

KS2

Lesson 2

# Physical features of a river

Describe and understand key aspects of physical geography,  
including rivers

Geography



**Grammarsaurus**

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**Think back to last lesson – what is a river?**



# Recap: What is a river?

A river is a **natural stream of water**.

Small rivers are also called streams, creeks and brooks.

They are also natural streams of water.

Rivers flow from the **source** (usually in the mountains) and flow through the land out to the sea.

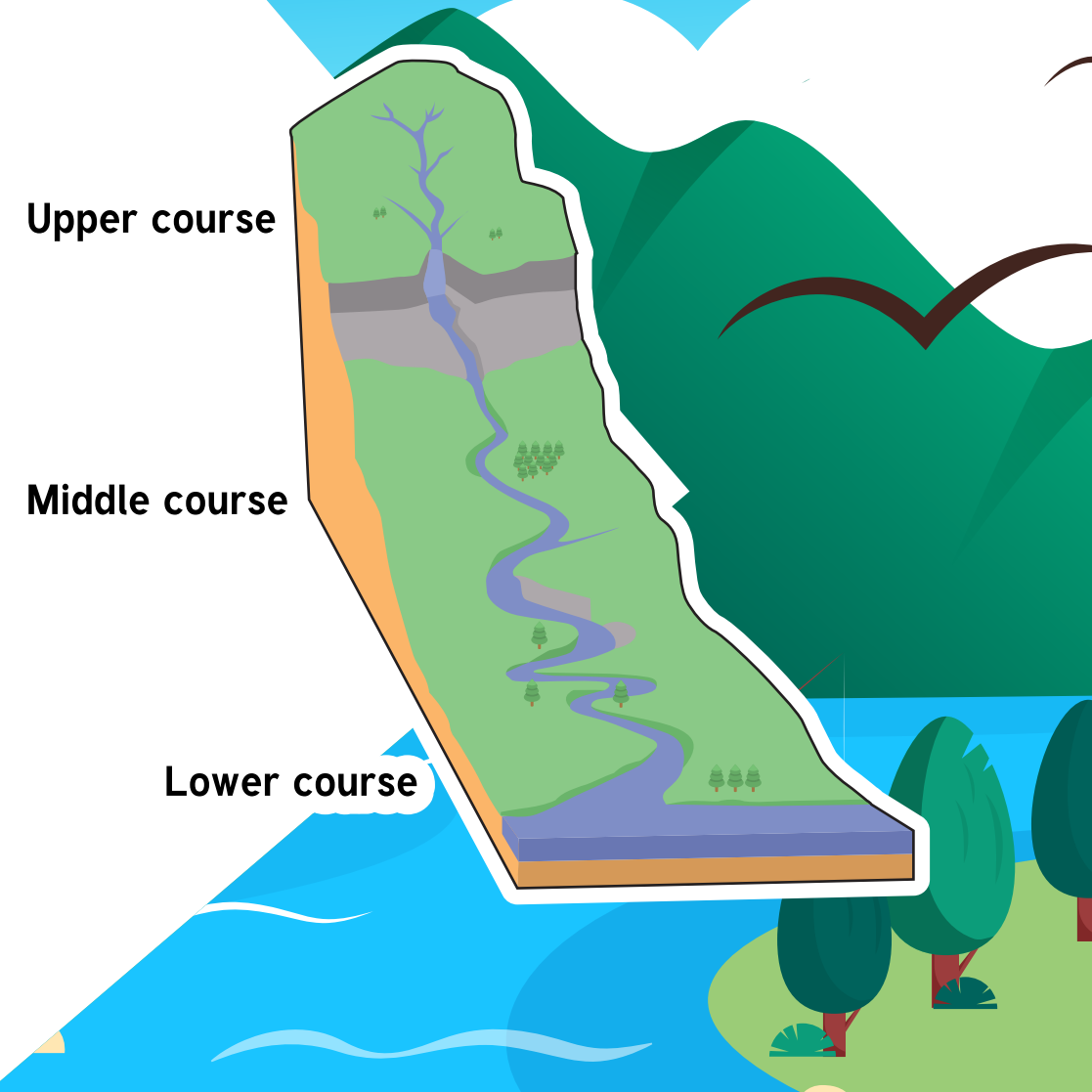


# River's journey

A river can be divided into different stages, which look and act differently.

The stages are called:

- upper course
- middle course
- lower course



## Upper course

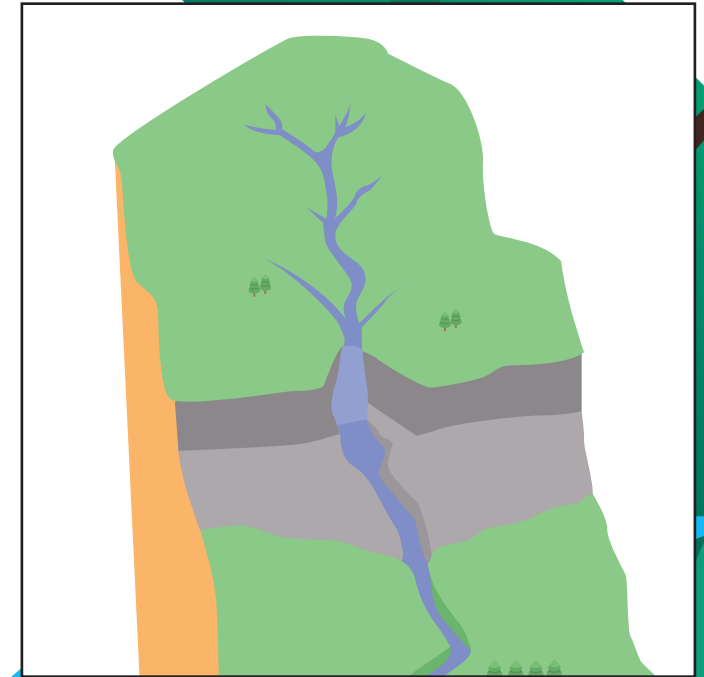
The source of a river is often found in **upland areas**, which are mountainous and where there are steep slopes. There are high levels of **precipitation**, which means the high volume of water flows quickly overland and results in the **fastest flow** on the whole river's journey. The river bed is rocky and narrow. As the river flows, it moves over rocks – the speed of the water creates energy and the water is powerful enough to transport material like rocks and boulders.

Features in the upper course:

**V-shaped valleys** – The river erodes as it travels and it carves the valley floor.

**Waterfalls** – The river can erode the softer rock layers, which leaves behind an over-hang of harder rock.

**Tributaries** – These are small rivers and/or streams that join together into the river. The more tributaries that join the river, the more powerful the speed of the river becomes as it travels.



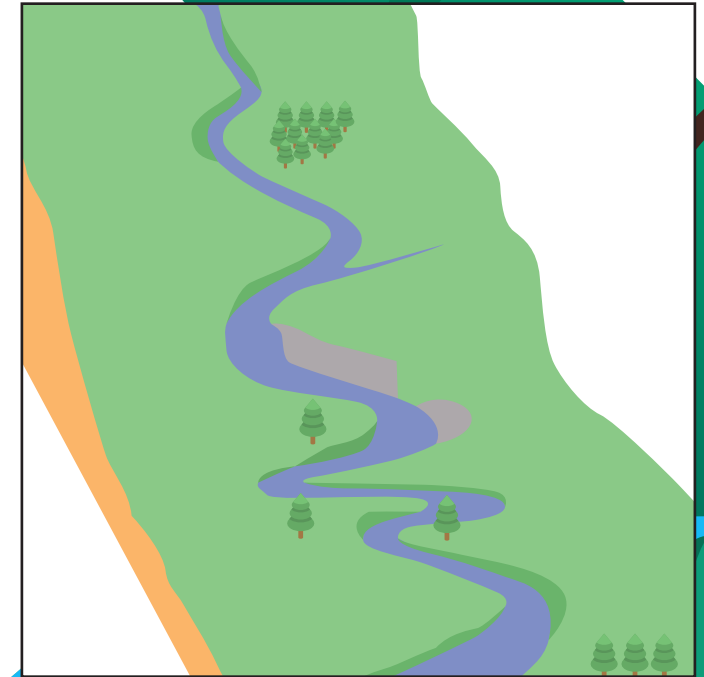
# Middle course

As the river moves into the middle course, the land becomes **flatter**.

The river becomes **wider and deeper** and begins to **loop and curve, or meander**.

In the middle course, as the river moves it continues to **erode**, so the shape of the river is constantly changing.

As well as eroding, the river also **transports** and **deposits** soil and other material further along the path.



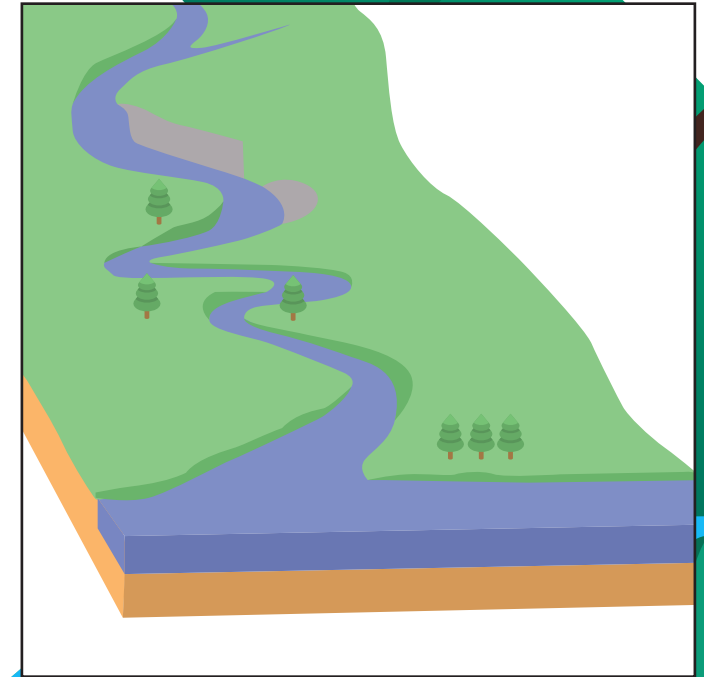
# Lower course

In the **lower course**, the land is now very flat. The valley has changed from v-shaped to **u-shaped**. This means the valley is now wide with smooth sides.

The river's flow has now **slowed**.

Its width is at its **widest**.

As the river **flows** into the sea, it may have an **estuary**, which is a **wide channel** that flows out to sea.



# What is erosion?

**Erosion:** This is the process of wearing away of the river's bed and banks. The water can also take material (soil and rock) from the river bank.

**Transportation:** This is the process where eroded material is carried downstream.

**Deposition:** This is the process of eroded material being deposited. It occurs when the water flow slows on the inside of a meander.





# Features of a river: Source

The start of a river is called the **source**. The source can sometimes be a lake, a marsh, a bog or a spring.

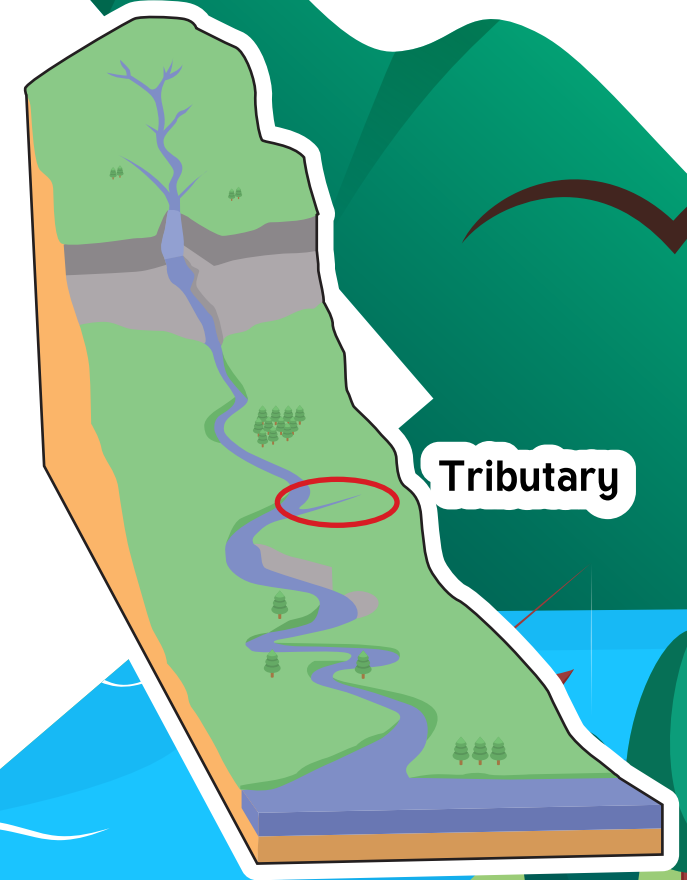
The source is usually in the mountains.

Source



# Features of a river: Tributary

A **tributary** is a stream or smaller river that flows into another larger river.



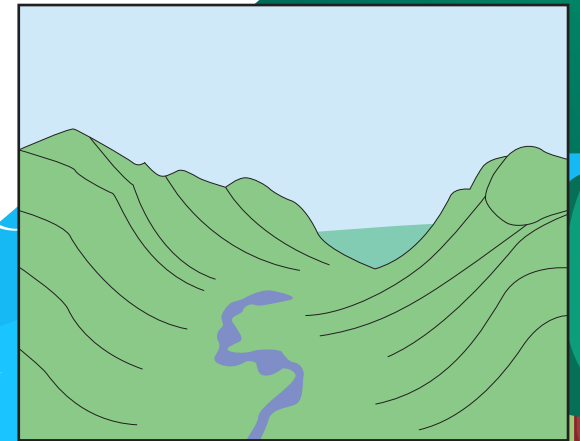
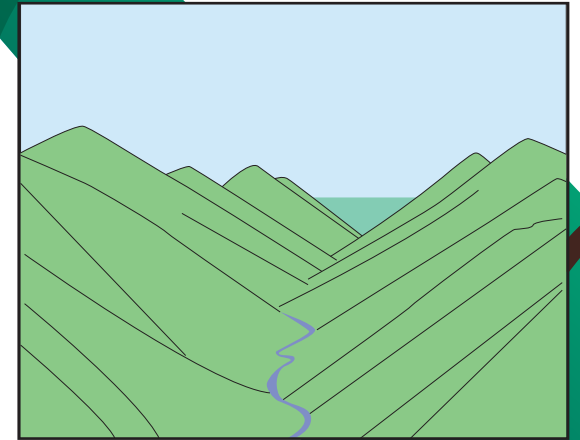
# Features of a river: Valleys

**V-shaped** valleys are found higher up on a river's course.

There are steep slopes and a narrow river bed.

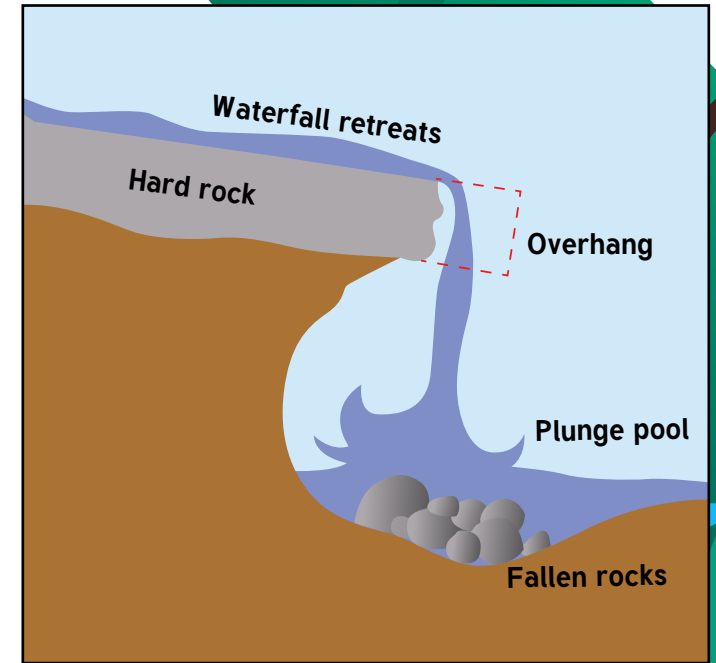
**U-shaped** valleys are lower down on the river's course.

The slopes are more gentle and rolling. There is a wide river bed and the river will also be wider in this valley.



# Features of a river: Waterfall

A **waterfall** is a cascade of water falling from a height. It is formed when a river or stream flows over a very steep rock face or cliff.



# Features of a river: Meanders

A **meander** is a curve that occurs as the river moves through increasingly flat land. It looks snake-like in its shape.

The curve in the meander changes over time.

The river is continually eroding – **sediment** (solid material) is picked up on the outside of the curves as the river is flowing fast here. The river drops it on the inside of curves as the river flows more slowly on the inside.



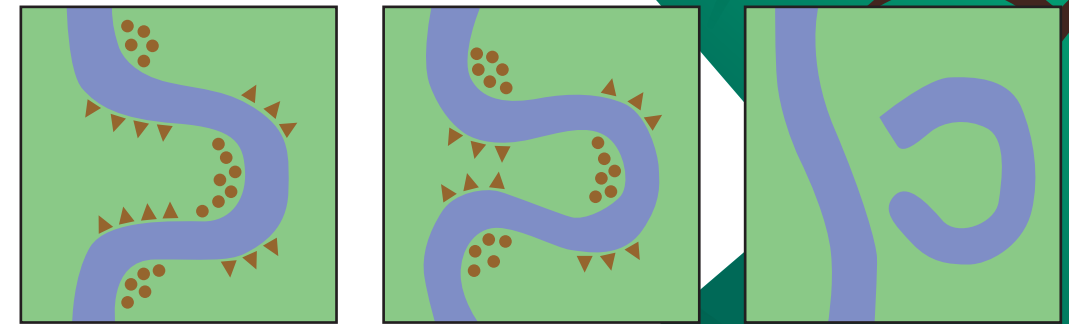
# Features of a river: Oxbow lakes

Diagram 1) The meanders in a river can become more common as it travels lower down into the land.

Diagram 2) Rivers can make significant loops as it moves. Due to erosion and deposition, loops can join together.

Diagram 3) Finally, the river will take a straighter course, which cuts off the meander altogether.

This forms an **oxbow lake**.



- Where erosion is taking place
- ▲ Where deposition is taking place



# Features of a river: Estuary

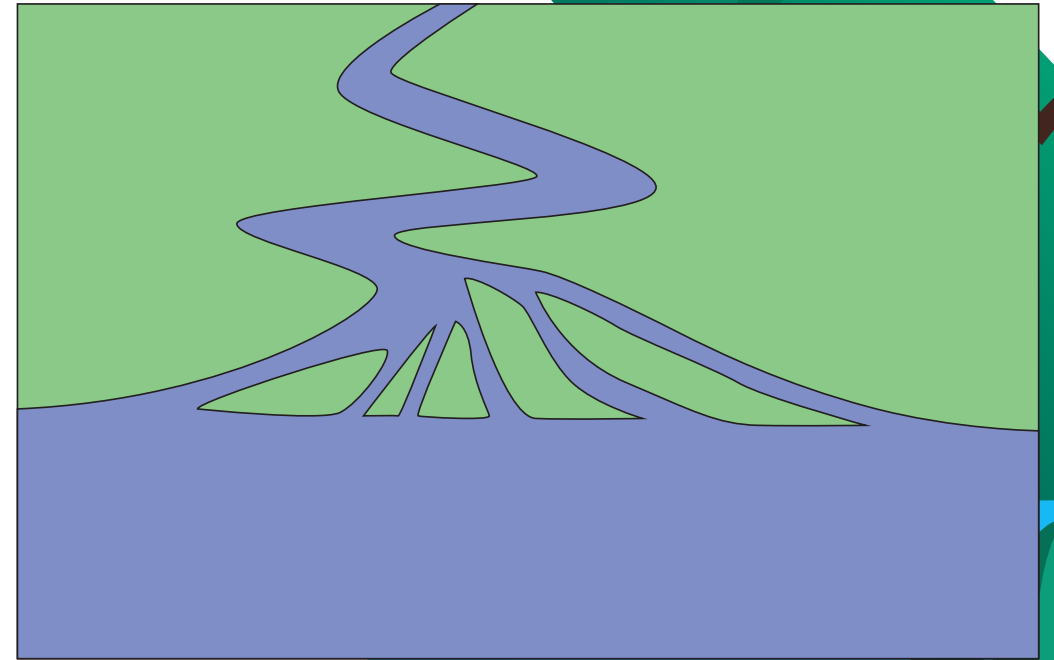
The wide part of the river near the sea is called an **estuary**. The **mouth** of the river is where the tide meets the river's stream.



# Features of a river: Delta

When a river meets the sea, it may form a **delta**.

A delta is a 'D' shaped mass of channels, which is formed when the river deposits its material faster than the sea can remove it.





# Task

Using blue and green salt dough, make a 3D model of a river's journey.

Label the following features:

upper course, middle course, lower course, v-shaped valley, u-shaped valley,

source, tributary, waterfall, meanders, oxbow lakes, mouth, estuary, delta

Take a photograph and glue into your exercise book.

## Challenge

Write a paragraph to document the journey of a river, using all the above terminology.

