

Year 4

Rivers

Prior Knowledge:

In Year 3 you learnt about the Lake District which has many bodies of water, including rivers. In Year 4 you have compared the Lake District with the Alps. You have also learnt about how to read a map, including using the symbols indicated on the key. As part of your fieldwork study, you will look at maps of the area we are visiting. You can also use your knowledge of the water cycle to make links with evaporation and condensation.

Books, texts, primary and secondary sources you may use:

- New KS2 Discover & Learn: Geography - Rivers Study Book – CGP
- DK [Website](#) – Rivers

Suggested family experience:

Visit a local river e.g. the River Stour at different points. The Stour rises in the Clent Hills and flows through Halesowen, Stourbridge, and Kidderminster, before joining the River Severn at Stourport. What stage is the river at youthful, middle aged or mature?

National Curriculum:

Describe and understand key aspects of physical geography, including:

- climate zones, biomes and vegetation belts, **rivers**, mountains, volcanoes and earthquakes, and the water cycle.

Geographical Skills and Fieldwork:

- use fieldwork to observe, measure, record and present the human and physical features in the local area using a range of methods, including sketch maps, plans and graphs, and digital technologies.
- Take digital photos of fieldwork carried out and annotate them with captions and/or labels.
- For further information on fieldwork, please see Geography progression document.

Vocabulary you will use:

| Word | Definition |
|----------------------------|--|
| bed | Floor of a river |
| bank | The land next to a river, sometimes it slopes down to it |
| brook, beck, creak, stream | Different words for a small river |
| channel | The hollow in which the river flows |
| delta | Where a river splits into several branches before entering the sea |
| deposition | The dumping of rocks |
| erosion | The wearing away of rocks |
| floodplain | A low areas of land next to a river which sometimes floods |
| gravity | The force that attracts things to the centre of the Earth |
| meander | A bend in the river |
| mature | A river near its mouth |
| ox-bow lake | Parts of a meander cut off from the rest of a river |
| source | The start of a river |
| spring | Water that flows from underground |
| transportation | The movement of rocks |
| youthful | A river near its source |

Quick Summary

There are three main stages of a river, different physical processes happen at each stage. The Rivers Stour and Severn are local to Lutley Primary School. We have a brook nearby our school which is a type of small river. We can study rivers by carrying out fieldwork. We will be conducting some fieldwork whilst visiting a river during this unit of work. We will consider what primary sources of information we can gather to study the environment around us, including making, recording and evaluating our observations. As we will be by a body of water, we will need to ensure that we are considering ways to keep ourselves safe. We will also visit the brook in the grounds of our school.

The brook at the bottom of our school drive.



Questions we'll ask you throughout the unit to check your knowledge and understanding

What is a river?

Can you describe the 3 main stages of a river?

What is fieldwork?

What did you learn from your fieldwork study about rivers?

Lesson 1: What is a river?

A river is a moving body of water that flows from its **source** on high ground, across land, and then into another body of water, which could be a **lake**, the **sea**, an **ocean** or even another river.

A river flows along a **channel** with **banks** on both sides and a **bed** at the bottom.

If there is lots of rainfall, or snow or ice melting, rivers often rise over the top of their banks and begin to flow onto the **floodplains** at either side.

Small rivers are usually known as **streams**, **brooks** or **creeks**. If they flow from underground they are called **springs**.



Rivers usually begin in upland areas, when rain falls on high ground and begins to flow downhill. They always flow downhill because of gravity.

They then flow across the land - **meandering** - or going around objects such as hills or large rocks. They flow until they reach another body of water.

As rivers flow, they **erode** - or wear away - the land. Over a long period of time rivers create **valleys**, or **gorges** and **canyons** if the river is strong enough to erode rock. They take the **sediment** - bits of soil and rock - and carry it along with them.

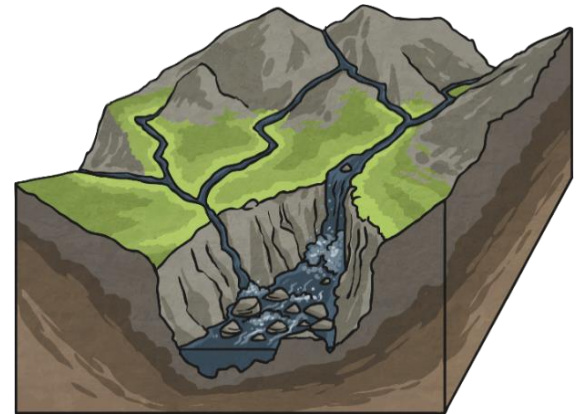
Lesson 2: Youthful Rivers



Fast flowing river.



Water flows faster near the source.



The direction of erosion is downwards in the river bed which forms a v-shaped valley. As the river is fast flowing there is very little deposition.

Lesson 3: Middle-aged and Mature Rivers

At the middle-aged stage, the river starts to slow down and the erosion is to both the river bed and the banks of the river. This causes the river to widen and to bend and twist, forming meanders and, sometimes, ox-bow lakes. Deposition of silt happens at the sides of the banks of the river as they are usually not as deep as the centre of the channel.

Middle-Aged River



Mature River



In the mature stage, the river is much wider because the land is flatter and so the river is much slower. This leads to erosion mostly to the banks and little or no erosion to the river bed. After heavy rain or melting snow, the river can flood at this stage. Although this is dangerous, the deposition brings nutrients which is good for agriculture.

A delta is sometimes formed where a river meets the sea. This is formed because the river slows down quickly when it meets the sea and deposition happens quickly. Sometimes rivers flood at the mature stage which speeds the deposits on the soils which makes it very fertile and good for growing crops.

Lesson 4: Preparation for fieldwork

Mapwork: We will locate the area we are going to study, on a map.

Fieldwork is when you go **outside the classroom** and find things out for yourself. When carrying out fieldwork, you will need to:

- observe
- plan
- question
- research
- collect and record data
- stay safe
- present your findings

Human and physical features

Fieldwork includes investigating both **human** and **physical features**.

Human features are things that have been **built**, such as: houses, towns, cities, walls and roads.

Physical features are anything that has formed naturally and that humans haven't made, such as: rivers, lakes, oceans, volcanoes, mountains.

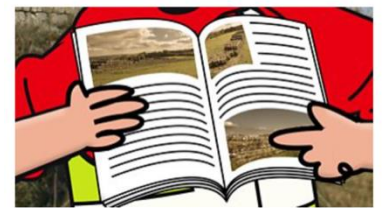
Sources of information

Information can be found in both **primary** and **secondary sources**. Fieldwork involves collecting primary sources of information.



Secondary sources of information are usually based on primary sources, such as: magazines, textbooks, guidebooks and newspapers.

Primary sources of information are things that were collected at the time, and include: photographs, diaries and videos.



Even though you may have swimming lessons and feel safe around water, we will discuss ways in which you will keep yourself safe around the different parts of a river.

We will NOT be entering the river at any point of the fieldwork study.

1. Never jump or step in water, even if it doesn't look very deep.
2. Water may be very cold or very dirty so never step in the water
3. Wash your hands thoroughly for 20 seconds using soap if you do get water on your hands.
4. Look out for signs that may warn you of any dangers.
5. Never walk away from the adults supervising you.
6. Alert an adult if you see anyone not keeping themselves safe



ALWAYS follow the safety instructions on any

Lesson 5:
Fieldwork

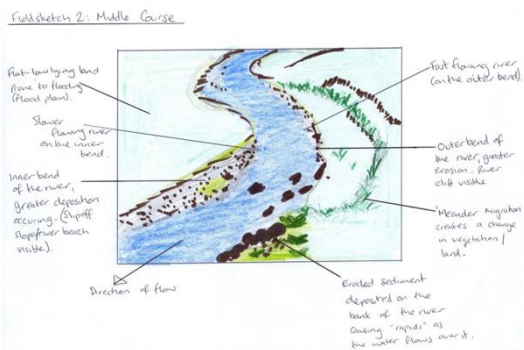
Our fieldwork study:

We will visit Severn Valley Country Park in Alveley, to carry out a fieldwork study. We will:

- observe, measure and record the human and physical features we see there
- when returning to school, we will use what we have learnt to present our findings using a range of techniques

Fieldwork will be led by the rangers at the country park, in line with KS2 Geography curriculum for Rivers. The learning experiences will include:

Field
sketches



We will draw what we can see. We will focus on the key features of a river, rather than drawing everything we can see. For example, rather than drawing wildlife, we will draw and label river features using appropriate geographical vocabulary like bank/meander/channel. See the WAGOLL, left..

Taking
measurements

For example, you may measure the speed of the flow of water in one of the streams in the park. For this you will use floats, a tape measure, stopwatch and clipboard. You will record your results in a table like the one on the right.

| | Time | Speed (m/s) |
|---------|------|----------------|
| Group 1 | | |
| Group 2 | | |
| Group 3 | | |

Taking
photographs

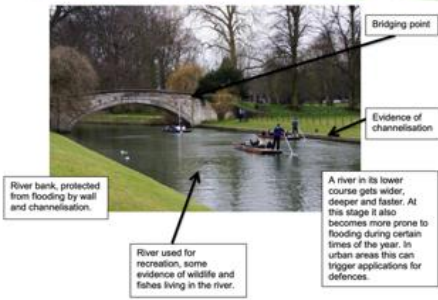
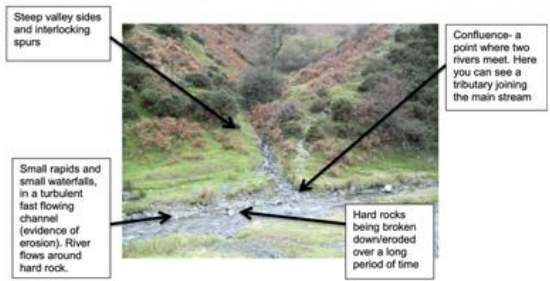
You will take photographs of the river features you identify. These can be printed and annotated back in school.

Making
notes

What is this place like? What river features can I see? Can you identify any other physical geographical features? Are there any human features? What are they? What evidence is there of how this place has changed over time? How does this place make you feel? Why do people visit this place?

Lesson 6:
Presenting
our findings

When we return to school, we could present our work by annotating photos that we took with the features we identified. See the example.



We can also study our sketches and water flow studies at different points of the river and make comparisons. We can use our knowledge organiser to highlight the features we observed.