WONDERFUL WATER

A cross curricular topic focusing on rivers in the UK and worldwide.
We will also be focusing on **Forces and Magnets** during our learning in Science.

Key Vocabulary	
forces	Pushes or pulls.
friction	A force that acts between two surfaces or objects that are moving, or trying to move, across each other.
surface	The top layer of something.

Key Vocabulary	
magnet	An object which produces a magnetic force that pulls certain objects towards it.
magnetic	Objects which are attracted to a magnet are magnetic. Objects containing iron, nickel or cobalt metals are magnetic.
magnetic field	The area around a magnet where there is a magnetic force which will pull magnetic objects towards the magnet.
poles	North and south poles are found at different ends of a magnet.
repel	Repulsion is a force that pushes objects away. For example, when a north pole is placed near the north pole of another magnet, the two poles repel (push away from each other).
attract	Attraction is a force that pulls objects together. For example, when a north pole is placed near the south pole of another magnet, the two poles attract (pull together).

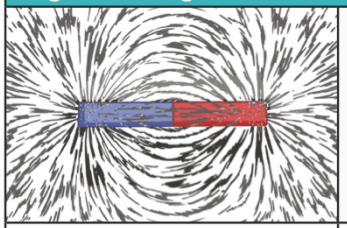
Key Knowledge

Different surfaces create different amounts of friction. The amount of friction created by an object moving over a surface depends on the roughness of the surface and the object, and the force between them.

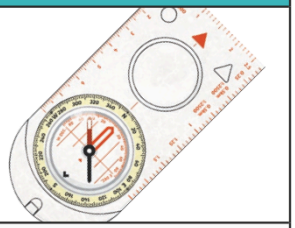
The driving force pushes the bicycle, making it move.

Friction pushes on the bicycle, slowing it down.

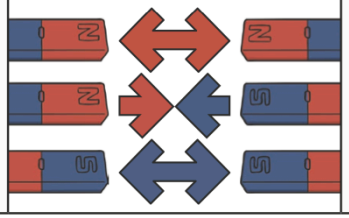
Key Knowledge



Like poles repel.
Opposite poles attract.



A magnetic field is invisible. You can see the magnetic field here though. This is what happens when iron filings are placed on top of a piece of paper with a magnet underneath.

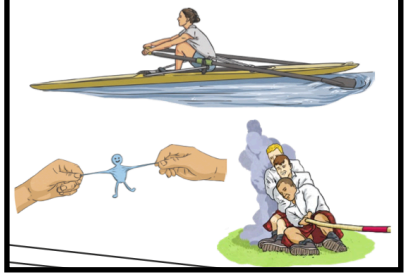


The needle in a compass is a magnet. A compass always points north-south on Earth.

SAFETY MESSAGE: NEVER PUT MAGNETS IN YOUR MOUTH!

Pushes

Pulls



Forces will change the motion of an object. They will either make it start to move, speed up, slow it down or even make it stop.

When do you 'push' or 'pull' in your everyday lives?

RIVERS KNOWLEDGE ORGANISER

Overview

-A river is a path that water takes as it flows downhill, normally towards another river, a lake, sea or ocean.

-Rivers come in many different shapes and sizes, and often join together to make larger rivers.

-As rivers a ready source of water, lots of plants/ animals often live near or in them.

-Most inland human settlements were originally formed around rivers. In addition to drinking and bathing, rivers were also important waterways for trade.

-Rivers can flood, at which point they can become exceptionally dangerous.

Diagram and Terminology

Source – This is the beginning of a river, sometimes known as its headwaters. Some come from underground springs, whilst others are formed by mountain rainfall/ snow.

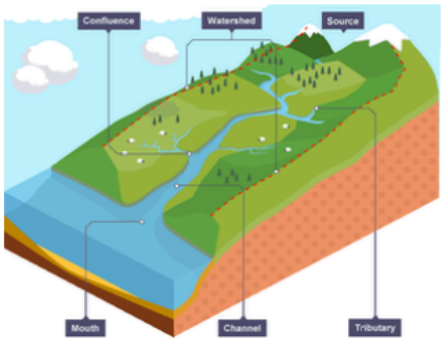
Tributary – A river or stream that feeds into another river, rather than ending in a lake, a sea, or an ocean.

Watershed – The area of land that drains into a specific river.

Floodplain – An (often low-lying) area of land which becomes covered in water when a river overflows.

Channel – The path a river takes is called its channel. A rivers course depends on the amount of water it holds, how long it has been flowing, and the types of rock that it flows over.

Riverbank – The land immediately along the river. This land is often fertile.



Confluence – The junction of two rivers.

Flow – The name given for the amount of water that a river holds. This can change through the year, e.g. in rainy seasons.

Mouth – The endpoint of a river, at which it reaches a lake. sea or ocean.

Notable Rivers

Nile		-The Nile is generally considered the longest river in the world. It runs through north-eastern Africa. It contains a vast array of wildlife, e.g Nile crocodiles and hippos.
Amazon		-Through some tributaries, the Amazon is the longest river in the world. The river holds more water than any other river – it is responsible for one fifth of all of the freshwater that reaches the world's oceans! The river supports the vast Amazon Rainforest.
Yangtze		-The Yangtze River is the longest river in Asia. It is fed by glaciers in the Tanggula mountain range of China. The river runs through China and empties into the East China Sea. The Three Gorges Dam is sited on the river.
Thames		-The Thames is one of the longest rivers in the UK, but is short (346km) compared to the world's largest rivers. It flows through London and has an estuary which feeds into the North Sea. It has frozen in winter in the past.
Mississippi		-The Mississippi River is one of the most famous rivers in North America, and runs through several major cities. The Mississippi joins with the Missouri River to form the largest river system in North America.

Important Facts

-Water always flows downhill. This is important for understanding how rivers form, and how they contribute to the water cycle.

-Rivers are fresh water – oceans are salt water.

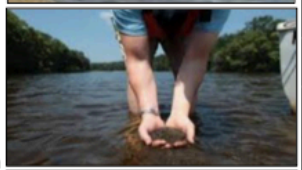
-When rivers are flowing quickly, they take bits of earth off banks downstream. This is called erosion.

-When there has been too much rainfall, rivers may overflow or 'burst their banks.' This can cause significant flooding.

-Most of the water that we drink is taken from rivers. It is cleaned before it is suitable to drink.

-Silt is material carried by running water, for example earth or minerals.

-Sometimes, rivers carry so much silt that they form new land, called a Delta.



Key Vocabulary

River

Waterway

Source

Tributary

Watershed

Floodplain

Channel

Riverbank

Estuary

Confluence

Flow

Mouth

Silt

Nile

Amazon

Nile – Africa - 6,650km

Amazon – S. America - 6,400km

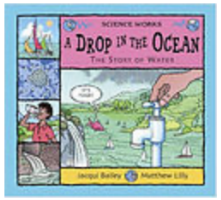
Yangtze – Asia - 6,300km

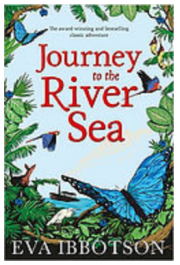
Yellow River – Asia – 5,464km

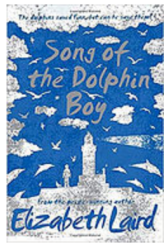
Parana River – S. America – 4,880km

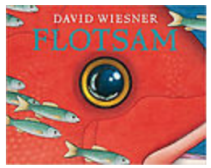
Additional texts to read during this topic:

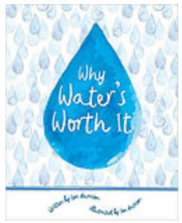
(These books are available in your local library or from bookstores)

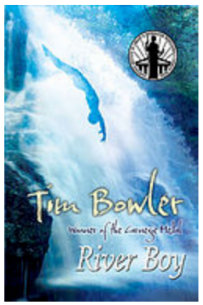


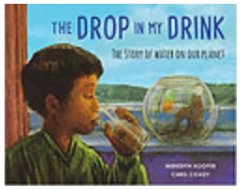


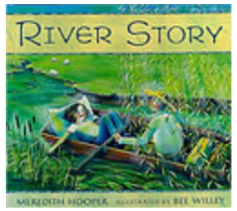












Local places to visit:

We are fortunate to live in a city with a wonderful river. A trip to the River Severn and the local development of the fish pools at Bevere/Diglis is well worth a trip.

Visit your local canal (Droitwich/Worcester)- watch the canal boats, take a walk and look for local wildlife.

Top Barn/Aztec also offer opportunities for fun on the water.

Make sure you **STAY SAFE** when you are near water.

Vertical Drivers

Local Environment- how does **it** make us feel to be outside/ near the river. Take time out for our health and well being.

Staying Safe- how we can stay safe when we are near

Challenge Tasks

Complete a river/water study. Explore (with supervision) bodies of water: pond, stream, brook, stream, river, lake near your own home. What are the features of this body of water? What wildlife can you observe that use this water? What other uses are there for this water, e.g. water sports.

Key Questions

- How long is the River Severn?
- Why do rivers flood?
- How can this affect people/wildlife?
- How do flood defences work? Do you think these are a good idea? Why?
- How do rivers form?
- What process does water have to go through to make it safe to drink?
- How many different uses can you think of for water?
- Which is the longest river in the world?
- Why were rivers particularly in the past?