshy land on either side of a river – found in the middle and lower courses. Floodplains are made from alluvium (silt) deposited by a river when it floods.

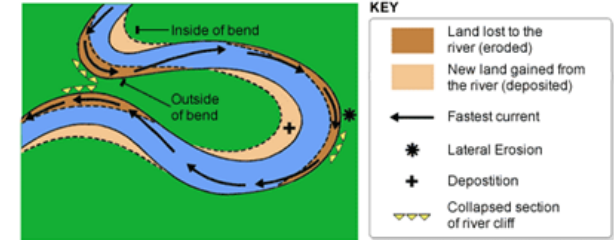


Levees

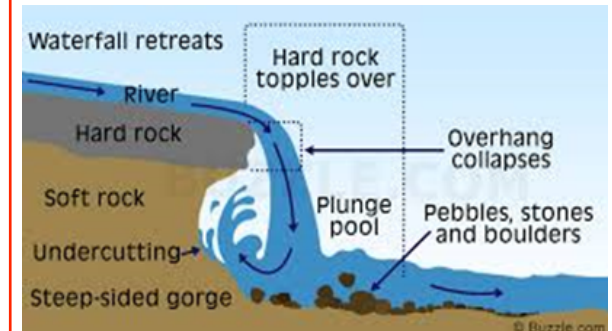
A levee is a raised river bed found alongside a river in its lower course. It is formed by flooding over many years. A ridge of sediment is deposited naturally to build up the levee.



Meanders are bends in the river. They begin to form as the valley floor becomes wider and flatter and **lateral erosion** becomes more significant.



Waterfalls are landforms created from erosion and found in the upper course of a river.



River Deposition.

Deposition occurs when the velocity of a river decreases. It no longer has enough energy to transport so it is deposited.