# How To River Dip

Finding out what lives below the surface of a river or stream is a really fun activity as well as a great way to learn about the biodiversity and health of the waterway.

While you might come across a fish, what we are really looking for are invertebrates, creatures without a backbone. There are thousands of them living in the river and they have amazing life cycles. Plus, they can also tell us a lot about pollution levels in the river. This is what you need to do to find them.

#### Before You Go

Find an adult with a sense of adventure

Dig out your wellies, water shoes, or (if it's relatively nice weather) you can wear an old pair of trainers that you don't mind getting really wet.

Have a think about the weather over the last few days. Has it been raining a lot? If so, wait for a few dry days and the river will become slower, shallower and safer.

## What to Bring With You

A kitchen sieve with a handle like this A plastic tray or large bowl, preferably white, so you can clearly see what you've found. A magnifying glass if you have one

Our ID chart

A little spoon to get a closer look

# How To Do It

Find a river or stream bank with a pebbly bottom.

Stand with your net pointing upstream and no deeper than your ankles.

Lift a stone and push your net along the river bed under where the stone was.

When you see something alive in your net, take it to the tray.

Turn the net upside down and very gently push the netting down so it touches the water but be really careful not to squash your creature.

Grab our ID sheet and try to figure out what amazing invertebrate you have found! After you are finished, gently empty the tray of creatures back into the river. Give it a good rinse to make sure they are all gone.

Curricular Links to the Curriculum for Excellence

I am learning to assess and manage risk, to protect myself and others, and to reduce the potential for harm when possible (HWB 1-15a/2-15a)

Within and beyond my place of learning I am enjoying daily opportunities to participate in physical activities and sport, making use of available indoor and outdoor space. (HWB 1-25a)

I can explore examples of food chains and show an appreciation of how plants and animals depend on each other for food. SCN 1-02a

I can use my knowledge of the interactions and energy flow between plants and animals in ecosystems, food chains and webs. SCN2-02a



## **Keeping Yourself Safe**

Always go river dipping with an adult and only when water levels are low.

Chose your location carefully to make sure the river is shallow and does not drop away quickly.

Even in hot weather, do not go into a river barefoot as sharp objects like glass or rusty old bits of metal are often found on the river bed.

Do not go further than the depth of your ankle bones and stay out of fast currents.

Wash your hands before eating anything!



#### Freshwater Invertebrate Study

Pollution is when people make nature dirty. Some invertebrates can live in polluted water and some cannot so scientists can tell how dirty or clean the river is by what kind of invertebrates are living there. For example, mayfly nymphs can only live in clean water so they get a score of A. Lots of As means that the river is really clean and lots of Ds suggests it is pretty polluted. What did you find?

<b>Mayfly Nymph</b> A	Stonefly Nymph <sup>B</sup>	Caddisfly Larva B	Freshwater Shrimp B	<b>Bloodworm</b> C	<b>Leech</b> D	<b>Rat-tailed</b> Maggot D
A COMPACT						
Tally:	Tally:	Tally:	Tally:	Tally:	Tally:	Tally:

#### Did You Know?

Many invertebrates have the most amazing life cycles. For example, mayflies begin their lives as eggs in the water. They hatch into nymphs which can live up to two years under stones. They eventually hatch—often in May time—into flies. As flies, some species only live for a few hours, during which time they have to mate and lay eggs.

There are 51 different species of mayfly in the British Isles. They can look quite different but the threepronged tail is the key to identifying them.

If you find a leech, get an adult to remove it from the net and do not touch it. River leeches in Scotland only feed about once per month so if it's looking a little chubby it's less likely to see you as a snack.

Bloodworms are called bloodworms because they are red, not because they are full of blood!

Female freshwater shrimps carry their young in pouches until they are about a month old, when they swim out and start looking after themselves. They can produce up to 50 young every four weeks!

Amazing caddis fly nymphs make their cases from spinning together sand, stones, leaves and twigs with a silk that is released from glands around their mouth.

# Draw a picture here of one of the invertebrates that you found.

Top tip: it can be tricky to draw something that moves around a lot, but a top tip is to draw the biggest part of the body first and then add in all the smaller parts.

#### Did You Enjoy This?

If so we have more activities for you. Try out our observational art activity creating beautiful artworks with the invertebrates you have found, conduct river flow experiments, make an artist's book of the river, or take our 'Know Your River Birds' along with you on your next walk.