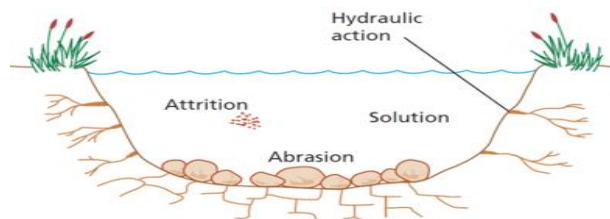


Key Vocabulary...

River	A river is a natural flowing watercourse, usually freshwater, flowing towards an ocean, sea, lake or another river
Long Profile	The shape of the river and it's gradient from the source to the mouth.
Erosion	Erosion is the process that breaks things down.
Transportation	The process of carrying or moving sediment downstream.
Deposition	Dropping or settling of sediment
Flood	Flooding occurs when the river bursts its banks overflowing onto the area surrounding the channel.
Flood Defenses	Management strategies used to protect people and land from flooding

4 Processes of Erosion

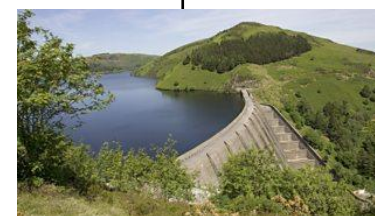
Hydraulic action	This is when the force of water erodes softer rock.
Abrasion	This is when large pieces of bedload material wear away the river banks and bed.
Attrition	This is when the bed load itself is eroded when sediment particles knock against the bed or each other and break, becoming more rounded and smaller.
Solution	This is when finer sediment is dissolved and eroded by the minerals in the water.



Flood Defences...

Hard engineering

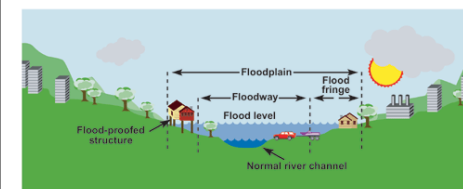
Using man-made structures to change the course of the river in order to prevent it flooding. For example: **Dams, Levees, Channel Straightening**



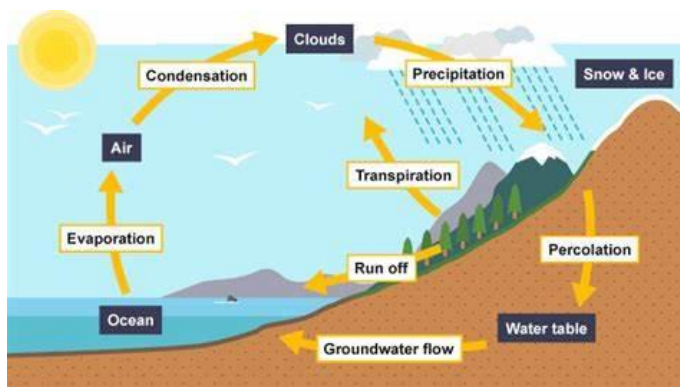
Soft engineering

Returning a river to its natural form in order to protect places from flooding. For example: **Flood Plain zoning, river restoration**

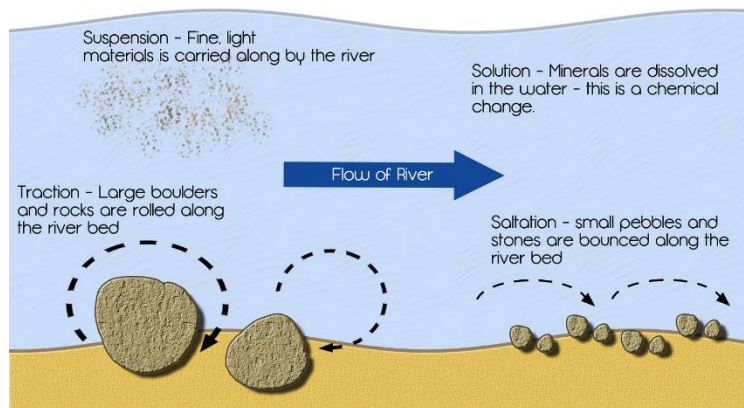
The floodplain



Water Cycle



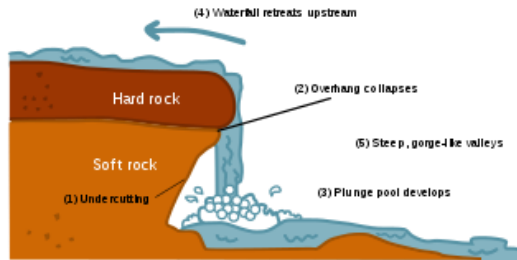
4 Processes of Transportation



Activity: Preparing for a flood is vital to protect people. Create an information leaflet describing the best way for people to prepare for a flood. Why is it more important than ever for people to have this knowledge?

Landforms

Waterfall



Formation of a waterfall:

- The soft rock erodes more quickly, **undercutting** the hard rock.
- The hard rock is left **overhanging** and because it isn't supported, it eventually collapses.
- The fallen rocks crash into the **plunge pool**. They swirl around, causing more erosion.
- Over time, this process is **repeated**, and the waterfall moves upstream.
- A steep-sided **gorge** is formed as the waterfall retreats.

Task...

Define the water cycle.

Name the 4 types of precipitation.

Explain the changes in a river as it moved downstream.

What effect will impermeable surface have on the risk of flooding?

Task...

1. Using the diagram of floodplain zoning. Discuss the advantages and disadvantages of this type of soft engineering.
2. Using the diagram below identify and state the advantages and disadvantages of this type of hard engineering.



Meander and oxbow lake



A meander is a bend in the river. Meanders usually occur in the middle or lower course and are formed by **erosion** and **deposition**. As the river flows around a meander, the fastest flow is around the outside of the bend. This creates erosion on the outside and deposition on the inside of the bend, which means that the meander slowly moves. If the meander moves so much that the bend becomes very large, the course of the river may change. The meander may be cut off and deposition fills the section that no longer flows. This forms an **ox-bow lake**.

Question: "Hard engineering flood management strategies are the most effective" Evaluate this statement

1. **BUG** the question by boxing the command word and underlining the content you need to write about.
2. List the key vocabulary you will use.
3. Create a plan of what you would write in each paragraph.
4. Practice writing your answer from memory.