

# Unit 14 Investigating rivers

## ABOUT THE UNIT

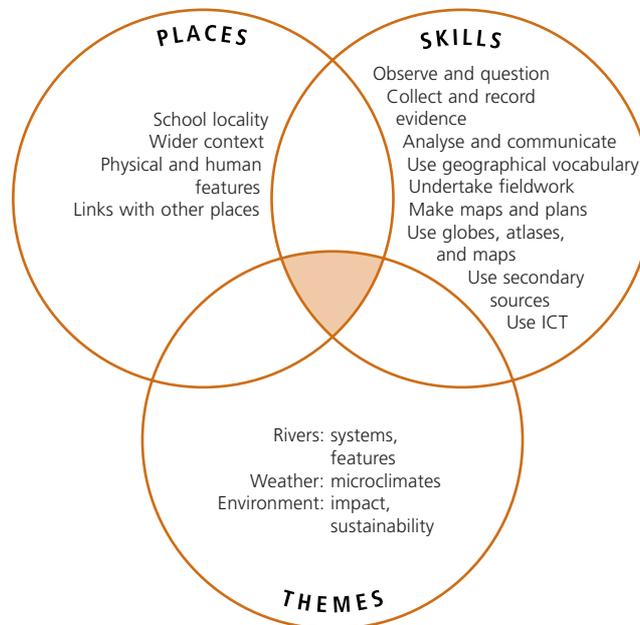
This is a 'long' unit. In it, children learn, through fieldwork and research, about rivers and the effects they have on the landscape.

The unit focuses on:

- the components of the water cycle
- how rivers erode, transport and deposit materials to produce particular landscape features
- the characteristics of a river system in another part of the world

This unit may be shortened to a 'medium' unit by leaving out the final section.

The unit offers links with literacy, mathematics, history, IT and science.



## VOCABULARY

In this unit, children are likely to use:

- water cycle, rainfall, source, spring, river, stream, hill, slope, steep, mountain, waterfall, valley, channel, lake, mouth, erosion, pollution, landscape

They may also use:

- tributary, reservoir, drain, weir, floodplain, meander, gorge, rapids, estuary, delta, weathering, transportation, deposition

## RESOURCES

- local maps
- measuring tapes
- ranging rods
- floats
- stopwatch
- clipboards
- data handling and graphing package
- primary geography textbooks
- globes
- maps and atlases
- CD-ROMs
- access to the internet
- desktop publishing package

## PRIOR LEARNING

It is helpful if the children have:

- investigated water in the school grounds
- been introduced to the water cycle, see Unit 7
- undertaken fieldwork
- used globes, maps and atlases

## EXPECTATIONS

### at the end of this unit

*most children will:*

recognise selected physical processes relating to rivers and begin to appreciate how these can change the character of places;  
draw on their own observations and secondary sources and use their awareness of river events to suggest geographical questions and raise issues that might be studied, *eg floods, drought, pollution*

*some children will not have made so much progress and will:*

offer appropriate observations about river features;  
identify how people affect the environment and recognise ways in which people try to manage it

*some children will have progressed further and will also:*

use confidently a full range of skills and different kinds of maps and resources to undertake independent investigations;  
offer explanations for river features observed; relate local river work to generalisations about rivers elsewhere

## FUTURE LEARNING

Children may build on their work in this unit by investigating water in mountain environments, see Unit 15. They may also encounter ideas about water management and water-related events, *eg floods or droughts*, through the news, as in Unit 16, for example.

This unit also provides a foundation for further study of rivers in geography at key stage 3, when work focuses on river basins.

LEARNING OBJECTIVES	POSSIBLE TEACHING ACTIVITIES	LEARNING OUTCOMES	POINTS TO NOTE
CHILDREN SHOULD LEARN			
<b>Where does water come from?</b>			
<ul style="list-style-type: none"> <li>about the water cycle, including condensation and evaporation</li> </ul>	<ul style="list-style-type: none"> <li>Use pictures, charts and video to reinforce any previous work on water, and identify and discuss with the children the components of the water cycle.</li> </ul>	<ul style="list-style-type: none"> <li>identify and sequence the components of the water cycle</li> </ul>	<p>Science: this work can be linked to work on the water cycle (Unit 5D).</p>
<b>Where does water go to?</b>			
<ul style="list-style-type: none"> <li>about how site conditions can influence the weather</li> </ul>	<ul style="list-style-type: none"> <li>Visit the playground or school field and ask children to note run-off – water collection areas – after rainfall. Other activities that children could carry out include: identifying areas of poor drainage; measuring how puddles change over time; photographing and tracing changes; and carrying out controlled experiments in the classroom.</li> </ul>	<ul style="list-style-type: none"> <li>draw puddle maps to scale</li> <li>describe what happens to rain water when it reaches the ground</li> <li>identify forms in which water occurs in the environment</li> </ul>	<p>To answer the enquiry question, focus activities on specific questions, eg <i>Are there areas of water after rain? Are they large or small? Are they due to poor drainage? Do they drain to one point?</i></p> <p>Mathematics: when noting run-off, children will measure and use area and scale.</p>
<b>Where is this river? Where does it go? How is it changing? What do I think and feel about the river?</b>			
<ul style="list-style-type: none"> <li>to undertake fieldwork</li> <li>to make plans and maps</li> <li>how rivers erode, transport and deposit materials producing particular landscape features</li> <li>to use secondary sources of evidence</li> <li>to use ICT to handle data</li> </ul>	<ul style="list-style-type: none"> <li>Ask the children to use local maps to locate the stream and its area of flow and draw a map of the route from school to stream.</li> <li>Visit the river and ask the children to sketch the river and its banks and to photograph features.</li> <li>Describe and explain erosion and deposition, focusing on a suitable meander point to contrast outer and inner bends, speed of water flow, contrasts in river bank features and water depth.</li> <li>Walk a river section and ask the children to: <ul style="list-style-type: none"> <li>note changes, eg <i>in height, width, water</i>. An extension activity would be to repeat the visits to some sites over a term</li> <li>take different sections along river course, measuring height, depth, width and speed</li> <li>do field sketches, noting flow of current and bankside features</li> <li>note human use along the river, eg <i>farming, fishing, industrial water supply, tourism, sewage</i></li> </ul> </li> <li>Ask the children to write imaginatively about the river.</li> <li>Back in the classroom, ask the children to enter the information they have collected into a data file and use it to find answers to simple questions by following a simple line of enquiry. Ask them to interpret the answers and results they obtain.</li> </ul>	<ul style="list-style-type: none"> <li>draw a map of the route of a river</li> <li>draw sketch maps of a river and label the main features</li> <li>identify parts of the river system</li> <li>record and graph changes to features of the river</li> <li>show change along a river's length through a sequenced display of sections, graphs and sketches</li> <li>map a river section and annotate land use</li> <li>express personal likes and dislikes about the river</li> </ul>	<p>To answer the enquiry questions, focus activities on specific questions, eg <i>Does the river change appearance along its length, or over time? How fast is it flowing? What processes are acting here? What is the river used for?</i></p> <p>History: if children look at how the river and its surrounding area have changed over time and use archive material and census documents, the work could be linked to local history.</p> <p>IT: entering and using stored data in a data file.</p>
<b>What is this river like? How does it affect the landscape? How is it changing and why?</b>			
<ul style="list-style-type: none"> <li>to investigate places</li> <li>to analyse and communicate</li> <li>to use geographical vocabulary</li> <li>to use atlases and globes</li> <li>to use secondary sources</li> <li>to use ICT to access and present information</li> <li>about links with other places</li> <li>about river systems</li> <li>about environmental impact</li> </ul>	<ul style="list-style-type: none"> <li>Help the children select a river to study. Ask them to locate the chosen river, using globes, atlases and maps and to research it, using books, photopacks, newspaper and magazine articles. Ask the children to find out further information about the river by using CD-ROM or the internet.</li> <li>Ask the children to use ICT to produce a project folder on their river. This might include: <ul style="list-style-type: none"> <li>connections between farming, industry and climate</li> <li>annotated maps that identify, eg <i>settlements along the river, national boundaries, tributaries, transport routes, roads, railway lines</i></li> <li>causes and effects of changes in the river, eg <i>floods, drought, pollution</i></li> <li>descriptive accounts of a journey along the river</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>know about the river they have studied and its effect on the landscape</li> <li>understand how and why the river is changing</li> <li>use desktop publishing to produce a project folder on their chosen river</li> <li>use ICT to combine graphical, numerical and textual information</li> <li>show awareness of audience in the uses of ICT</li> </ul>	<p>To answer the main enquiry question, focus activities on specific questions, eg <i>What do I already know about this river? What do I think it will be like? Where is it? How does it link with other places? What is the pattern of this river? How does it change? What would it feel like to be there?</i></p> <p>Literacy: when finding out about the river, children can identify the language used in different accounts of rivers in literature and information books, eg <i>impersonal language in encyclopedia entries</i>. Teach effective report writing, eg <i>how to orientate a reader in an introductory paragraph by underlining key points and using precise detail</i>.</p> <p>IT: there are links when children use CD-ROMs or the internet to access data (Unit 2C), and when they use desktop publishing.</p>
<p>Where teachers want to shorten the unit, the sections under the question in the more lightly shaded band are those that may be omitted.</p>			<p><b>SAFETY</b> – All off-site visits must be carried out in accordance with LEA and school guidelines.</p>