



# Chalk Stream Challenge

## How to earn your badge

- Everyone needs to complete Section 1
- Under 7s need to complete at least one other activity from sections 2,3, 4 or 5
- 7-11 years old need to complete at least two other activities from sections 2, 3, 4 or 5.
- Over 11s should complete at least 3 other parts from activity 2, 3, 4 or 5.

### Activities

#### SECTION 1. GET TO KNOW YOUR LOCAL CHALK STREAM

##### 1. Walk a stretch of chalk stream local to you.

I walked from \_\_\_\_\_ to \_\_\_\_\_

Number of steps \_\_\_\_\_ or distance \_\_\_\_\_

I completed activity numbers \_\_\_\_\_

#### SECTION 2. RIVER GEOGRAPHY

##### 2.1 Time the flow of the river

You will need:

- A stopwatch (or phone with timer on)
- A calculator if you want to work out speed
- Something to float (a stick, a leaf, dog biscuit or mushroom! – make sure its biodegradable in case it floats away)
- A measuring tape (optional)
- At least 3 people

Measure out 5 metres or less (use could measure with steps if you don't have a tape). One person stands on the bank or bridge with the timer. One person stands at the beginning of your measured length with the floating item and one stands at the end. Once

the floating item hits the water, start the timer and record how long it takes to travel to the end point. You can work out speed by dividing the distance travelled by the time taken to travel.

Try it in a few places. Where does it travel fastest? Slowest?

	Time (seconds)	Speed (m per sec)
Left side of channel		
Middle of the river		
Right side of channel		

You may want to repeat this at a different location along the river and compare what you found (optional)

	Time (seconds)	Speed (m per sec)
Left side of channel		
Middle of the river		
Right side of channel		

## 2.2 Water clarity

Chalk streams are fed by underwater springs and therefore should be crystal clear. However, this is not always the case.

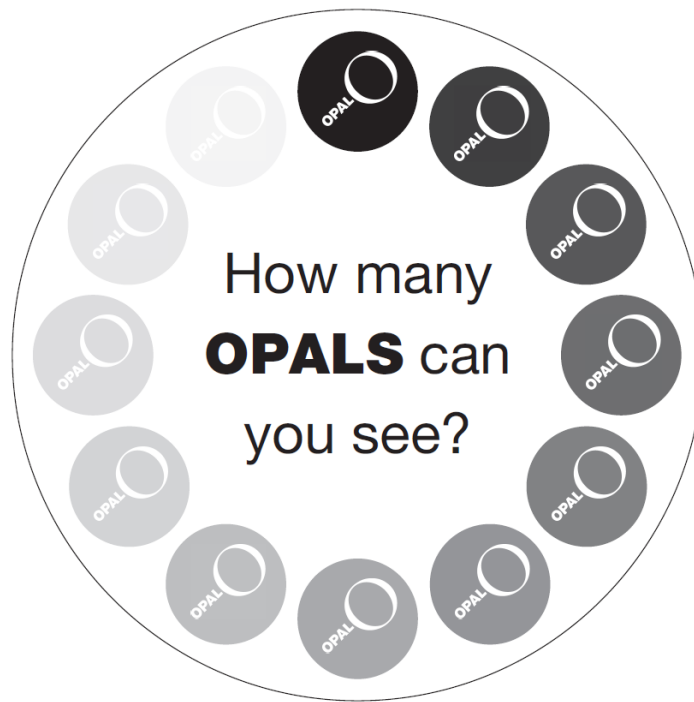
Check the clarity of the water using this simple experiment

You will need:

- The below picture
- A 2L plastic bottle

Fill a bottle with the water from the stream. Hold the circle on the bottom or side of the bottle. Look through the top of the bottle. How many opals can you see?

Try in a few different places. If the water was less clear in some of your locations have a think about why. What is/could be making the water cloudy? Why is/could this be a problem?



**2.3** Observe a winterbourne at its source at various times of the year, or look at photographs and note the differences and in which month they occur.

**2.4** Do some research and find out why watercress grows well in chalk streams.

### **2.5 River Feature i-spy sheet**

Using the Chalk Stream Challenge spotter sheet walk along the river and see what river features you can spot. Can you find both natural and manmade points of interest?

## **SECTION 3. RIVER LIFE**

### **3.1 Plant spotter** (late spring or summer for this activity)

Using the Chalk Stream Challenge spotter sheet see what river plants you can find. You could also draw the different types and see if you can name any of them.

### **3.2 Animal spotter**

Using the Chalk Stream Challenge spotter sheet walk along the river and see what river animals you can find. Use your ears too! Make sure you stop regularly to look and listen.

### **3.3 Who's who in the river sheet (this might not be possible on every route)**

Using an ice cream tub, tray or similar, scoop up some water and place on the bankside. Then, use a net try and hold it in the water on the downstream side of your body. Gently kick some of the gravels on the river bed, collecting the disturbed sediment and any creatures in your net. Transfer the contents of your net to your tray/tub and have a good look to see what creatures you have found. Using the Chalk Stream Challenge spotter sheet to mark off what you can see. Why not have a go at drawing them (optional). Can you find creatures with no legs, with two legs, with four legs and more than four legs? What do you think they eat?

## **SECTION 4. RIVER FUN – (THESE ACTIVITIES CAN BE DONE AWAY FROM THE RIVER)**

### **4.1 Caddis fly craft**

Can you give a caddis fly a case using natural materials? Download the printable sheet and see if you can glue and collage materials to make a case.

### **4.2 Make a raft**

Download the instructions to see if you can make a raft! Will it float in the sink? Can you hold a race on the river once you have made it? Please make sure you only use natural materials in case it floats away.

### **4.3 Cooking – make water cress soup!**

All ingredients should be shop bought and not foraged from the river.

#### **Ingredients**

- 20g butter or margarine
- 100g white onion, finely chopped
- 1 garlic clove, finely chopped
- 300g watercress, tough stalks removed
- sea salt and freshly ground black pepper
- 100g spinach leaves
- 500ml boiling water
- 500g ice cubes
- 100ml crème fraîche (or dairy free equivalent)

## Method

1. In a large saucepan on a medium heat, melt the butter and gently cook the chopped onion and garlic for 2-3 minutes, or until soft and translucent but not coloured.
2. Increase the heat to high, add the watercress and a pinch of salt, cover with a lid and cook for 30 seconds. Add the spinach and cook for 1-2 minutes, or until wilted.
3. Pour in the boiling water and simmer for 2-3 minutes, then remove from the heat and add the ice.
4. Pour half the soup into a food processor, and blend until smooth. Transfer the soup into a clean pan, then repeat with the remaining soup.
5. When ready to serve, reheat the soup and season, to taste, with salt and freshly ground black pepper if required. Serve the soup with the crème fraîche swirled through.

## 4.4 Write a poem

Can you write a poem about the river? You could include some of these techniques:

- Acrostic poem - this is where you spell out the word down the side of the poem-you could choose “chalk stream” as your word.
- Rhyming words - this means the words sound the same like: ‘Smooth it glides upon its travel, the smooth stream, the clean gravel!’
- Alliteration - this is when you string together words which have the same first letter or sound, like “The rippling river rushed relentlessly, roaring over rocks and rippling through the reeds.”

If you write a poem we would love to read it - please include with your completed form!

## 4.5 Create a watery home for local wildlife

Wildlife needs water. Can you help in your garden, school or community space?

You could create:

- a mini pond
- a bog garden
- a bird bath. If you have a small space, why not leave out a bird bath? It doesn’t have to be brand new, it can even be an old bin lid! Leaving bee baths and hoverfly lagoons are great for small spaces too. They can be a small bucket dug into the ground or even an old sink. Make sure to keep the water topped up in the summer.

We'd love to hear how you have been helping wildlife in your space, please tell us what you have been doing with your completed form and send in any photos you might have.

## **SECTION 5. SAVE WATER AT HOME OR AT SCHOOL**

### **5.1 Save water at home or at school**

All of our tap water in Hertfordshire comes directly out of the chalk streams or from the aquifers (underground reservoirs). How could you reduce the amount of water you use? If we all do our part in looking after precious water supplies, we can make a huge difference for the environment. Can you do **one or more new things** from the list below?

- Put a large bottle of tap water in the fridge to save waiting for the tap to run cold. Waiting for the tap to run cold can waste 10 litres of water a day!
- Fancy a hot drink? Only fill the kettle with the amount of water needed.
- Helping with the cooking? Put lids on saucepans to reduce the amount of water lost during heating.
- Helping tidy up? Put your dishwasher on with full loads and on an eco-setting. You can also use a washing-up bowl in your sink to reduce the volume of water you use.
- Be a leak detective! Train your ears to pick up the sound of dripping water and become a water saving super hero by tightening up leaky taps.
- Have one cup or glass that you use throughout the day. Don't grab a new cup every time that you feel thirsty, instead have a special water cup or bottle that you refill throughout the day.
- Livestock farming uses a lot of water, so the less meat you eat, the more water you save. Why not have a go meat-free on Mondays?
- Turn the tap off while brushing your teeth. A running tap can waste more than 6 litres of water a minute!
- Shower instead of bathe. An average bath uses around 80 litres of water, but a shower typically uses between 6 and 45 litres.
- Don't use a sprinkler! Sprinklers are often used to water lawns but they can use as much as 1,000 litres of water an hour! In truth, it's okay for the lawn to go brown, it will recover the next time it rains.
- Try and collect rainwater! This is a great way to water your plants.
- Doing some gardening? Look out for drought-resistant plants that don't require as much watering.
- Using mulch and bark in your garden on the soil beds. This will help to reduce evaporation by up to 75%.
- Got your own ideas on saving water? Undertake the actions and tell us about it!

## **5.2 Make a poster**

It's important to make other people aware of the threats that chalk streams and local wildlife face, including pollution, sediment entering the river and high-water use. Can you choose an issue and make a poster about it? You could ask to put your poster up in your classroom, in the library or local shop window.

**Completed the activities?** Please now fill in this form and email to [wildersupport@hmwt.org](mailto:wildersupport@hmwt.org) or post to: Herts and Middlesex Wildlife Trust, Grebe House, St Michael's Street, St Albans, AL3 4SN.

Name of Child	
Group if applicable	
Age	

### Chalk Stream Walk

Did you walk the suggested route or one of your own? If you did your own route please tell us the location and approximate miles

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### Which other activities did you complete?

Activities	Please Tick		Notes
Section 2 Geography – water flow		What measurements did you record?	
Section 2 Geography – water clarity		How clear was the water?	
Section 2 Geography – observe a winterbourne			
Section 2 Geography – research on watercress		What did you find out?	
Section 2 Geography – River Feature i-spy		What interesting things did you see?	
Section 3 River Life – Plant spotter		What plants did you find?	
Section 3 River Life – Animal spotter		What animals did you spot?	
Section 3 River Life – Who's who in the river sheet		What creatures did you find?	
Section 4 River Fun – Caddis Fly craft		What materials did you use to make the case?	



Section 4 River Fun – Make a raft		How well did your raft float?	
Section 4 River Fun – Cooking		Did you enjoy the soup? How would describe the taste?	
Section 4 River Fun – Write a poem		Please send us a copy of your poem	
Section 4 River Fun – Create a watery home for wildlife		How did you help wildlife? We'd love to see a photo	
Section 5 Save Water – Save water at home or school		What things did you do to save water? Was this at home or School?	
Section 5 Save Water – Save water at home or school, more than one action.		What other actions did you take? Was this at home or school?	
Section 5 Save Water – Make a poster		Please send us a copy of your poster	

To purchase your Chalk Stream Challenge badges please visit:

<https://www.hertswildlifetrust.org.uk/shop#!/Chalk-Stream-Challenge-Badge/p/751209805>