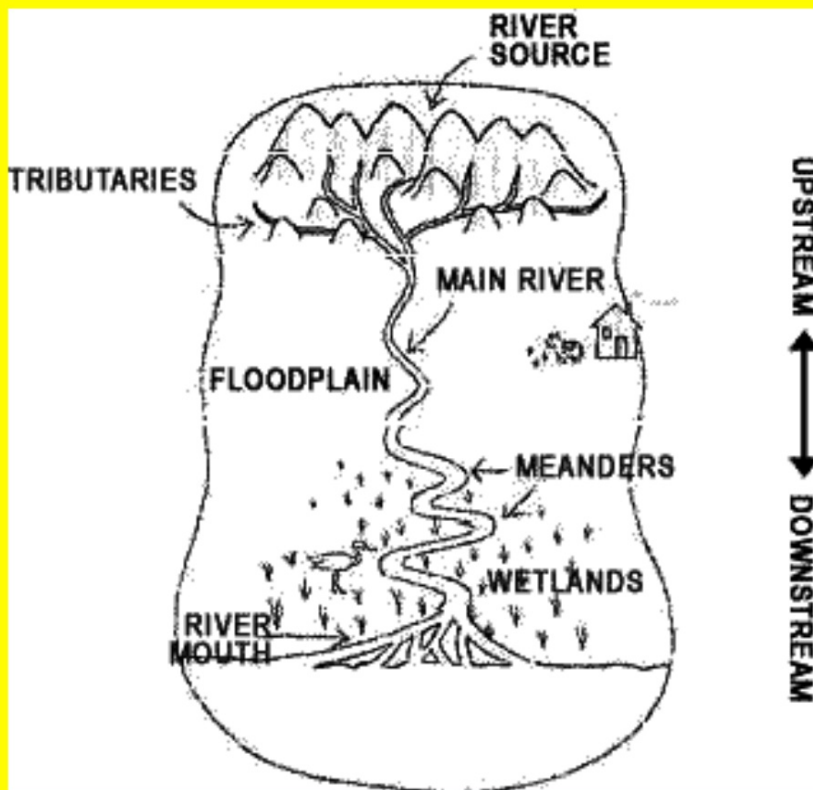


**S. Piero in Frassino Primary school  
Year V**



***CLIL Geography in English The river***

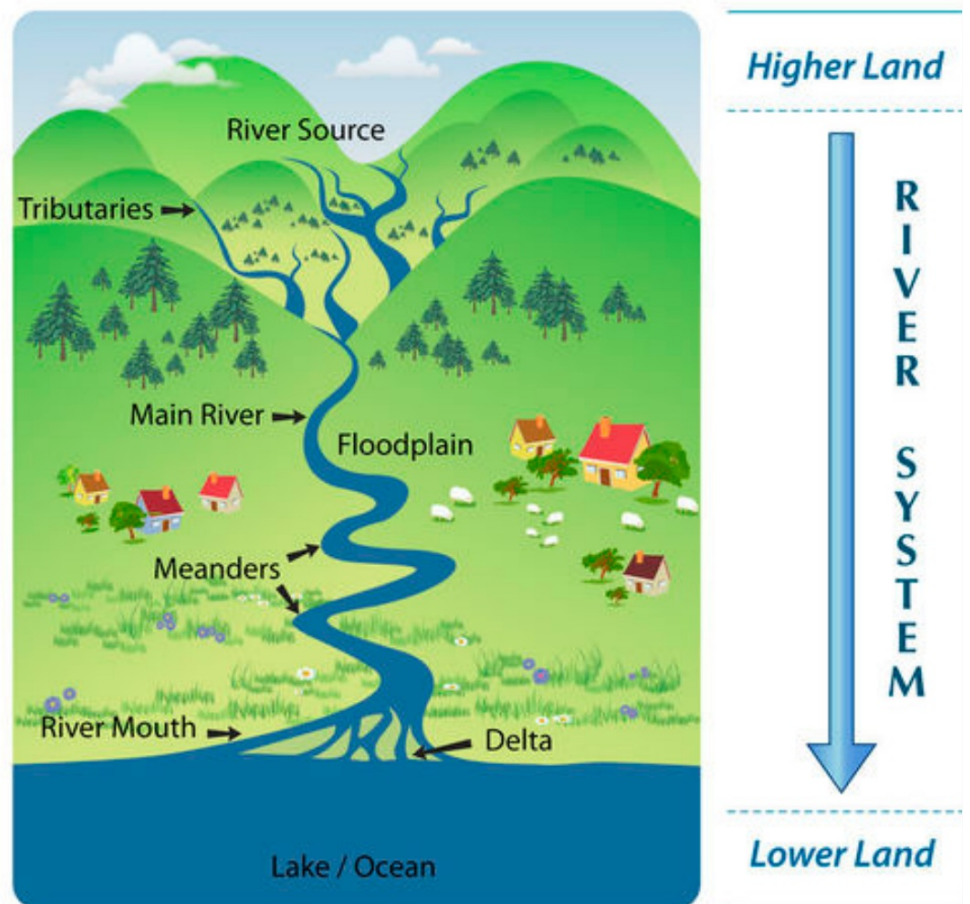
*DO YOU KNOW WHAT IS A RIVER?  
it is not a single fact but a system...*



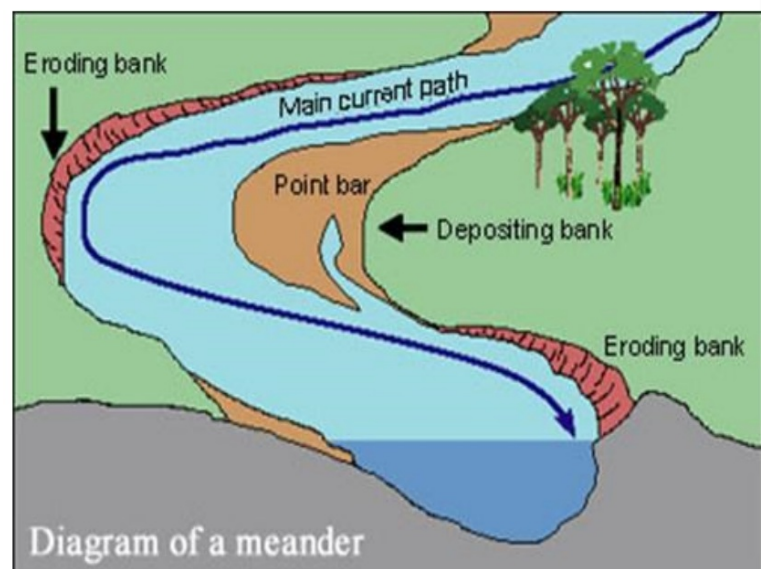
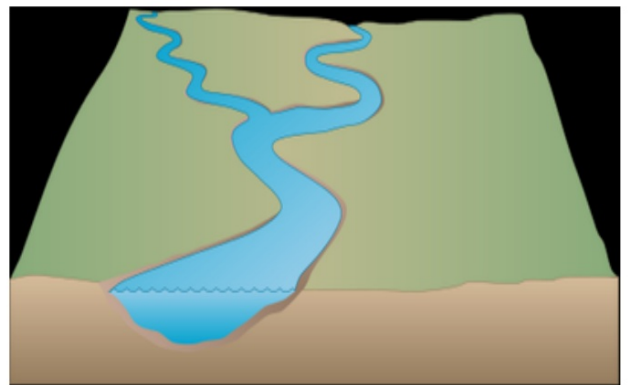
Every river is part of a larger system, a watershed, which is the land drained by a river and its tributaries. Rivers are large natural streams of water flowing in channels and emptying into larger bodies of water.

## Features of a River

The river source , also called the headwaters, is the beginning of a river. Often located in mountains, the source may be fed by an underground spring, or by runoff from rain, snowmelt, or glacial melt. The Mouth is where the river ends into the sea, into another river or lake. The floodplain is the flat zone created by the river.

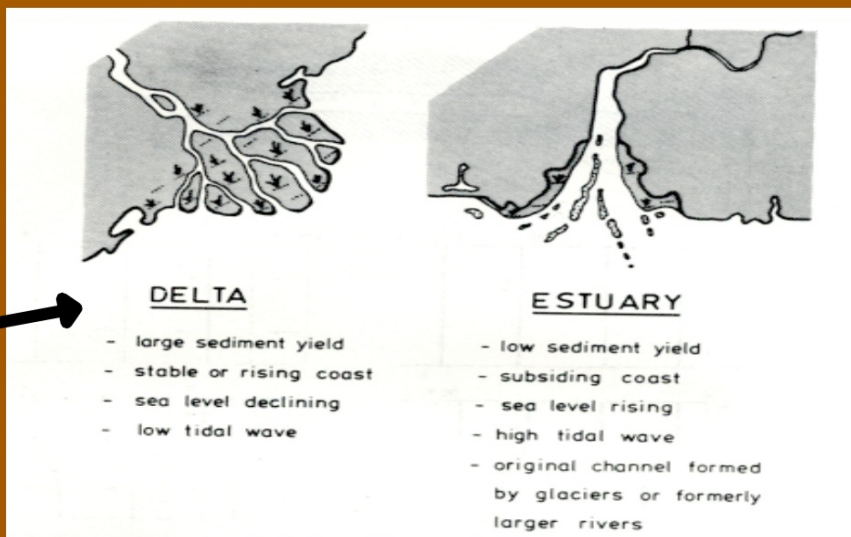


Along its course the river can be fed by other smaller rivers or streams called **tributaries**. In this way it enlarges its basin and increases the flow rate. The river doesn't always flow regularly following a straight direction, it can create some **meanders**: this happens if the river flows slowly through a flat plain. Meanders are curves created by deposit of ground brought by the current.



*There are two types of mouths for rivers: delta and estuary*

there are  
many  
branches

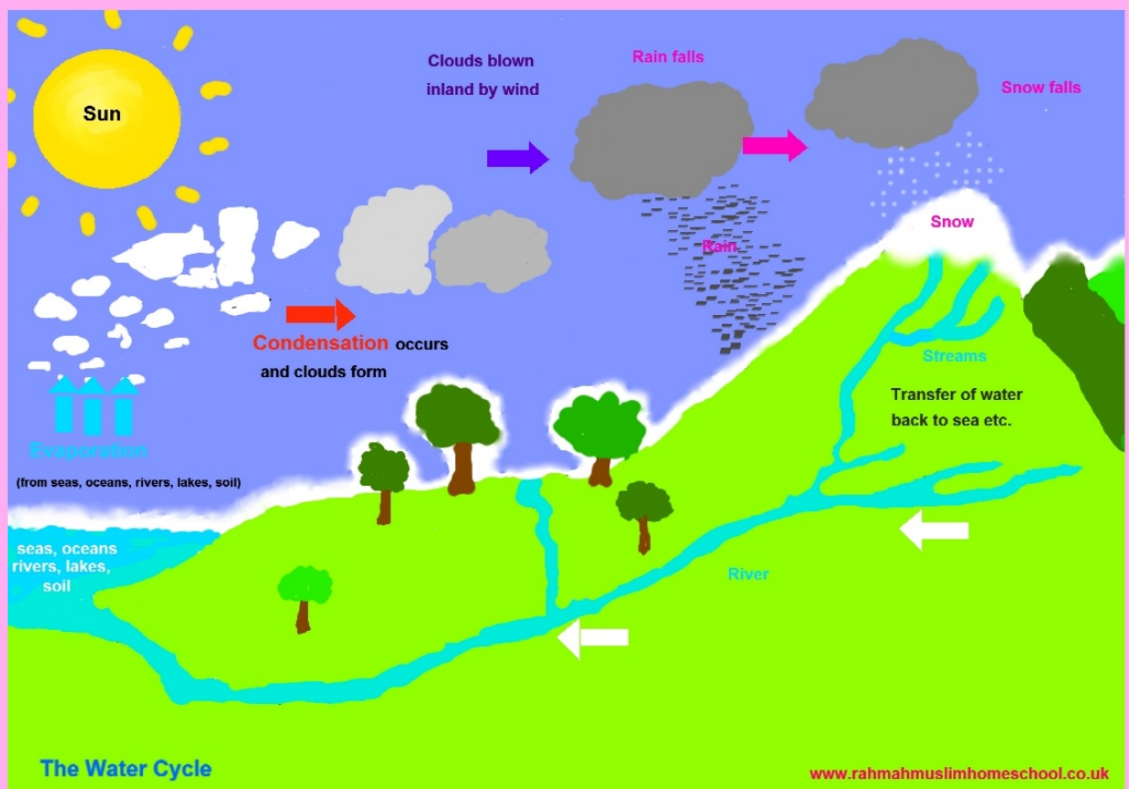


Sedimentary deposit at mouth of river due to what coastline protrudes into ocean, the tide is low.

A semi-enclosed body of water where fresh water meets the sea and there is high tide.

*A river gets its water from a spring into the ground, from precipitation or glaciers. Check the following scheme...*

## The Hydrological Cycle



The relationship between precipitation and the level of a river is very important. If **rainfalls** are abundant there is danger of flood.

The **banks** are natural slopes bordering the river but they can be artificially reinforced or built, especially when the water level is very high.

The amount of water in a river at a given time is called the **discharge**. If the discharge is high in a year and the water course is large there is a river, if the flow rate is low or irregular in a narrow bed there is **a stream**.



## What is bank protection?

- Bank protection is the action of building a resistance along a river.
- This protection is used as a form of preventing flooding and soil erosion along the river banks.
- There are many types of bank protection, parts of them are:
  - ❖ Levees (or dykes/dike)
  - ❖ Revetments
  - ❖ Groins



The river Arno is the most important river in Tuscany. It originates on Mount Falterona in the area of the Appenines, and initially takes a southward curve. The first valley created by the river is called Casentino, maybe because of its closed form. Arno's source is also called "Arno's head" and it is located near the village of Stia, in Arezzo Province. Stia is the first village crossed by the Arno.

## *The river Arno*



In Stia there was an important woollen mill in which today there is a museum dedicated to Casentino's cloth



Arno's water was very important to produce electric energy for the woollen mill and other factories





Arno's source in Mount Falterona



Foto A. Ferrini ©





The river turns to the west near Arezzo passing through Florence, Empoli and Pisa, flowing into the Tyrrhenian Sea at Marina di Pisa.

With a length of 241 kilometres it is the largest river in the region.

It has got many tributaries: Sieve and Bisenzio near Florence, the Era, Elsa, Pesa and Pescia. The drainage basin amounts to more than 8,200 square kilometres and drains the waters of the following sub-basins:

- The Casentino, in the province of Arezzo, formed by the upper course of the river
- The Val di Chiana, a plain dried in the 18th century, which, until then, was a marshy area tributary of the Tiber.
- The Valdarno, a long valley bordered from East by the Pratomagno massif and from West by the hills around Siena.
- The Sieve's basin, which flows in the Arno immediately before Florence.





*The river turns around the Pratomagno Mount so that it doesn't arrive to Arezzo city.*

In Florence, it passes below the Ponte Vecchio and the Santa Trinita bridge.

The river flooded this city regularly in historical times, the last occasion was the flood of 1966.

In fact the flow rate of Arno is an irregular one, it is sometimes described as having a torrent-like behaviour, because it can easily go from almost dry to near-flood in a few days. The highest discharge is in Autumn.



*Arno in Florence*

Is Arno river a waterway?

Is it possible to sail on it?

In Medieval times the Arno was an important waterway to carry wood from Casentino or iron coming from Isle of Elba. In Ponte a Poppi there is still an area called the port.

It was used as a line between Florence and the coast.

With the introduction of the railroad Florence-Livorno in the 19th century the navigation ended. In fact its irregular flow rate with summer drought didn't allow navigation during all the year.

Today it is possible to sail along the river only for short stretches in Florence (people like canoeing near Ponte Vecchio) or by boat near the mouth in S. Rossore natural park.





Old Bridge Ponte vecchio in Florence; it is a symbol of the city it crosses the river in one of its narrowest point where once existed a ford



Arno in Pisa



The mouth of the Arno near Pisa is an estuary

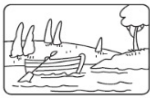
This is the end of Arno!

PEOPLE AND THEIR ENVIRONMENT



Rivers

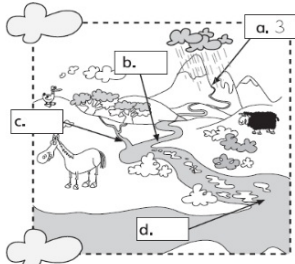
1 Match and write.



1. tributary      2. \_\_\_\_\_      3. \_\_\_\_\_      4. \_\_\_\_\_

A **tributary** is a small river. It flows into a big river.  
 A **mountain** is a very high area of land.  
 The **sea** has got salt water and covers big parts of the Earth.  
 A **river** is water. It moves from high ground to low ground.

2 Read and match.



**The course of a river**

- Rivers end when they flow into the sea. This is called the mouth of the river.
- Rivers flow downhill.
- Rivers usually begin in a high place like a mountain where it rains and snows a lot.
- Tributaries flow into big rivers.

3 True or false?

- Mountains are high. True
- Rivers end when they flow into the sea. \_\_\_\_\_
- Rivers move from low ground to high ground. \_\_\_\_\_
- Tributaries flow into big rivers. \_\_\_\_\_
- The mouth is the mountain where the river begins. \_\_\_\_\_



class activity

read and repeat the words about river:

- source
- riverbed
- watercharge
- mouth
- delta or estuary
- branches
- river banks
- tributary
- meander





