



WWF

UK

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'And now the river is rich. A deep choir. It is the lofty clouds,
that work in heaven, Going on their holiday to the sea'

– Ted Hughes

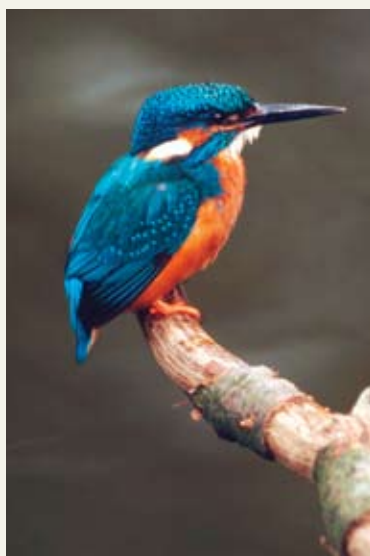


One Planet Schools®

WELCOME TO LEARN

This edition of Learn explores some of the issues facing rivers and freshwater systems across the world and takes a closer look at how our water use is affecting rivers in the UK.

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In his poem, *The River in March*, Ted Hughes describes the ever-changing face of the river as it's transformed by flood, drought and freeze. Rivers are shaped by nature and rivers bring shape to the natural world. They carve waterfalls and valleys; sculpt deltas and fertile floodplains; provide habitats for wildlife and precious resources for people.

Look at the face of a river today and you're unlikely to see something that reflects the shifting patterns of the natural world. Rivers are being shaped by human activity and reflect our increasingly intensive use. In the UK, the water we use in our homes is taken from rivers and aquifers. About one third of rivers in England and Wales are at risk because too much water can be extracted. Due to the effects of pollution, extraction and other human activities, three quarters of rivers cannot support healthy, vibrant ecosystems.

Population growth, the ever-increasing water demands of agriculture and industry and the looming threat of climate change have created a global water crisis. But this is a crisis that can be solved.

WWF works with governments, businesses, schools and people like you to solve the water crisis. There's enough water for people and wildlife – both now and in the future – but we've got to start using it more wisely and we've got to start doing it now.

INFORMATION

Visit our website for weblinks, further activities, links to other resources and background information – wwf.org.uk/learn/rivers

GREEN AMBASSADORS

Find out about our new Green Ambassadors scheme, providing inspiration, motivation and FREE resources for green teams.

Visit wwf.org.uk/greenambassadors to register.



LEARN

IDEAS FOR THE CLASSROOM

Visit our website for weblinks, further activities, links to other resources and background information – wwf.org.uk/learn/rivers

RIVERS ON THE EDGE

The water we use comes from the natural environment: rivers, lakes and the aquifers that feed them. In many places, like the south and east of England, we take more water than is naturally replaced. This threatens to destroy our freshwater ecosystems. Ask pupils to:

Research: What is the Rivers on the Edge Project? What problems does it address? What solutions does it propose? wwf.org.uk/riversontheedge

Inspire: Select three or four ‘iconic’ UK freshwater plant or animal species for a campaign to raise awareness of the need to improve water efficiency in homes and schools. Collect information and images and explain your choices. www.arkive.org

Calculate: Use Resource Sheet 1 to explore some of the facts and figures about using and saving water. wwf.org.uk/learn/rivers

Inform: Research and select the ‘key’ information about water saving at home and school. www.tapintosavings.org

Audit: Find out about water use and opportunities for saving water around your home and/or school. www.thewaterschool.co.uk/teachers_p6.htm
www.ltscotland.org.uk/schoolsglobalfootprint

Campaign: Design and present your own campaign to save water, save rivers and save freshwater species.

ANOTHER LOOP IN THE WATER CYCLE

Ask pupils to draw a diagram of the water cycle. Show how water is taken from the natural world; used in homes and factories and then returned to the rivers and seas. The following document will help: assets.wwf.org.uk/downloads/rivers_on_the_edge.pdf

Ask pupils to:

Immersion: Make a collection of words and images that are linked to rivers and freshwater systems – descriptive words; technical words about the geography of rivers; the science of water; the wildlife; boats; bridges; floods...

Exploration: Explore some of the things people have written about rivers in poems, stories, songs. See Resource Sheet 2 (wwf.org.uk/learn/rivers)

Creation: Write your own poem. You might base your work on a poem you particularly like or use your favourite poetic style e.g. acrostic, calligram, haiku or kenning.

RIVER ART

Ask pupils to paint a view of a river in the style of a famous artist and explain why their chosen river is special. Search the word ‘River’ followed by Monet, Seurat or Constable on the following website for ideas: www.nationalgallery.org.uk

REPORTING THE GLOBAL PICTURE

‘We are facing a global water crisis driven by explosive population growth, the ever-increasing water demands of agriculture and industry, and the looming threat of climate change.’ – WWF-UK.

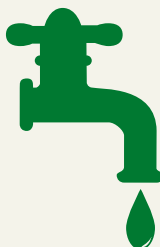
Newsroom role play: Ask pupils to create a list of the key issues facing rivers, freshwater ecosystems and the supply of water. Ask different teams to investigate and report back about these issues in different rivers around the world. wwf.org.uk/rivers

MOVING WATER

Without irrigation there would not be enough food to feed the world – 70% of global water use is for irrigation. Ask pupils to research, design, build and test models of machines that can be used to move water for irrigation e.g. the shaduf, the water wheel, the Archimedes screw and buckets (with and without pulleys).

RIPPLES AND WAVES

Pupils should work with a partner. Ask them to compare different actions aimed at saving water and ecosystems. How difficult will it be to make this change? Will this action create a small ripple or a large wave? Where should we concentrate our efforts?



The UK has less available water per person than most European countries. London is drier than Istanbul, and the South East of England has less water available per person than the Sudan and Syria.

Waterwise, 2011

LEARN QUESTION TIME

Question 1

What do we know about the species on the poster? What do we want to know? How could we find out about it?

Question 2

Otters had almost disappeared from English rivers by 1978. Since then, conservationists have been working to protect otters and their habitat. What sort of things would you need to know about rivers and otters in order to help them?

Question 3

Where would you need to go to see an otter in the wild?

Question 4

How can we help to protect the wildlife of our rivers by taking a shower rather than a bath or by watering our garden with rainwater rather than tap water?

Question 5

Identify and discuss the key messages in the following slideshow:

gowild.wwf.org.uk/regions/europe-stories/the-burgess-family-and-the-otter

Question 6

Do we have to pay for our water?

Question 7

Approximately how many litres of water do you think the average person in the UK uses each day?

Question 8

Put the following activities in order from the largest to smallest use of water in the home: washing-up, cooking, flushing toilets, washing clothes, washing ourselves.



Question 8

What can we do to stop water being wasted at home and/or in school? How can we make sure that as many people as possible support this action?

Question 10

For every glass of water we use, 1.4 glasses are taken from the rivers and aquifers – 0.4 of the glass is lost through leaks and evaporation. What messages would you send to the water industry?

Question 11

In the next 20 years the UK population will grow and there will be more households. This could spell disaster for species like the otter as more and more water is taken from the rivers. What can be done to avoid this?

Question 12

Look at the quote on the poster. What do these lines of the poem mean? What do you think the poet means when he describes the river as being 'rich'? What can we do to help make a river 'rich' as a habitat for wildlife and as a source of water for homes and schools?

1. Otters live in clean rivers. Adaptations to aquatic habitat include webbed feet and ability to close ears and nose when underwater. 2. Threats – hunting and pollution; food web and relationships between all species within the habitat. 3. In 2011, otters were spotted in Kent – this means that conservation efforts have been successful – otters have now returned to rivers in every county in England. They're also found in Wales, Scotland and Northern Ireland. 4. Lots of our water comes from rivers and the aquifers that supply them – about one third of our rivers are at risk because too much water is being extracted. 6. The average UK family pays about £356 per year. 7. 148 litres – the Government wants to reduce this to 130 litres by 2030. 8. Keeping ourselves clean 33%, toilets 30%, clothes 13%, fishes 8%, cooking 4%. 11. There is enough water for people and wildlife, now and in the future – less wastage by the water industry and reduced household consumption are required. There are lots of ways that we can make a difference. For example, turning off the tap when you're brushing your teeth can save 4 litres of water per minute.

Water is essential for life. We use it in our homes and schools for drinking, washing, cooking and flushing our toilets.

Factories use large amounts of water to manufacture everything from clothes to computers. Farmers use vast amounts of water to grow food and feed the animals that provide us with our meat, eggs and milk.

Take a look at photos of the Earth and you'll see that we live on a blue planet – more than 70% of the surface is covered by water. But most of this water is salty. Only 3% is freshwater and most of that is locked away from us in glaciers, ice caps and deep underground aquifers. The rivers, lakes and wetlands along with the aquifers that feed them hold just 0.1% of the water on this planet. It's this water that flows into our farms, homes and factories. It's these freshwater ecosystems that are being degraded by human activity and increased water extraction.

We already use about 54% of the freshwater that's available and this is expected to rise to around 70% by 2025. In some parts of the world, we're already using 100% of the water resources that are available. By 2050, 7 billion people – that's more than the entire population of the planet today – could be living in parts of the world blighted by chronic water scarcity. Water scarcity would impact on global food and energy supplies and could readily lead to conflict.

The water we use in our homes and schools comes from the rivers and freshwater ecosystems that support species like kingfishers, water voles and moorhens. The average person in the UK uses about 1 tonne of water every week – 148 litres per day. This water is taken out of the natural freshwater systems

like lakes, rivers and underground natural water stores; stored in reservoirs; processed in treatment works and then pumped into our homes and schools, before being treated again and pumped back into rivers or the sea. It seems very efficient – turn on the tap and out comes a seemingly endless supply of good, clean water. However, wastage and leaks mean that for every glass of water we take from our taps, we are actually taking 1.4 glasses from the natural environment. That means we're wasting about 21 tonnes of water per person, per day for every person living in the UK. There are lots of things we can do to bring about a change in this system and even more things we can do to save water once the taps at home and in school have been turned on.

We are facing a global water crisis driven by explosive population growth, the ever-increasing water demands of agriculture and industry, and now by the looming threat of climate change. Water is right at the heart of the challenges we face in this century.

It is a crisis but it can be avoided if we take action now. There is enough water to satisfy our needs whilst still allowing freshwater ecosystems to flourish – both now and in the future. We need to be far more careful about the way we use water. We need better management and greater efficiency. We need both local and global solutions. And we need everyone to play their part.



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Why we are here

To stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature.

wwf.org.uk

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