

# Year 4

# Rivers

### Prior Knowledge:

In Year 3 you learnt about the Lake District which has many bodies of water, including rivers. At the beginning of Year 4 you 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, which will learn more about in science.

### 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 Severn at different points. 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.

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.

### Vocabulary you will use:

Word	Definition
bed	Bottom of a river
bank	The land next to a river, sometimes it slopes down to it
brook	Small river
channel	Something that joins two areas of water
creek	Small river
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
meanders	Bends and changes to direction in a river
mature	A river near its mouth
ox-bow lake	Parts of a meander cut off from the rest of a river
stream	Small 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 river Severn is 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.

The brook at the bottom of our school drive.



Click [here](#) or scan the QR code to see the journey of a river from its source to the sea or a lake.



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?

## 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 rain fall, 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**.

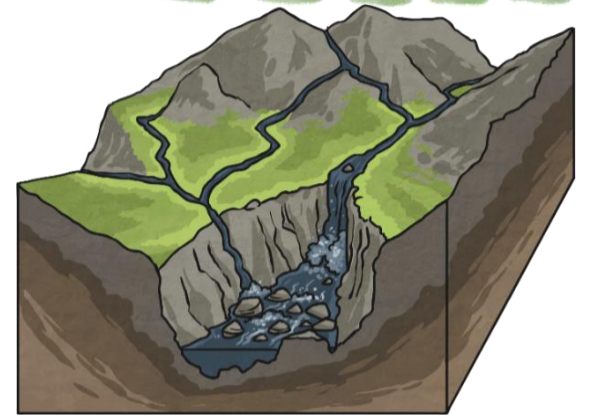
Rivers usually begin in upland areas, when rain falls on high ground and begins to flow downhill. They always flow downhill because of gravity.

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.



## 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.



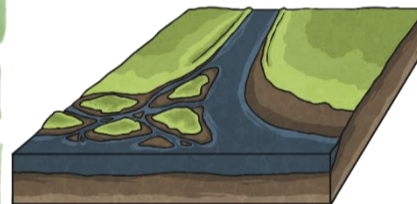
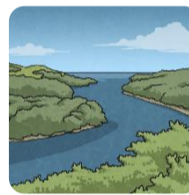
## Middle-aged and Mature Rivers

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.



## What is fieldwork?

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.

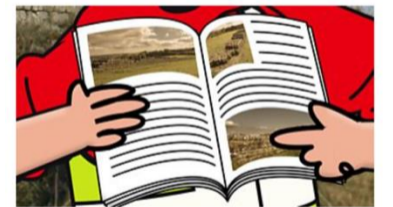
### Sources of information

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



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

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



## Planning and carrying out fieldwork

### Plan

When you plan your fieldwork investigation, you need to think about:

- how to choose the location.
- physical and human features.
- what to investigate.
- how to collect information.
- how to record data.
- how to stay safe.

Looking at maps of the area will help you to decide what you could investigate. This could be human features or physical features, or both.

### Carry Out

When you carry out your fieldwork investigation, you need to:

- be prepared.
- remember how to stay safe.
- remember your plans, but be ready to change them if you need to.
- record your findings carefully.



### Analyse and Present

After you've carried out your fieldwork, you need to analyse your findings by looking carefully at them so you can understand them.



Then you're ready to present your findings and explain to others what you have found out.

You can evaluate your findings by deciding how well your investigation went, and how you could improve it next time.



# Fieldwork Study

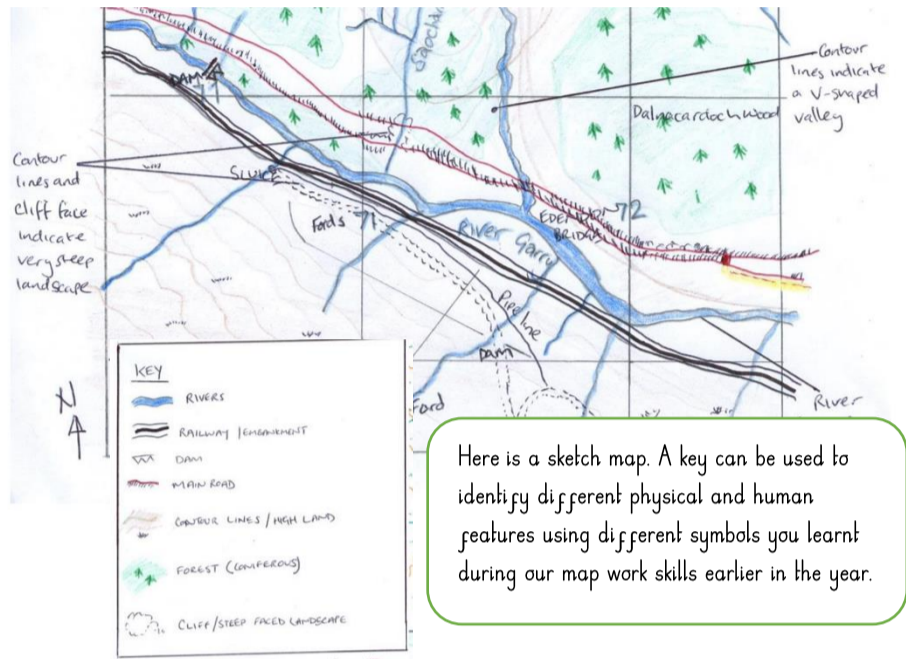
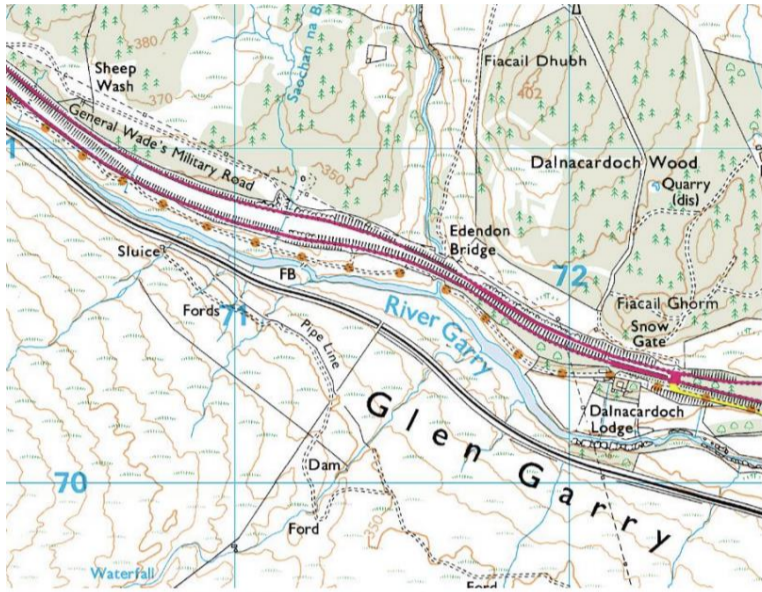
## Our fieldwork study:

We will visit Leasowes Park in Halesowen 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

Before visiting Leasowes Park, we will locate it using a map. We will then create a sketch map of the area. See this WAGOLL.

## Map work



Here is a sketch map. A key can be used to identify different physical and human features using different symbols you learnt during our map work skills earlier in the year.

Here is a map from a different area.

## Safety

Even though you may have swimming lesson 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



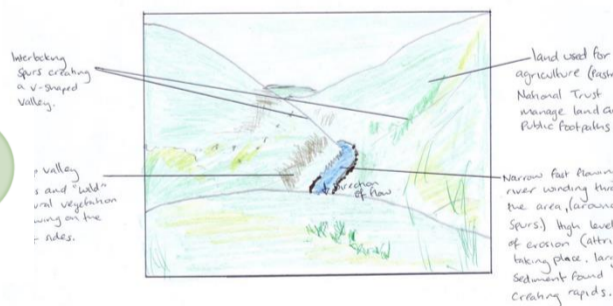
## Field sketches

We will stop at different points of the river — youthful, middle and mature to 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 every duck we can see we will draw and label using appropriate geographical words like bank/meander/channel. See the WAGOLLs below.

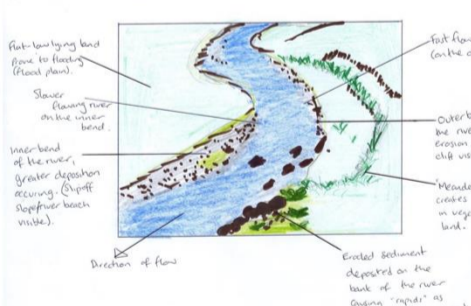
Is the water slow or fast flowing? Shallow or deep? Clear or murky?

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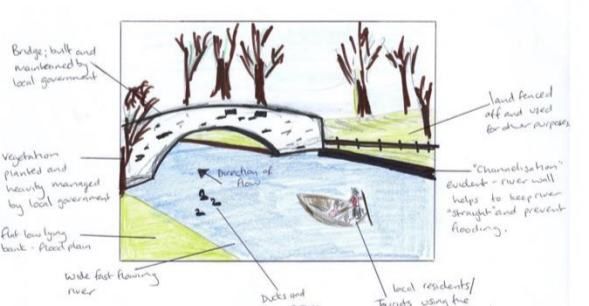
Field sketch 1: Upper Course



Field sketch 2: Middle Course



Field sketch 3: Lower Course



## How fast is the river flowing?

You will need:

- Floats
- Tape measure
- Stopwatch
- Metre ruler
- Clipboard

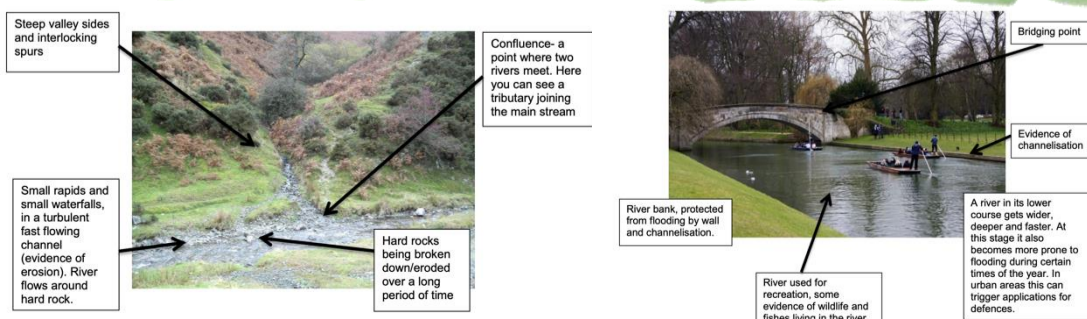
1. Measure a 10 metre stretch of the river. Different groups could do this at different points along the river and compare their results.
2. Mark the start and end of your 10 metre stretch with your metre rulers.
3. Following a count down with a pupil ready with the stopwatch (who should be stood at the downstream 10 metre mark), another pupil will drop a float into the river at the upstream 10 metre mark.
4. Once the float passes the 10 metre mark down-stream stop the stop watch.
5. Record the speed in a table and compare with other groups. Speed (in metres/second) = distance (10 metres) ÷ average time (seconds).

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

You could prepare a table like this.

## 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.