# Year 4- Rivers and Plastics from source to sea

## Geography

### Human

- How does plastics effect rivers and oceans?
- What are we doing to stop this happening? (locally/nationally and world wide)
- How is plastic harming our rivers?
- How is plastic harming India's holiest river?

### Physical

What are rivers?
How are rivers formed?
What are the different stages of a river, e.g. upper course/middle course and lower course?
What are the features of a river?
How do rivers change?
What is erosion/transportation and deposition?
Where do rivers end?
What can we learn about world rivers? (Ganges)

### Mapping

Using mapping skills as listed below to map the course of a river

- Understand that the scale of map effects how it looks.
- Understand that maps look different depending on their perspective (aerial view, bird's eye view)
- Make a map
- Draw a key
- Use maps with different scales – Large scale Ordnance Survey maps (1:1250, 1:2500) and smaller scales (1:10 000)
- Use maps with oblique and bird's eye views
- Use the scale bar to estimate distance on a map

## Science

**States of matter**

- What are solids, liquids and gases?
- What happens when we heat or cool these materials?
- How do evaporation and condensation affect the water cycle?
- Does temperature affect evaporation and condensation?

**Water cycle**

- If water is flowing down a river to the sea, why doesn't the river empty, dry up or run out of water? (link to water cycles)
- How is the water cycle a journey?
- How does the water cycle support life?

**To investigate the river as a habitat**

- What is a habitat?
- How do we use classification keys?
- Which animals live in our local environment?
- Use food chains to show how animals depend on each other.
- Know that environments can change

## Human

Pollution happens when the environment is contaminated, or dirtied, by waste, chemicals, and other harmful substances. There are three main forms of pollution: air, water, and land. A major pollution problem that affects rivers and oceans is plastic that is discarded by humans. At present, many people are trying to reduce the amount of single-use plastic used in our everyday lives.

## Local Area Virtual links

- River Exe being contaminated with microplastics
- University of Plymouth part of huge project to prevent plastic entering the English Channel
- Look at local rivers to compare and contrast to others, e.g. Plym and Dart

## Enquiry Questions

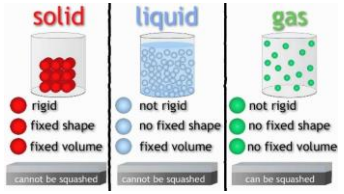
Why is the Water Cycle important?
What local rivers do I know?
Which animals use rivers are their habitat?
How can we limit the use of plastic?

## Physical

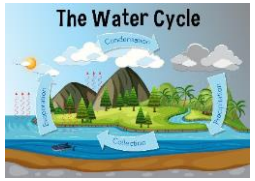
Most rivers begin life as a tiny stream on high land such as mountains or hills. They are fed by melting snow and ice, or by rainwater running off the land. The **water** follows cracks and folds in the land as it flows downhill. Small streams meet and join together, growing larger and larger until the flow can be called a river. We can follow the course of a river on a map.

## Science link

**Solids**, **liquids** and **gases** are the three states of matter.




Some materials change state when they are heated or cooled. For example, water is a liquid, but when it is heated it changes to steam which is a gas. When it is cooled it forms ice which is a solid.




The **water cycle** is the process by which **water** is continuously transferred between the surface of the earth and the atmosphere.

The **habitat** of an animal or plant is the natural environment in which it normally lives or grows. In a habitat, the animals and plants are dependent on each other. The term **food chain** describes the order in which organisms, or living things, depend on each other for **food**. Most **food chains** start with organisms that make their own **food**, such as plants.

## Key Terms

**Source –** the start of a river is its source. This could be a spring on a hillside, a lake, a bog or marsh. A river may have more than one source.
**Tributary –** a smaller river that joins a big river.
**Meander –** a river that follows a winding course.
**Valley –** a low area of land between hills or mountains, typically with a river or stream flowing through it.
**Stream –** a small river.
**Mouth –** the end of a river where it flows into the sea.
**Estuary –** where a river reaches the ocean and the river and ocean mix. Estuaries are normally flat and wide.
**Delta –** a wide muddy or sandy area where some rivers meet the sea. The river slows down and drops the sediment it was carrying.
**Pollution –** when gases, smoke and chemicals are introduced into the environment, making it harmful for humans, animals and plants.
**Erosion –** a fast flowing river can damage the riverbanks and wash bits of them downstream, making the river wider.
**Evaporation –** when a liquid becomes a gas gradually.
**Condensation –** when water vapour (gas) turns into a liquid.

## Website Links

https://wrt.org.uk/

https://www.bbc.co.uk/bitesize/topics/z849q6f/articles/z7w8pg8

https://www.nationalgeographic.org/encyclopedia/river/