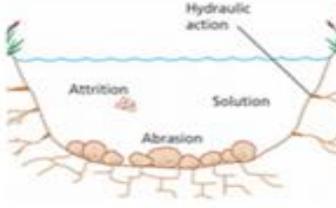


Rivers and Waterways

	Year	Year 5/6	Main focus	Geography topic	
	Key Waterways in UK and World			Key Information	
	Rivers		Canals		Rivers – Source to Sea Features of a River How do we use Rivers now and historically River pollution and environmental issues
Thames (Local Study) Amazon Nile Mississippi Rhine Yangtze		Suez Canal Grand Union Canal			

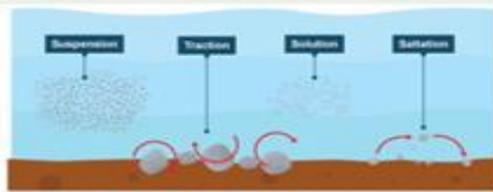
Keywords	
River	A flow of fresh water across the land into a lake, sea or ocean.
Landscape	A part of the Earth's surface.
Lake	A large area of water, surrounded by land.
Sea	An area of salt water.
Ocean	A large area of sea. There are five oceans: Atlantic; Pacific; India; Arctic; Southern.
Source	The start of a river
Mouth	The end of a river, where it enters a lake, sea or ocean.
Erosion	The wearing away of the Earth's surface.
Transportation	The movement of sediment (material).
Sediment	Natural material that is carried and deposited by a river.
Deposition	The dropping of sediment.
Riverbed	The bottom of the river.
River banks	The sides of the river.
Landform	A feature on the Earth's surface that is part of the land.
Tributary	A smaller river that flows into a larger river.
Agriculture	Farming (growing crops, such as cereals, fruits and vegetables)

Erosion	
Abrasion	Sandpapering: rocks wear away each other and the riverbed and banks
Attrition	Crashing: rocks collide and break up
Solution	Chemical action: acids in the water dissolve the rock
Hydraulic action	Water power: the force of the water breaks down the riverbed and banks.

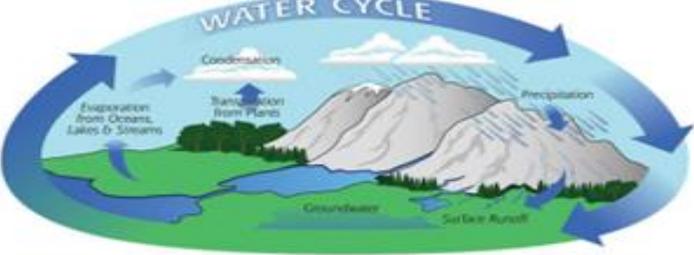


Famous Rivers	
Amazon River, South America	
Volga River, Russia	
River Nile, Sudan & Egypt	

Transportation	
Traction	Tractor wheels: large rocks roll along the riverbed
Saltation	Jumping beans: pebbles bounce along the riverbed
Suspension	Hoverboard: small sediment is carried along in the flow of the river
Solution	Invisible material: the smallest sediment is dissolved into the water



Water Cycle	
The water cycle is the way in which water moves around the world.	





The River's Course	
1 - Source	
2 - Interlocking spur	
3 - V-shaped valley	
4 - Waterfall	
5 - River channel (widens in middle course)	
6 - Meander (erosion on outside of bend)	
7 - Meander (deposition on inside of bend)	
8 - Oxbow lake	
9 - Rich, fertile land either side of the river	
10 - Mouth	

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.

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.

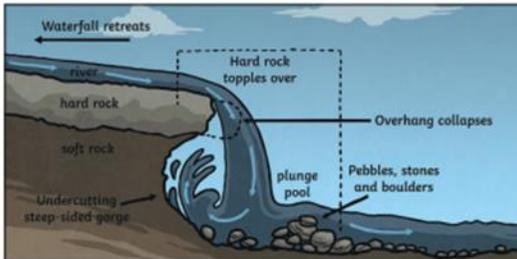
Oxbow lakes - a U-shaped lake



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.

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.

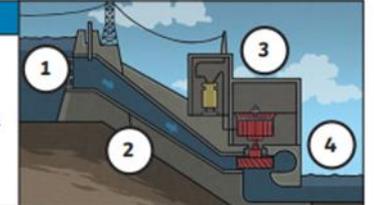
Dams might be built to:

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



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**.



Useful resources/links

<http://www.primaryhomeworkhelp.co.uk/rivers.html>

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

<https://www.natgeokids.com/uk/home-is-good/fascinating-facts-about-rivers/>

Computing links

ICT 123 pack

Geography skills based knowledge

<p>Skills</p> <p>Describe and understand key aspects of (Key elements of these focused on through work on waterways and rivers)</p> <p>*Physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes and the water cycle</p> <p>*human geography, including: settlements, land use, economic activity including trade</p> <p>*links and the distribution of natural resources including energy, food, minerals and water supplies.</p> <p>* Use fieldwork to observe, measure and record the human and physical features in the local area using a range of methods, including sketch maps, plans and graphs and digital technologies.</p> <p>Use the eight points of a compass, four-figure grid references, symbols and a key (that uses standard Ordnance Survey symbols) to communicate knowledge of the United Kingdom and the world.</p>	<p>I can explain why many cities are situated on or close to rivers</p> <p>I can explain why people are attracted to live by rivers and waterways</p> <p>I can explain the course of a river</p> <p>I can name and locate many of the world's most famous rivers in an atlas</p>
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What pupils need to know or do to be secure		
Key learning	Suggested activities	Possible evidence/assessment
<p>Water Cycle - Understand and identify the features of the water cycle.</p> <p>How do Rivers get their water? - Understand about watershed and that rain travels in different ways on different terrain.</p> <p>From Source to Sea</p> <ul style="list-style-type: none"> • Be able to locate young rivers on a map. • Be able to identify the different stages of a river from sea to source, especially a young river in a V-shaped valley. • Be able to locate mature rivers on a map. • Be able to identify the different stages of a river from sea to source, especially a mature river in a floodplain. <p>Features of a River – Be able to identify the different features of a river.</p> <p>Key Vocab Upper course, middle course, lower course, valley, channel, waterfall, rapids, gorge, meander, tributary, confluence, flood plain, levee, delta, estuary.</p>	<p>Recreate a mountain range (river source); learn about watershed and the terms associated with water travelling to rivers.</p> <p>Make a model showing a river's source and a V-shaped valley; begin to identify the different stages of a river from sea to source.</p> <p>Make a mature, meandering river and floodplain in order to consolidate your knowledge of the different stages of a river.</p> <p>Create an information leaflet to show the different features of a river</p> <p>Research about the use of rivers and waterways and find out how their use has changed over time</p> <p>Learn about the use of hydro electric power and waterwheels and how water is used within industry</p> <p>Environmental study – how are rivers and waterways polluted – what impact is this having on nature and the environment and what changes are needed.</p>	<p>Identify the sources of rivers on mountain moorlands and understand how tributaries feed into a fast flowing river.</p> <p>Understand how the fast flowing river water erodes the rock beneath and causes a V-shaped valley, often with interlocking spurs. Label the features of a young river and its landscape on model.</p> <p>Identify mature rivers and their floodplains and understand that mature rivers feed into the sea.</p> <p>Understand how the different flow-speeds of a mature river erode the</p>

<p>How do we use Rivers? – Use of rivers for leisure, hydroelectric power, industry</p> <p>River Thames - focusing on its history, where it flows and how it is used throughout its journey (local study). Looking at the structure of the many different bridges which cross the Thames.</p> <p>Canals – What is a canal, how were they built and what were they used for. Research the importance of these historically and find out how locks work and why they are used within canals (local study)</p> <p>Pollution of Rivers and Waterways – Environmental study. Research about the pollution of waterways and rivers, the impact this is having on nature and the environment and what changes are needed.</p>	<p>River Thames – local study – map out its journey and visit different local sections (Abingdon Abbey, Henley River and Rowing Museum) to find out about the different uses now and historically of the river.</p>	<p>bank and deposit sediment, creating meandering bends and sometimes oxbow lakes.</p> <p>Label the features of a mature river and its landscape on model.</p>
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Links to English	<p>Water Tower – Gary Crew – Suspense Writing</p> <p>Flotsam – David Weisner – Narrative</p> <p>River Stories – Timothy Knapman – Information Writing</p> <p>The Lost Words – Poetry</p> <p>River Poetry</p>
Links to maths	Data collection and interpretation of results.
Links to other humanities	History Links throughout the topic researching the changes in use of waterways and rivers over time focusing specifically on the River Thames
Links to the arts	<p>River Art by Monet – Consider and discuss some paintings from Monet’s River Thames series. Discover the importance of light and colour to Monet in creating an impression of a scene. Paint a version of Monet’s work using 4 carefully matched colours.</p> <p>River Pollution Sculpture – Creating 3D sculptures of animals and creatures living within the waterways and rivers using plastic pollution/recycled materials.</p>
Other curriculum links	<p>Science</p> <p>Describe the life process of reproduction in some plants and animals.</p> <p>Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.</p> <p>Habitats of creatures living along the rivers and waterways</p> <p>Floating and sinking – water resistance</p> <p>Pollution of rivers and waterways – environmental study</p>