

**ABOUT THE UNIT**

This is a 'long' unit in which children learn about water supply around the world rivers and the effects they have on the landscape. They learn about the importance of clean water and investigate how it is supplied. They consider who owns and manages water and contrast water use at home with use in less economically developed countries. They learn about the components of the water cycle; how rivers erode, transport and deposit materials to produce particular landscape features; and the characteristics of a river system in another part of the world.

The unit offers links to literacy, mathematics, history, design and technology, ICT, science and the world of work.

**PLACES**

- Physical and human features
- Similarities and differences
- School locality
- Wider context
- Physical and human features
- Links with other places

**SKILLS**

- Observe and question
- Collect and record evidence
- Analyse and communicate
- Make maps and plans
- Use geographical vocabulary
- Use globes, atlases, and maps
- Use secondary sources and ICT

**THEMES**

- Weather: world weather, microclimates
- Settlement: economic activities, land use, land use issues
- Environment: impact, sustainability
- Rivers: systems, features

**VOCABULARY**

In this unit, children are likely to use:

- rain, shower, thunderstorm, drain, gutter, downpipe, sewer, tap, stopcock, hosepipe water cycle, rainfall, source, spring, river, stream, hill, slope, steep, mountain, waterfall, valley, channel, lake, mouth, erosion, pollution, landscape

They may also use:

- evaporation, condensation, pollution, filtering, reservoir, purification, irrigation, development tributary, reservoir, drain, weir, floodplain, meander, gorge, rapids, estuary, delta, weathering, transportation, deposition

**RESOURCES**

- [maps and photographs of the River Trent](#)
- primary geography textbooks
- globes, maps and atlases
- CD-ROMs [Googlebox – Journey of a River](#)
- [database/spreadsheets software](#)
- access to the internet
- Picture resource pack
- equipment for cleaning water
- information from charities involved in water provision, eg [WaterAid](#)
- [LCP Rresource File units 11 and 14](#)
- [River Trent website and Kent resources website](#)

**PRIOR LEARNING**

It is helpful if the children have:

- investigated their local area, as in Units 1 and 6, for example
- investigated places beyond their local area, as in Units 4 and 10, for example
- developed geographical enquiry skills, including using maps, atlases and globes
- started to develop key geographical concepts – location, connections, similarity and difference, place and environment
- been introduced to the water cycle, see Unit 7
- used globes, maps and atlases

## EXPECTATIONS

### at the end of this unit

*most children will:*

identify how people affect the environment and recognise ways people try to manage it for the better; begin to realise the importance of location in understanding water distribution; recognise how the presence or absence of water can change the character of places

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:*

have some understanding of where we can find water and how it gets to where it is needed

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:*

identify a range of different people's viewpoints about water ownership; show how people can improve the environment through water conservation

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 work in this unit by investigating water in a seaside landscape, *eg Unit 13*; or in mountain environments, *eg 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.

They could also encounter ideas about water management and water-related events, *eg floods or droughts*, through the news, *eg Unit 16*. 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 CHILDREN SHOULD LEARN	POSSIBLE TEACHING ACTIVITIES	LEARNING OUTCOMES CHILDREN	POINTS TO NOTE
<b>Where can we find water locally? Where can we find water in the world?</b>			
<ul style="list-style-type: none"> <li>to obtain information from maps and an atlas</li> <li>about world weather patterns</li> <li>about physical and human features</li> </ul>	<ul style="list-style-type: none"> <li>brainstorm in groups – where/in what can we find water</li> <li>to appreciate the amount of the Earth's surface cover by water, play "the World in your Hands" game (throw and catch inflatable globe – check you right index finger – is the tip touching land or water?)</li> <li>Ask the children to note as many clues to the presence of water as possible, using a map of the area around the school.</li> <li>Then ask them to use an atlas to identify places with very high and very low rainfall.</li> </ul>	<ul style="list-style-type: none"> <li>obtain information from a map</li> <li>locate the main desert regions on a world map</li> </ul>	<p>LCP Unit 11 lesson 1 activity 1 and 2</p> <p>LCP Unit 11 lesson 2 activity 1 - 3</p>
<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. c.f. science</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> <p>LCP Unit 14 lesson 1 activity 1</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>LCP Unit 14 lesson 2 activity 1</p> <p>LCP Unit 14 lesson 3 activity 1 - 3</p>

LEARNING OBJECTIVES	POSSIBLE TEACHING ACTIVITIES	LEARNING OUTCOMES	POINTS TO NOTE
CHILDREN SHOULD LEARN		CHILDREN	
<b>Where is this river? Where does it go? What are the different features of a river? How is it changing?</b>			
<ul style="list-style-type: none"> <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>• Identify the main features of river systems.</li> <li>• Explain the formation of some of these features</li> <li>• Look for evidence of these features on pictures and maps of the River Trent.</li> <li>• Describe and explain erosion and deposition.</li> <li>• Examine photographs and video showing a river section and ask the children to:               <ul style="list-style-type: none"> <li>– note changes, <i>eg in height, width, water.</i></li> <li>– consider different sections along river course, noting height, depth, width, speed and bankside features</li> <li>– note human use along the river, <i>eg farming, fishing, industrial water supply, tourism, sewage</i></li> </ul> </li> <li>• Ask the children to use the information they have collected to find answers to simple questions by following a simple line of enquiry.</li> </ul>	<ul style="list-style-type: none"> <li>• draw sketch maps of a river and label the main features</li> <li>• identify parts of the river system</li> <li>• record changes to features of the river</li> <li>• show change along a river's length through a sequenced display of sections, graphs and/or sketches</li> <li>• map a river section and annotate land use</li> </ul>	<p><a href="#">LCP Unit 14 lesson 4 activity 1</a></p> <p>To answer the enquiry questions, focus activities on specific questions, <i>eg Does the river change appearance along its length, or over time? 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><a href="#">See BBC website and Anglia website</a></p>

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<b><i>The River Rhone: What is this river like? How does it affect the landscape? How is it changing and why?</i></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>• Ask them to locate the <a href="#">River Rhone</a>, using globes, atlases and maps.</li> <li>• Ask the children to find out further information about the river by using books and/or the internet.</li> <li>• Use the video to find information about:               <ul style="list-style-type: none"> <li>– connections between farming, industry and climate</li> <li>– annotated maps that identify, <i>eg settlements along the river, national boundaries, tributaries, transport routes, roads, railway lines</i></li> <li>– causes and effects of changes in the river, <i>eg floods, drought, pollution</i></li> <li>– descriptive accounts of a journey along the river</li> </ul> </li> <li>• Ask children to research another “world” river using a data capture sheet.</li> <li>• Children contribute information to the development of a computer database</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 ICT to combine graphical, numerical and textual information</li> </ul>	<p>River Rhone video</p> <p>To answer the main enquiry question, focus activities on specific questions, <i>eg 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><a href="#">LCP Unit 14 lesson 14 activity 1</a>  <a href="#">LCP Unit 14 lesson 14 activity 2</a>  <a href="#">LCP Unit 14 lesson 15 – 17 activities</a></p>

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<b>Who uses water? What do they use it for?</b>			
<ul style="list-style-type: none"> <li>• how water is used in the world</li> <li>• to investigate similarities and differences</li> <li>• about land use patterns</li> <li>• to use ICT to record data</li> </ul>	<ul style="list-style-type: none"> <li>• As a class, compile a list of the various uses of water. Divide the children into groups and ask them to sort the list into categories – home, farms, industry, leisure, others.</li> <li>• Ask the children to keep a diary of water use in the home for a week. Explore the issue of wasting water and discuss what happens to water once it has been used.</li> <li>• Discuss with the children the patterns of water consumption and how reducing consumption might improve the environment</li> </ul>	<ul style="list-style-type: none"> <li>• understand that water is a universal need</li> <li>• understand that access to water varies in different parts of the world</li> <li>• understand the issue of wasting water and what happens to water once it has been used</li> </ul>	<p><a href="#">LCP Unit 11 lesson 5 activity 1</a></p> <p>Literacy: children could compare their water usage diaries with other diaries. They could think about the impact the audience and purpose of the activity has had on their use of language.</p> <p>IT: Ask the children to record their use of water in the home on a spreadsheet. (Unit 5D).</p> <p><a href="#">LCP Unit 11 lesson 6 activity 2</a></p>
<b>Is all water usable? How can water be made usable?</b>			
<ul style="list-style-type: none"> <li>• to observe and question</li> <li>• to collect and analyse evidence</li> </ul>	<ul style="list-style-type: none"> <li>• Discuss with the children what makes water dirty. Ask the children to collect water samples and examine their smell and appearance (BUT NOT TASTE) and carry out experiments to find out how water may be cleaned, <i>eg boiling, filtering</i>. Ask them to consider whether there are things in the water that cannot be seen.</li> </ul>	<ul style="list-style-type: none"> <li>• know what is meant by usable water</li> <li>• understand the comparative importance of clean water and plentiful supply</li> </ul>	<p>c.f. Science: there are opportunities to link this work to health and safety and changing and separating materials (Units 4D and 5D).</p>

LEARNING OBJECTIVES	POSSIBLE TEACHING ACTIVITIES	LEARNING OUTCOMES	POINTS TO NOTE
CHILDREN SHOULD LEARN		CHILDREN	
<b>How does water get to where it is needed?</b>			
<ul style="list-style-type: none"> <li>to make maps and plans</li> <li>to use secondary sources</li> <li>to investigate water supply at local and world scales</li> </ul>	<ul style="list-style-type: none"> <li>Ask the children to walk around the school grounds and mark on a plan all signs of water movement, <i>eg downpipes, gutters</i> and, possibly with the assistance of <a href="#">the site manager</a>, investigate where water enters and leaves the school, and find out what a stopcock is.</li> </ul>	<ul style="list-style-type: none"> <li>record information on a map</li> <li>draw a flow chart to show where water enters and leaves the school</li> <li>understand how water can be transported</li> </ul>	<a href="#">LCP Unit 11 lesson 3 activity 1</a>

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<b>Who owns water? Who pays for water? What jobs are involved in providing our water?</b>			
<ul style="list-style-type: none"> <li>• about a land use issue</li> <li>• about jobs in a settlement</li> <li>• about the environmental impact of a local activity</li> </ul>	<ul style="list-style-type: none"> <li>• Ask the children to decide who owns certain items, <i>eg scissors, felt pens, personal items, litter, jugs of clean and dirty water, the school, their garden, the park, land, air c.f. Native American quote.</i></li> <li>• Discuss with the children water bills and the breakdown of costs, how a water company can own water, whether water belongs to everybody, and who owns rain. <i>Why do we pay; what do we pay for?</i></li> <li>• The role of the water company in the UK: methods of obtaining water; cleaning and treating the water; delivering water to our homes, schools, workplaces etc.; what happens to our dirty water (sewage) when it has been used; different jobs in the water industry</li> <li>• Ask the children to use secondary sources to find out about the work of aid agencies in water provision in less economically developed countries and how building wells in farming areas can affect the local environment. and <a href="#">play the game at: <u>http://www.wateraid.org.uk/learn_zone/under_11</u></a> which is about providing communities in LED countries with clean water</li> </ul>	<ul style="list-style-type: none"> <li>• understand the difficulties associated with the notion of owning water</li> <li>• know about aid agencies' work on water provision in less economically developed countries</li> </ul>	<p><a href="#">LCP Unit 11 lesson 10 activity</a> <a href="#">Literacy links – persuasive writing (letter of complain)</a></p> <p>World of work: learning about the jobs connected with water supply and water distribution at home and overseas.</p> <p><a href="#">LCP Unit 11 lesson 11 - 13</a></p> <p><a href="#">LCP Unit 11 lesson 4 activity 2</a></p> <p><a href="#">WaterAid games</a></p>