



Beech Class Learning Mats

Autumn Term 1&2

Article 28

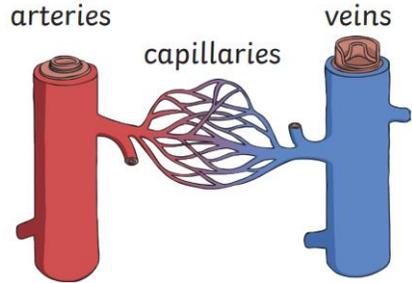
Every child has the right to an education.



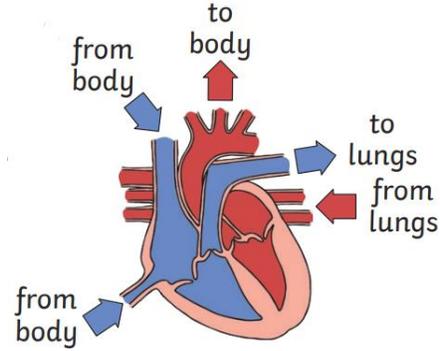
As Scientists we are learning about...

What would a journey through our body look like?

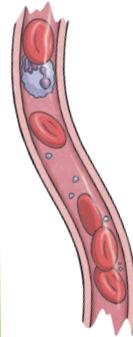
If you linked up all of the body's blood vessels, including arteries, capillaries, and veins, they would measure over 60,000 miles.



Mammals have hearts with four chambers. Notice how the blood that has come from the body is deoxygenated, and the blood that has come from the lungs is oxygenated again. The blood isn't actually red and blue: we just show it like that on a diagram.



Plasma is liquid. The other parts of your blood are solid. Platelets help you stop bleeding when you get hurt. Red blood cells carry oxygen through your body. White blood cells fight infection when you're sick.



Blood transports:

- gases (mostly oxygen and carbon dioxide);
- nutrients (including water);
- waste products.

Regular exercise:

- strengthens muscles including the heart muscle;
- improves circulation;
- increases the amount of oxygen around the body;
- releases brain chemicals which help you feel calm and relaxed;
- helps you sleep more easily;
- strengthens bones.

It can even help to stop us from getting ill.

Key Vocabulary

Circulatory system

A system which includes the heart, veins, arteries and blood transporting substances around the body.

Heart

An organ which constantly pumps blood around the circulatory system.

Blood vessels

The tube-like structures that carry blood through the tissues and organs. Veins, arteries and capillaries are the three types of blood vessels.

Oxygenated blood

Oxygenated blood has more oxygen. It is pumped from the heart to the rest of the body.

Deoxygenated blood

Deoxygenated blood is blood where most of the oxygen has already been transferred to the rest of the body.

Nutrients

Substances that animals need to stay alive and healthy.

Arteries

Arteries carry oxygenated blood away from the heart.

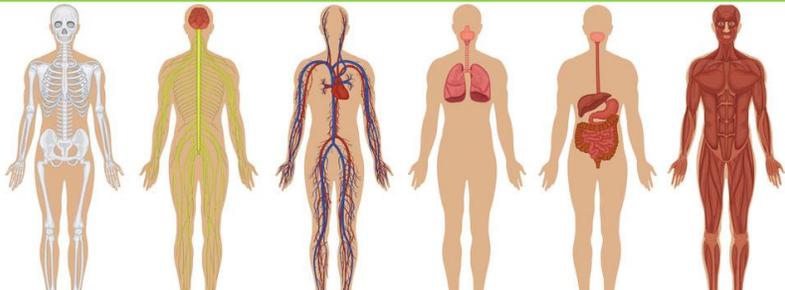
Veins

Veins carry deoxygenated blood toward the heart.



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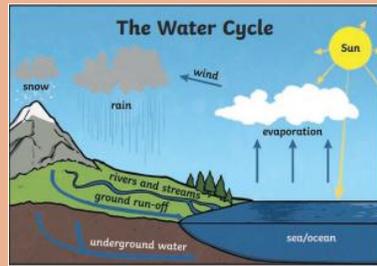


Going further with your learning...

Are there any other systems in our body?

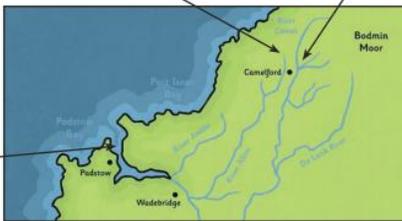
If so, what are the purpose of these?

As Geographers we are learning about... Will you ever see the water you drink again?



Some rivers join up with other rivers (**tributaries**). The point where they meet is called a **confluence**.

The **source** of most rivers is on high ground or in the mountains.



Rivers in England, at their **mouth**, will flow into either the: North Sea, Irish Sea, English **Channel** or Atlantic Ocean.

The Course of a River

The Upper Course
Rain falling on high ground collects in **channels** and flows downwards forming a stream. Streams run downhill and join other streams, increasing in size and speed, forming a river. The river here flows quickly and the channel has steep sides and runs through **valleys**. Features include - waterfalls and rapids.

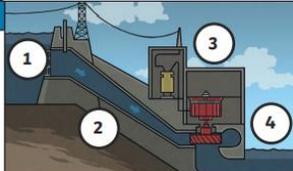
The Middle Course
Fast flowing water causes **erosion** making the river deeper and wider. Features include - meanders.



The Lower Course
Rivers flow with less force due to being on flat land. The river **deposits** the eroded material that it has carried. Riverbanks have shallower sides. Features include - floodplains, deltas and estuaries.

Hydroelectric Power

1. Water is held behind a **dam**.
2. When needed, some of the water is released and flows through a pipe (penstock).
3. The falling water turns a water wheel (turbine) which is linked to a generator which produces electricity.
4. The water continues into the river on the other side of the **dam**.



How Do We Use Rivers?

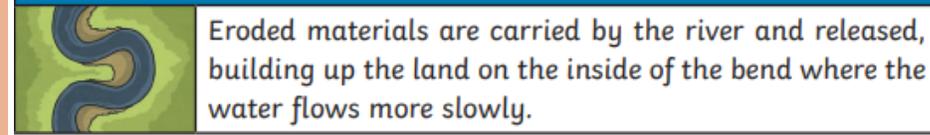
Leisure e.g. fishing	+	Controlled population of fish
	-	May leave litter and pollute the water
Industry e.g. factories	+	Sections of rivers maintained
	-	Chemicals pollute the water and habitats
Tourism e.g. walking routes	+	Conservation and education about local wildlife
	-	Too many people near wildlife habitats



Dams
Dams are built to hold water back, usually in a reservoir. Dams might be built to:

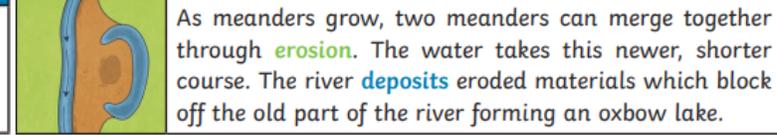
- control the flow of a river to prevent flooding.
- generate power

Meander - a curve in the river

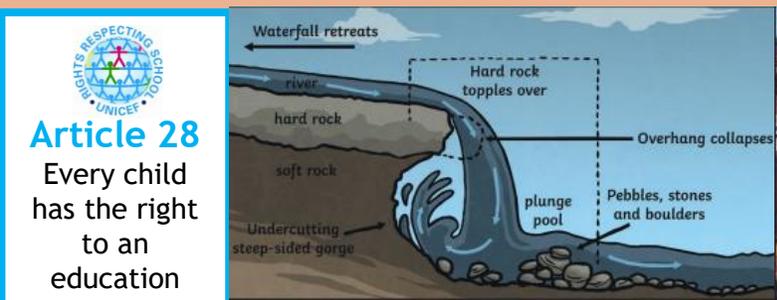


Eroded materials are carried by the river and released, building up the land on the inside of the bend where the water flows more slowly.

Oxbow lakes - a U-shaped lake



As meanders grow, two meanders can merge together through **erosion**. The water takes this newer, shorter course. The river **deposits** eroded materials which block off the old part of the river forming an oxbow lake.



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Going further with your learning...

How can we become more sustainable using water?



Key Vocabulary

Channel

The course in the ground that a river or water flows through.

Dam

A barrier built to hold back water.

Deposition/deposit

When rocks and other materials that have been eroded are dropped off further along the river.

Discharge

The amount of water flowing along a river per second.

Erosion

Rocks and other river materials are picked up by the water and moved to another place along the river.

Mouth

The point where a river joins the sea.

Source

The place where a river begins.

Tidal bore

A strong tide from the coast that pushes the river against the current causing waves along the river.

Tributaries

Rivers that join up with another river.

Valley

A long ditch in the earth's surface between ranges of hills or mountains

