



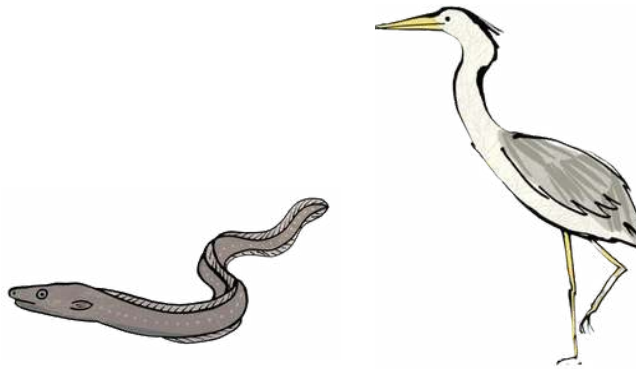
Educational Activities

Fun activities to do at home or at school to learn about rivers and related issues.

These sets of activities were first developed as part of our Home Education programme launched during the first Covid 19 lockdown.

Each set includes a series of six activities around a different theme. Four themes are covered altogether. They include:

1. River Wildlife
2. River Features
3. Saving Water
4. Rainwater



Activities have been designed by a qualified teacher, include a learning objective and are curriculum-linked. They are aimed at 7-9 year-olds with a 'Support' idea for younger children and a 'Challenge' suggestion for older children. A grey heron will direct you to these on each instruction sheet!

Before you begin

Why not create a River Journal?

Great for keeping all your work in one place!

For instructions for making one click [here](#).

Make sure you give yours a river theme.

Additional pages can be used for river sketching, recording river finds, poems, stories or other river related activities.



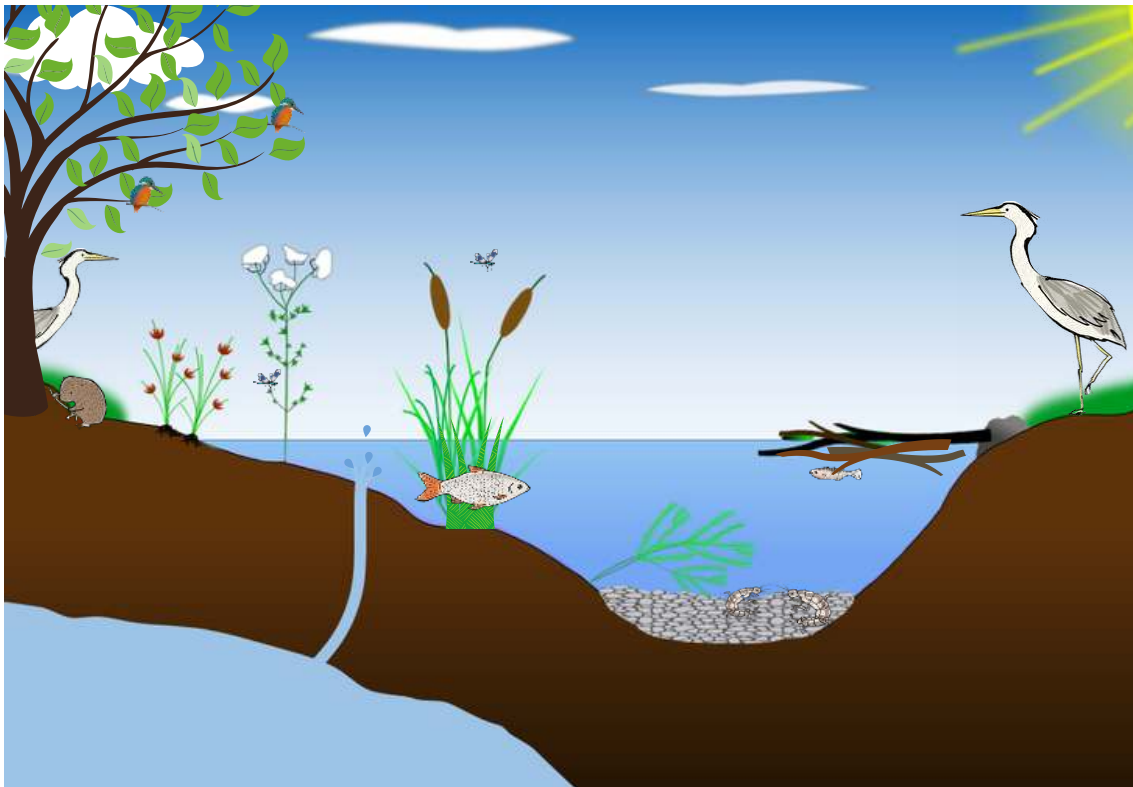
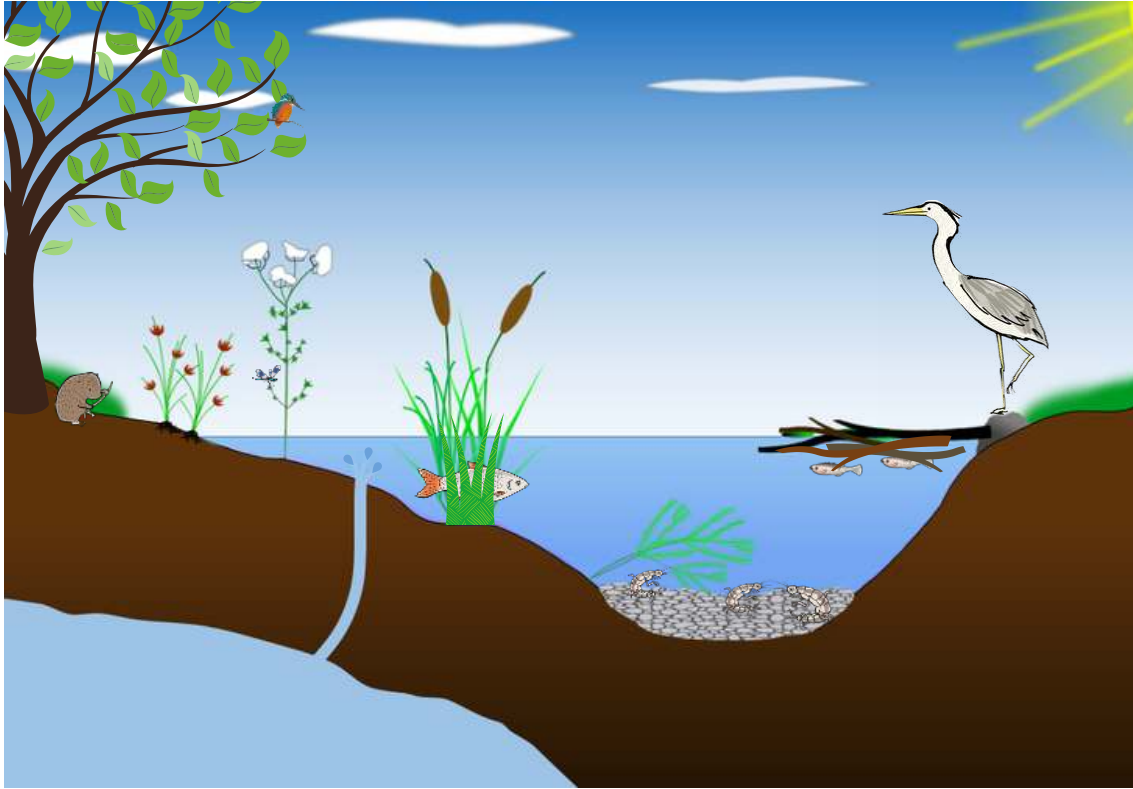
We also run river education sessions as part of Project Kingfisher and have a range of fun activities for children and families to do on their visit to a river on our Junior River Ranger pages. Go to our website to find out more.



1. Spot the Difference

Learning objective: To closely observe a river habitat

Circle 10 differences between these 2 pictures



Support

Take it in turns with a partner to spot the differences.

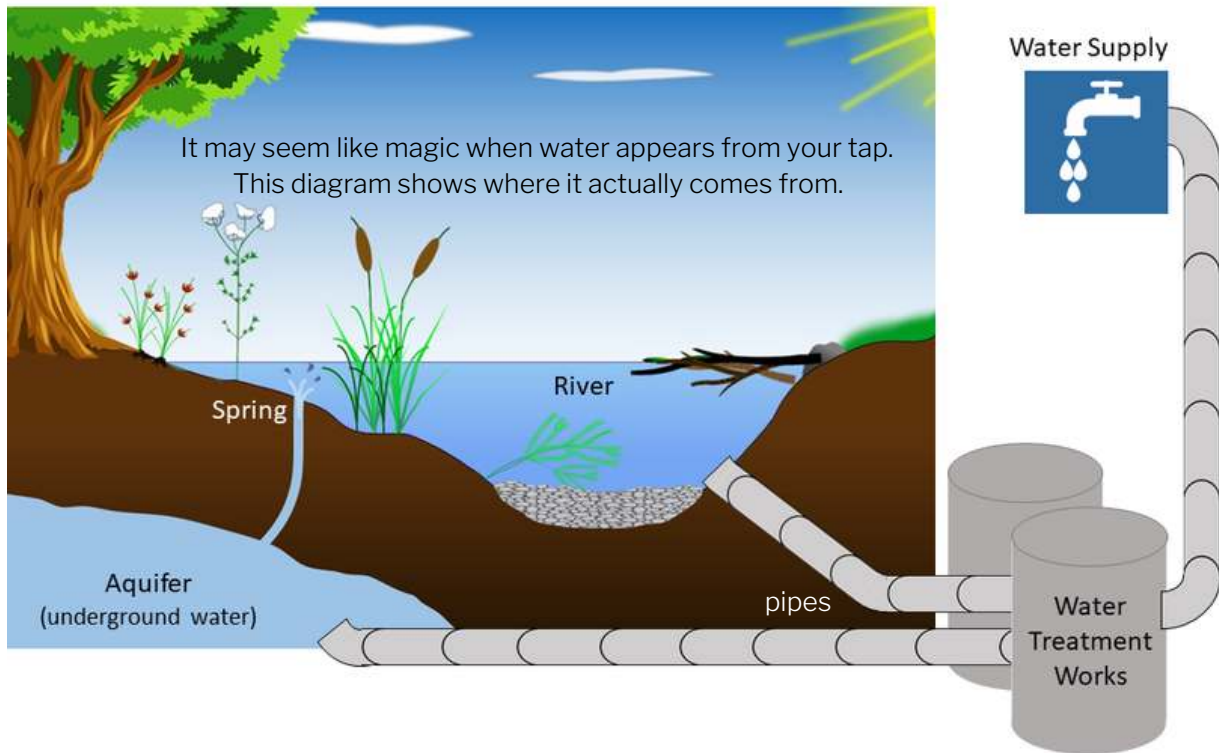
Challenge

Label 4 'River Wildlife' animals
Label 4 'River Features'



2. Our Water Supply

Learning Objective: To write a text that explains where our water supply comes from.



Add arrows to this diagram to show the direction water is moving through the pipes. Then write a text that explains where the water we use comes from.

Use all the words you see in the diagram. Try to answer these questions:

- Where does the water treatment works get water from?
- What does it do to that water?
- Where does it send that water?
- What does it travel through?



Support

Before you begin, complete the 'Fill in the Blanks' on page 2

Challenge

Explain the effect this could have on the aquifer? Spring? River?



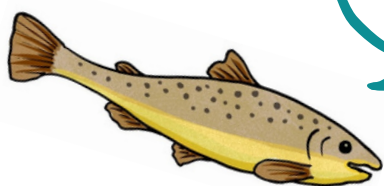
2. Our Water Supply

Fill in the Blanks

Fill in the blanks by choosing the correct term from those provided in blue after each blank. Use the diagram on the previous page to help you.

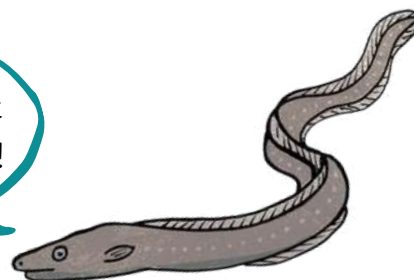
An _____ (**spring / aquifer**) is water stored underground. Water from the _____ (**aquifer / water supply**) is sometimes pushed up through the ground to form a _____ (**water treatment works / spring**). Water from the _____ (**water supply / spring**) adds water to the _____ (**river / aquifer**).

Water travels through pipes to get to the _____ (**river / water treatment works**) where it is cleaned. This water is taken from the _____ (**river / spring**) and the _____ (**aquifer / water supply**). Once it is cleaned, it is safe to use. It becomes the _____ (**river / water supply**) that travels in pipes to our houses and all the other places it is needed. What might happen to the river if we use too much water?



So that's how water gets to the tap!

I guess it's not magic after all!





3. River Rescue Game

Learning Objective: To play a game to test how water use can impact rivers

Play this game to find out what can happen to a river if too much water is removed for people to use.

This game is for 2 or more players. It is a race to see who can maintain the water level in their river for the longest.

Caution - frantic game play may result in getting wet!

Each player needs:

- a plant pot
- plasticine / blue tack / clay
- a small cup or scoop (like one used for baking or laundry soap)
- a rubber duck or any other small toy that floats
- a shared bucket of water



The plant pot represents the river habitat. Block the holes of the plant pot with the clay, blue tack or plasticine - leaving 1 hole open. This hole represents the pipe removing water from the river.



Put your finger over the open hole and fill the plant pot with water from the bucket. Keep your finger covering the hole so no water can spill out!



Put your duck in the river, put your pot down on a level surface (like on the grass - where the spilled water will soak in so it doesn't get wasted). Remember to keep the hole covered!



Remove your finger from the hole and quickly use your scoop to top up your river with water from the bucket. Just like rain would top up a real river. Keep topping up the water as fast as you can!



As soon as one of the ducks hits the bottom of the pot - game over! Whoever can keep their duck afloat for the longest is the river rescue champion!



Experiment with different size scoops, larger plant pots, leaving more than one hole open or working together to maintain the water level. What is the longest you can keep your duck afloat? Why not time it?











Project Kingfisher: Water Saving Activities

4. Picture Maths



Learning Objective: To solve a number puzzle to work out how much water is used for household activities

Use the calculations on the right to find how many litres of water is used for each activity listed on the left. Include your unit of measure! (litres)

Washing hands		=	<input type="text" value="2 L"/>
Brushing teeth		=	<input type="text"/>
Flushing the toilet		=	<input type="text"/>
Washing dishes (in a dishwasher)		=	<input type="text"/>
Short shower (4 minutes)		=	<input type="text"/>
Laundry		=	<input type="text"/>
Bath		=	<input type="text"/>
Long shower (10 minutes)		=	<input type="text"/>
Watering the garden (with a hose)		=	<input type="text"/>
Washing the car (with a hose)		=	<input type="text"/>

$$\text{washing hands} + \text{washing hands} + \text{washing hands} = \text{toothbrush}$$

$$\text{toothbrush} \times \text{washing hands} = \text{toilet}$$

$$\text{toilet} + \text{washing hands} = \text{dishwasher}$$

$$10 \times \text{toothbrush} - 10 = \text{washing machine}$$

$$\text{washing machine} - 10 = \text{showerhead}^4$$

$$\text{washing hands} \times \text{showerhead}^4 = \text{bathtub}$$

$$\text{washing hands} \times \text{washing machine} = \text{showerhead}^{10}$$

$$\text{showerhead}^{10} \times 3 = \text{car}$$

$$\text{washing machine} \times 5 = \text{hose watering plants}$$

5. Challenge 500!

CHALLENGE
500!

Learning Objective: To find ways of saving water and record how much you have saved

Your challenge is to see if you can save 500 litres of water in one week. Here are tips for saving water. Use the tally sheet on the next page to record your savings. For every litre you save, cross off one bottle.



Each time you wash your hands, turn off the tap while you scrub. A day of this saves:

12 litres



Have you ever heard the phrase 'If its brown, flush it down. If its yellow, let it mellow.' This means, you don't have to flush the toilet every time you pee. If a family member is going to pee immediately after you, why not wait to flush until you have both peed? Each time you do this, it saves:

12 litres



Instead of letting the tap run to get cold when having a drink of water, fill a jug and keep it in the fridge saves:

6 litres



Turn off the tap while brushing your teeth. A day of this saves:

12 litres



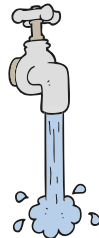
Every day you skip having a bath or shower, saves:

80 litres



Time yourself in the shower. Each time you complete your shower in just 4 minutes, saves:

40 litres



Letting a tap run for just 10 seconds uses 1 litre of water.

Can you think of other times you let the water just run down the drain?
Can you think of other ways you can save water to add to this list?



When you run the tap to warm up the water for a shower, catch the water in a watering can so it can be used to water plants later, saves:

10 litres



















































Project Kingfisher: Water Saving Activities

Can you save 500 litres in 1 week?

For every litre of water you save, cross off one bottle.





6. Stop Motion Film

Learning Objective: To use stop motion to show the impact of water loss on a river habitat

Your task is to create a stop motion film to show what would happen to a river habitat if all the water were taken away.

For this activity you will need a smart phone or tablet. You will also need to download Stop Motion Studio - which is free! You must ask a parent's permission to download it.

Introduction

Stop motion is a way of creating animation by taking pictures. In each picture, small changes are made so that when they are put together it looks like things are moving.

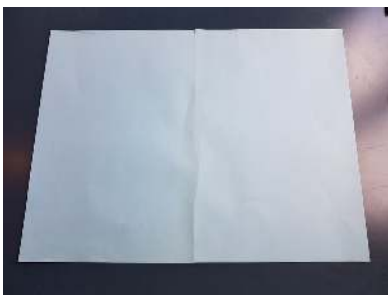
To familiarise yourself with the app and how it works, watch this [video](#).

It is fairly simple. Get set up, take a picture, move one thing a tiny bit, take another picture, keep moving things and taking pictures. It just takes a bit of patience!

Before you begin filming

Create a backdrop.

Start with the sky. I used two, A4 sheets of pale blue paper taped together.



Create a studio.

Your camera needs to be about 30 cm from the backdrop. Test with the Stop Motion Studio camera. Use zoom to get it so the backdrop fills the screen. Once you are happy with the set up, blue tack the backdrop in place.



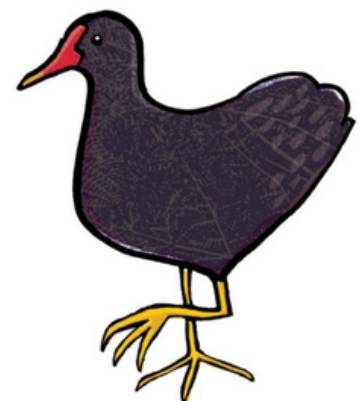
I made a cardboard shelf on a chair, cutting a hole in it for the camera.

Create the ground.

Cut it out in the shape of a riverbed. Glue it in place at the sides only (just at the very edge). **DO NOT GLUE ACROSS THE BOTTOM!** You need it open so you can slot in the river water.



Add a tree. Make sure it has no leaves. Glue the tree in place.

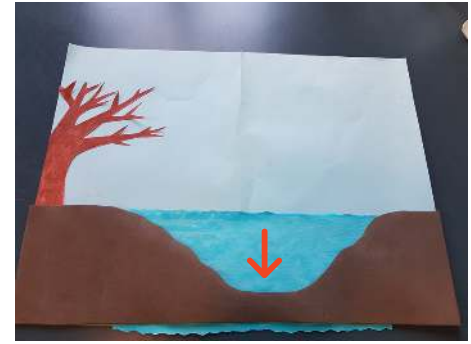
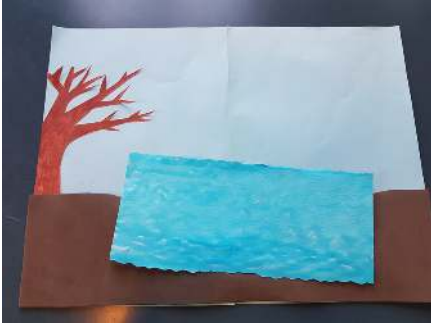




6. Stop Motion Film

Make the water for your river.

It must be big enough to fill your riverbed and stick out the bottom slightly but small enough to slot in from the bottom.



Check that you can make your water level go down. Slot it in so it fills the river. Then slowly pull on the bit sticking out the bottom to make it look like the water is draining away.

Add the living things.

Draw and cut out plants and animals to make a thriving river habitat.



Create a river scene

Arrange your plants and animals on the backdrop. You can use blue tack to stick some of it down but make sure each piece is easy to remove.



Begin filming

Animate the scene.

Start simple - see if you can make a bird fly or a fish swim. Take a picture, move it slightly, take a picture... Try this out with a few animals.

Lower the water level.

Shift the water down slightly and change one thing in the scene. For example, make a plant wilt and die or make an animal disappear. Each time you lower the water level change one more thing.

Finish it off.

Keep going until all the wildlife is removed and the water has drained away. Then press play to watch it back! Why not experiment with some of the editing features? I selected all the frames, copied and then reversed them so it looked like the river was recovering.

