



Why is our local river or watercourse important to us?



Resurgence



How to use this pack

This pack begins with two starter activities under the heading **'START THE LEARNING JOURNEY: What will we discover on a visit to our local river?'***, which act as a way into the unit of learning. An additional activity is also suggested, to support children in exploring and learning about their role in keeping themselves and others safe near water, before the initial trip to the local river or watercourse.

Leading on from this, four subsequent themes for learning are presented as standalone units, each with ideas for assessment and differentiation, and with links provided to the National Curriculum for England, Wales and Northern Ireland, and to the Curriculum for Excellence in Scotland. These themes for learning are:

TAKE THE LEARNING FURTHER 1: How does it feel to be by our local river?

TAKE THE LEARNING FURTHER 2: How can we measure the speed of our local river?

TAKE THE LEARNING FURTHER 3: How can we recreate a scene from our local river using mixed media?

TAKE THE LEARNING FURTHER 4: What lives in and around our river?

The pack is not intended to be used as a prescriptive scheme of work, and teachers and educators are encouraged to adapt the suggested activities to best match the needs and interests of their students and their local environment.

Towards the end of the pack, you will find ideas for a Celebration of Learning, an event that represents a culmination of the learning journey the children and their teachers have experienced together. In the appendices to this pack are examples of poetry to support the learning, and a recent article from *Resurgence & Ecologist* magazine about some of the issues facing our rivers. A free, digital copy of this magazine is offered as background information for teachers and other educators who wish to read around the subject of rivers more widely.

** For simplicity the word 'river' is used throughout this pack, but teachers and educators could substitute 'canal', 'stream', 'estuary' or another word to describe their local watercourse where applicable.*

Rivers and watercourses have been essential to our communities for centuries, but how much do we really know about the ones closest to where we live?

This teaching pack has been developed to support teachers and other educators in planning and delivering teaching and learning that helps children to engage with their local river or watercourse and to reflect on its significance to their local area, village, town or city.

Developed as a collaboration between The Resurgence Trust and The Harmony Project, the pack poses the initial question, **'Why is our local river or watercourse important to us?'** and encourages children and their teachers to explore their responses through a series of cross-curricular learning activities. In doing so, they begin to see their local river – or stream, canal or estuary – through a different lens, forming a deeper connection with it and beginning to consider how it can be better respected, protected and regenerated.

Stills from Beavers: Nature's
Ecosystem Engineers
by Lauren Cook for Beaver Trust
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The Harmony Project approach to learning

The Harmony Project supports schools, teachers and other educators in developing an approach to teaching and learning that is based on a deep understanding of – and connection with – the natural world, empowering young people to live meaningful, purposeful and sustainable lives. The Harmony Project promotes learning *from* Nature, in addition to learning about Nature and in Nature, theming learning around seven principles of Harmony that we see at work in the natural world.



Illustrations from the book 'What is a river?' by Monika Vaicenavičienė

This pack is themed around the principle of **Oneness**. Just as natural systems are made up of many individual but interdependent elements that together form one whole, so we are reminded that every place is also made up of many different elements. These include natural and human-made features of the environment

as well as the wildlife and community of people that live there. All of these elements contribute to our sense of oneness with the place we call home. When we feel a sense of oneness and connection with a place, we can start to reflect on what we can do to look after it, and we are motivated to put these ideas into action.

Find out more about The Harmony Project and the support it offers schools, teachers and other educators at theharmonyproject.org.uk, and about the work of The Resurgence Trust at resurgence.org.

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DISCLAIMER

Learning that takes place near a river or other watercourse provides children with a wealth of opportunities to learn first-hand about one aspect of their local environment. However, being near to water also inevitably poses safety risks. It is essential that a thorough risk assessment be carried out by a competent person before a trip to a river or other watercourse takes place (and on an ongoing basis during the trip itself), and that appropriate measures be put in place to protect the health and safety of everyone involved. This should be done in accordance with the relevant policy of the school or other educational setting. Neither The Resurgence Trust nor The Harmony Project will be held responsible for any actions taken as a result of reading or following the teaching plans contained in this booklet, or associated outcomes.

START THE LEARNING JOURNEY

What will we discover on a visit to our local river?

This activity seeks to familiarise learners with the features of their local river before moving on in the second activity to an exploration of how this section of the river fits into the wider life of that river.

Ideally this activity would take the form of a field trip to the local river that will be the main focus for the learning. If a field trip is planned, there is an opportunity to develop links to PSHE by exploring how we can keep ourselves safe near water (see box below).

Where it is not possible to carry out a field trip, photos or video could be used to adapt this activity for use in the classroom.



Photo by Roger Bradshaw

BEFORE THE TRIP

PSHE: How can I keep myself and others safe near water?

Share photos and/or footage of the local river with the class. In pairs, discuss what some of the risks and dangers might be when visiting the river. Feed back to the class as part of a whole-class discussion. Record dangers on a mind map. In pairs, the children discuss how to minimise the risks through their own actions. Give feedback and create a class 'top tips' list.

REFLECTING ON LEARNING:

What actions can I take to keep myself and others safe near water?

CURRICULUM LINKS

National Curriculum (England, Wales and Northern Ireland)

GEOGRAPHY:

- Use fieldwork to observe, measure, record and present the human and physical features in the local area using a range of methods

PSHE (PSHE ASSOCIATION PROGRAMME OF STUDY FOR PSHE EDUCATION DESCRIPTORS):

- Predicting, assessing and managing risk in different situations
- Developing strategies for keeping safe in the local environment

Curriculum for Excellence (Scotland)

SOCIAL STUDIES:

- I can describe and recreate the characteristics of my local environment by exploring the features of the landscape (SOC 1-07a)
- Having explored my local area, I can present information on different places to relax and interesting places to visit (SOC 2-10a)

HEALTH AND WELLBEING (PHYSICAL WELLBEING):

- I am learning to assess and manage risk, to protect myself and others, and to reduce the potential for harm when possible (HWB 0-16a, HWB 1-16a, HWB 2-16a, HWB 3-16a, HWB 4-16a)
- I know and can demonstrate how to keep myself and others safe and how to respond in a range of emergency situations (HWB 0-17a, HWB 1-17a, HWB 2-17a, HWB 3-17a, HWB 4-17a)

ACTIVITY 1 Making observations

Working in pairs or in small groups, the children record their own observations of the features of the local river, in words, tables or diagrams, or using digital cameras.

To support discussion and detailed observation, it may be useful to share with the children before the visit some key vocabulary and questions they might wish to respond to and to make these available to them during the activity. And, of course, if they can think of their own questions, so much the better!



Some examples of key questions to ask the children might include the following:

- What does the water look like?
- Can you see the riverbed? If so, what does it look like?
- What do the riverbanks look like? Grassy, or built up? Steep, or level with the water?
- What human features connected with the river can you see? (Bridge, weir, lock, mooring, crane)

REFLECTING ON LEARNING:

What have we discovered about our local river? How do my observations compare to those of others? What have I found out that I didn't know before? What else would I like to find out about the river?

ACTIVITY 2 Exploring the experience of being near water

As a group, engage in a moment of quiet reflection by the river. What can you hear? What can you see? Working individually, the children record their observations, thoughts and feelings, and then discuss with a partner. Compare experiences as a whole group. It may be beneficial to repeat the moment of quiet once the observations of a range of learners have been shared, so that those who find being still in this way challenging are able to have another go. During the moment of quiet, if an adult can record the sounds of the river or film some footage of it, this can be used as a valuable stimulus for discussion back in class.

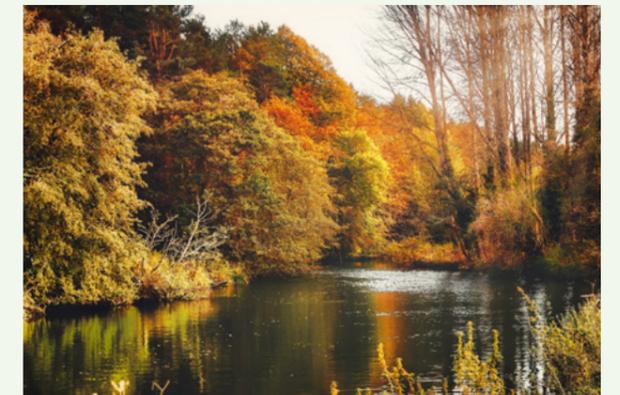


Photo by Mitch Hodge

In different groupings, the children compare the observations they made on the field trip with those of others and create a mind map bringing together all their ideas. Display these in the classroom for reference during the rest of the enquiry.

REFLECTING ON LEARNING:

What helped me to make observations about being by the river? How important is the river to me? How important is the river to the place we live in? What else would I like to find out about the river?

TAKE THE LEARNING FURTHER 1

How does it feel to be by our local river?

In this sequence of activities, the children respond to different types of poetry, developing rich vocabulary and descriptive phrases and then planning, drafting, editing and performing their own poems. They draw on the notes they made by the river and on any audio or film footage captured there to write sensory poetry based on the sights and sounds they experienced.



CURRICULUM LINKS

National Curriculum (England, Wales and Northern Ireland)

ENGLISH (COMPOSITION):

- Discuss the structure, vocabulary and grammar of poems
- Discuss and record ideas
- Compose and rehearse sentences orally
- Organise verses around a theme
- Assess the effectiveness of writing and suggest improvements
- Read their own writing aloud to a group or the whole class, using appropriate intonation and controlling the tone and volume so that the meaning is clear

ENGLISH (READING):

- Prepare poems to read aloud, showing understanding through intonation, tone, volume and action
- Discuss words and phrases that capture the reader's interest and imagination
- Recognise some different forms of poetry, e.g. free verse, narrative poetry

Curriculum for Excellence (Scotland)

LITERACY AND ENGLISH (READING):

- I can discuss structure and discuss the writer's style and other features appropriate to genre (ENG 2-19a)

LITERACY AND ENGLISH (WRITING):

- I can use my notes and other types of writing to create a new text (LIT 2-25a)
- By considering the type of text I am creating, I can select ideas and relevant information, organise these in an appropriate way for my purpose and use suitable vocabulary for my audience (LIT 2-26a)
- I am learning to use language and style in a way which engages my reader (ENG 2-27a)
- Having explored the elements which writers use in different genres, I can use what I learn to create stories, poems and plays with an interesting and appropriate structure, interesting characters and/or settings which come to life (ENG 2-31a)

Ideas for assessment

In order to plan for progression, it will be useful to gauge the children's 'starting point' before beginning this sequence of learning. This will help to ensure that teaching can be tailored to their needs as learners from the outset and also provides a baseline against which the children's outcomes from this sequence of learning can be assessed to measure progress.

Referring to previous outcomes of learning about poetry and carrying out a quick assessment against expectations for the year group(s) will be helpful. For example, for a Year 3 or 4 class, do previous poems the children have written show that a majority of the class are secure in:

...organising verses or sections around a theme? YES/NO

...developing noun phrases to add description? YES/NO

...using a variety of descriptive and imaginative techniques to add interest (e.g. simile, metaphor, personification)? YES/NO

...using adverbials at the start of lines and punctuating these with a comma? YES/NO

These observations can be revisited at the end of the sequence of activities to determine the progress made.

The children can also be involved in the process of assessing their progress by ticking statements on a simple 'self-assessment ladder' at the start of the sequence, and again at the end. This might look like...

	Before	After
My Poems		
I can write poems with verses		
Each verse in my poem has a theme		
I can develop noun phrases to add description		
I can use similes, metaphors and personification to add interest to my poems		

ACTIVITY 1 What makes a poem effective?

AIM: To discuss the structure, vocabulary and grammar of poems

Share with the children a selection of poems about rivers, or examples of poems that appeal to the senses (see Appendix 1 for some examples and ideas). Allow them to choose and explore one or two poems with a partner or as part of a small group and collect initial ideas. Share one poem with the whole class and model how to investigate meaning by highlighting and commenting on the effect of structure, pattern, descriptive language, etc. Can we find examples of rhyme, rhythm, personification, rich descriptive phrases, metaphor, simile, repetition? The children work with a partner to annotate one or more poems using a checklist of things to look out for from class discussion, and match examples to different types of poem.

REFLECTING ON LEARNING:

What techniques appeal to me in poetry? How do these poems bring an experience or a subject to life? Which elements of the poems we've explored today will I adapt to use in my own poem?

IDEAS FOR DIFFERENTIATION:

SUPPORT

Supply a selection of simpler poems; pair less proficient readers with more confident ones; ask the children to highlight adjectives and think why the poet has used them, and/or identify rhyming words.

EXTENSION

The children comment on the effect of each of the techniques they identify in the poems.

ACTIVITY 2 How can I develop descriptions to use in my own poem?

AIM: To develop ideas using descriptive and evocative language



TEACHER TIP:

Before this session, it will be useful to prepare a short bank of ideas, impressions or observations recorded in the session by the river.

Referring to poems explored in the previous session, recap with the children the different techniques they identified for developing description. Focusing on one technique, model how it can be used to develop an idea, impression or observation made by the local river for use in a class poem. Allow the children time to explore this independently with a partner to develop their own ideas before moving on to focus on another technique. By the end of this session, the children should have a bank of their own descriptive language, phrases and devices to use in their own poems.



TEACHER TIP:

Keep a bank of ideas generated in this session for use in subsequent sessions.

REFLECTING ON LEARNING:

Which of my own descriptions are the most effective? How might I develop others further?
Give feedback to and receive feedback from a partner.

ACTIVITY 3 What will I include in a plan for my poem?

AIM: To sequence themes and ideas in a poem; to plan how these will be developed



TEACHER TIP:

Before this session, decide on one or two poems with simple structures that can be used as the template for the children's poems.

Discuss with the children how the structure of an existing poem can be used to write new poems, using one or two poems as examples. For instance, the structure of the poem 'The River' by Valerie Bloom (Appendix 1) lends itself well to innovation using the following form for each verse:

The river's a _____ .

It _____ ,

_____ ,

And _____ .

The river's a _____ .

It _____ ,

_____ ,

And _____ .

IDEAS FOR DIFFERENTIATION:

SUPPORT

Provide the children with a writing frame or word bank of adjectives to help them write their own descriptions.

EXTENSION

Writing metaphors and using personification could be essential elements of the learning for these children.

Alternatively, the children's own poems could tell the story of a river's journey from source to sea, describe how the river moves or sounds, or capture how it makes them feel when they are near it. The poem 'The Singing River' by Ernestine Northover (Appendix 1) can be used effectively in this activity as an example of a poem that focuses on one aspect of the river - the sound it makes - and the effect this has on the poet.

Model how we might start to decide on a central idea or theme for each verse and use these in a class plan. Using the ideas for descriptive language and phrases generated in the previous session, model how we might start to link these to each verse. For example, the themes for the first three verses of a poem might be:

VERSE 1: The way the water looks

VERSE 2: The way the water moves

VERSE 3: The way the water sounds

Once these themes have been decided, linked ideas can be 'mapped' onto them in a plan.

The children work independently or with a partner to plan ideas for their own poems.



TEACHER TIP:

Keep a copy of the class plan for use in the next session

REFLECTING ON LEARNING:

How well have I managed to organise my ideas using themes? What ideas can I swap with a partner, and what feedback will I give and receive to improve my poem and theirs?

IDEAS FOR DIFFERENTIATION:

SUPPORT

Identify themes for the children to link ideas to or pose questions such as: What does the river look like? How does the water move? What does it sound like? Provide a planning frame.

EXTENSION

Challenge these children to plan a poem with at least five verses. How could the opening and closing lines of the poem be linked? How could they use repetition to give their poems structure?



ACTIVITY 4 How well can I use my plan to write a poem?

AIM: To follow a plan, developing ideas to create a first draft of a poem



Using the class plan created in the previous session, use shared writing to model how to turn the ideas in the first section of the plan into the first verse of a poem. It will be useful to pay particular attention here to the length of lines in a poem compared to the length of a sentence in prose, and how we can use punctuation to mark the start and end of lines in a poem. Encourage children to share ideas to improve the verse, and model how we might edit and improve as we go. The children work independently to draft their own poems, using the plans they created with a partner in the previous session.

REFLECTING ON LEARNING:

How effectively have I included and developed my ideas in my poem? How well have I followed my plan? What is working well in my poem? What would I like to work on in the next session?

IDEAS FOR DIFFERENTIATION:

SUPPORT

Provide a writing frame for the poem; adult support through modelled writing; word banks to help with spellings and selection of more adventurous vocabulary, as appropriate.

EXTENSION

Use a wider range of punctuation to effect in their poem (e.g. with awareness of how the poem will be spoken aloud, to vary pace and rhythm); use a range of more challenging descriptive techniques.

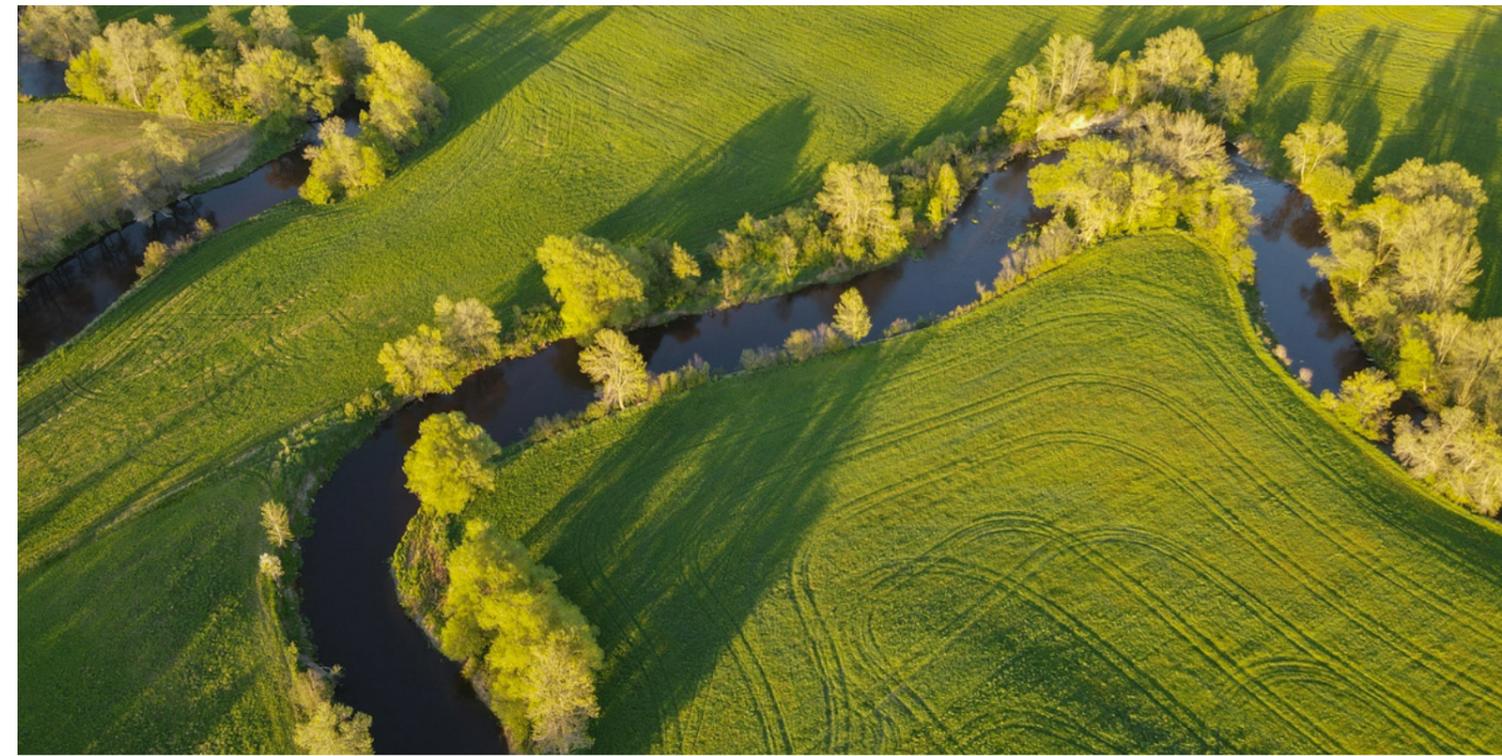


Photo by @darengd

ACTIVITY 5 What improvements will I make to my poem? How will I bring it to life in a performance?

AIM: To edit a poem to improve flow, rhythm and description; to share it aloud with others



TEACHER TIP:

Before this session, complete a first draft of the poem started as a class in the shared writing activity at the start of the previous session, and/or gather one or two examples of the children's drafts (gaining their permission first of course).

Model for the children how reading the verses of a poem aloud can help us edit each line to improve the rhythm, how language can be improved, e.g. using a thesaurus, and how we can edit to avoid repetition where it isn't being used for effect. It can also be useful to show how to 'maggie' ideas from a poem to use in your own! Working with a partner, the children take turns reading their poems aloud verse by verse and editing language and punctuation to make improvements. They then work with a partner to prepare a reading of their poems, using appropriate pace, intonation and expression and giving each other feedback on making their performance more engaging. In groups, the children perform their poems to each other and discuss the poems they have written.

REFLECTING ON LEARNING:

How effectively did I and others bring our local river to life through our poems? What am I proud of about my poem?

IDEAS FOR DIFFERENTIATION:

SUPPORT

Give the children a simple checklist of things to look out for as they edit – these could be based on their individual targets; offer adult support for the editing process, if possible.

EXTENSION

The children ensure they have met extension challenges from the writing session; use a wider range of punctuation to effect in their poem (e.g. with awareness of how the poem will be spoken aloud, to vary pace and rhythm); use a range of more challenging descriptive techniques.



TAKE THE LEARNING FURTHER 2

How can we measure the speed of our local river?

In this sequence of activities, learners work together to measure the speed at which their local river flows using a method based on 'Poohsticks'. In small groups, they time how long it takes a stick – or another natural object – to travel a set distance down the river, using a measuring tape and, for example, cones to mark the start and end points along the riverbank, and a stopwatch to time the journey. Alternatively, this activity can be adapted so that it can be carried out using a water-run or a length of guttering down which water can be poured.

Before starting this sequence of activities, you may wish to put some time aside to encourage learners to observe and reflect on how the river moves. Does it flow quickly or slowly? Are there visible currents and eddies? What changes the way it moves – wind, obstructions, boats, living things, heavy rainfall...?

CURRICULUM LINKS

National Curriculum (England, Wales and Northern Ireland)

MATHS:

- Measure lengths in metres
- Record time in seconds
- Present data in, for example, a table
- Use addition and division to calculate the mean as an average
- Interpret and present data using appropriate graphical methods

SCIENCE (WORKING SCIENTIFICALLY):

- Set up simple practical enquiries
- Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment
- Gather, record, classify and present data in a variety of ways to help in answering questions
- Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables
- Report on findings from enquiries
- Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- Use straightforward scientific evidence to answer questions or to support findings

Curriculum for Excellence (Scotland)

NUMERACY AND MATHEMATICS:

- I can use the common units of measure, convert between related units of the metric system and carry out calculations when solving problems (MNU 2-11b)
- I have carried out investigations and surveys, devising and using a variety of methods to gather information and have worked with others to collate, organise and communicate the results in an appropriate way (MNU 2-20b)
- I can display data in a clear way using a suitable scale, by choosing appropriately from an extended range of tables, charts, diagrams and graphs, making effective use of technology (MTH 2-21a, MTH 3-21a)

SCIENCES:

- Learning in the sciences will enable me to develop the skills of scientific enquiry and investigation using practical techniques

Ideas for assessment

In order to plan for progression, it will be useful to gauge the children's 'starting point' before beginning this sequence of learning. This can be done by collecting examples of their previous outcomes of learning about graphs and identifying any misconceptions or common areas for improvement. For example, does this evidence show that a majority of the class is secure in:

...using a sensible, regularly spaced scale to draw a graph?
YES/NO

...labelling each axis clearly and accurately? YES/NO

...using other labels and a colour-coded key, if appropriate, to help others to interpret the graph? YES/NO

...plotting data accurately using a ruler, where appropriate?
YES/NO

The children can also be involved in the assessment process using a quick quiz to gauge their confidence working with data and graphs. This could include child-friendly versions of the assessment questions above but could also include questions linked to visual prompts, e.g. how confident would you feel presenting the data in this table as a graph? What is the name of the parts of the graph shown in this image? Using a scale of 0–5 to show confidence may help support the children's self-evaluation.

Both of these assessment activities can be revisited at the end of the unit to assess progress against the initial benchmarks.

ACTIVITY 1 How will we measure the speed at which water flows?

AIM: To work together to plan and carry out an investigation into how fast the local river flows; to work and record data in an organised and accurate way

Elicit from the children (or explain to them) that speed is an expression of the distance something can travel in a certain time (or the time it takes something to travel a certain distance). Discuss some examples of this. Share with the children the equipment they have available to them to use to measure how fast the river travels (e.g. trundle wheel or measuring tape, cones or other markers, stopwatch, clipboard, stick or pine cone). Give them time to discuss in groups how they might do this and how they might record their data. As a class, discuss the children's ideas and agree on methodology, bearing in mind their safety near the water at all times. In groups, the children set up and carry out the investigation, measuring and marking out, for example, a 10m stretch of riverbank and timing how long it takes their stick or pine cone to travel this distance in the water. Discuss the benefits of repeating investigations to ensure accuracy and to calculate averages. The children repeat the investigation 3–5 times, recording their data as a group.

REFLECTING ON LEARNING:

As a class, share data from different groups. Are they all fairly similar, or are some different? What factors could explain the variation in results? The children evaluate their methodology and suggest improvements.

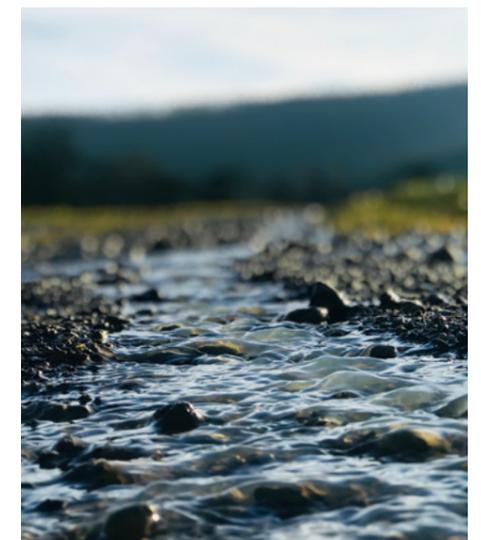


Photo by Valentin Walter

IDEAS FOR DIFFERENTIATION:

SUPPORT

The children work in mixed-ability groups, assigning roles within the group to ensure everyone has a job.

EXTENSION

The children calculate speed in km/h, using a simple formula.

ACTIVITY 2 How will I present data clearly in a graph?

AIM: To present data using an appropriate graphical method; to calculate the mean and range of a set of data

Give the children time to re-familiarise themselves with the data they collected in the previous session. Make available to them some examples of different types of graph and ask them to discuss in groups which one(s) would be most appropriate to present their data. Using an example set of data, model graph construction. The children work independently to present their own data as a graph. What is the range of the data? Model how to calculate this. What can the mean tell us about the likely accuracy of the measurements? How do we calculate the mean of the data? Model how to do this. The children calculate and record the range and mean of their data.

IDEAS FOR DIFFERENTIATION:

SUPPORT

The children work with a partner to create a bar graph. Supply labelled axes for them to use, if necessary.

EXTENSION

For the data collected by each group in the class, calculate the mean and/or speed in km/h and use these values to plot a graph of class data.

REFLECTING ON LEARNING:

What features of a graph help us to answer questions about data (e.g. clearly labelled axes, a regular scale on the y axis, accurately plotted data, other labels or a colour-coded key)? Create class 'top tips' list for constructing accurate graphs. The children assess their level of confidence about drawing graphs against the relevant initial assessment questions.

ACTIVITY 3 How can I use graphs to ask and answer questions?

AIM: To use data in a graph to find things out

Using a graph showing a different set of data as an example (i.e. not the data the children collected about the speed of the river), ask the children to discuss with a partner the questions they might ask about the data and how they would use the data in the graph to answer them. Compile a class list of questions and use them in a short quiz, with the children using the data to find the answers. Working with a partner, the children write questions (and find the answers) about the graphs they created in the previous session. Each pair of children then joins up with another to swap graphs and quiz each other.



TEACHER TIP:

The investigation could be repeated on other days to see if the speed of the river has changed (e.g. after heavy rainfall).

IDEAS FOR DIFFERENTIATION:

SUPPORT

Provide the children with examples of questions to answer and to adapt and/or a writing frame to ask their own questions.

EXTENSION

Include questions about the range and mean of the data. Include questions comparing more than one graph; work with another learner or in a group so that graphs can be compared.

REFLECTING ON LEARNING:

How do graphs make it easier for us to work with data? What do they help us to do? The children assess their level of confidence about working with graphs against some of the initial assessment questions.

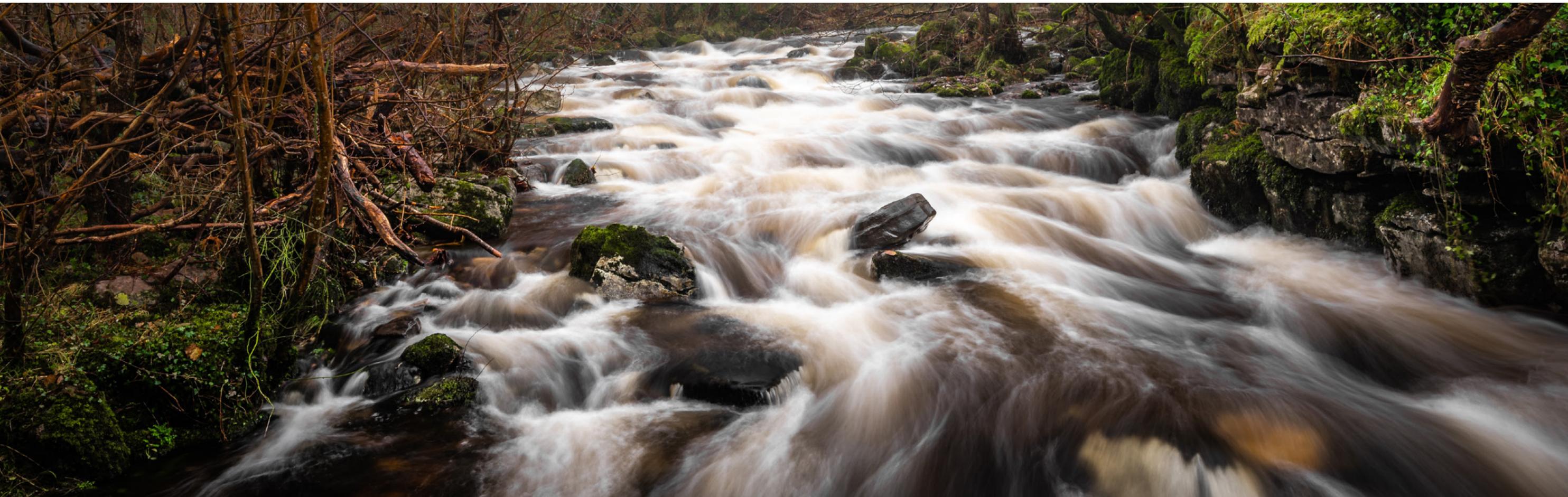


Photo by Carl Jorgensen

TAKE THE LEARNING FURTHER 3

How can we recreate a scene from our local river using mixed media?

To start this sequence of activities, encourage learners to reflect on the key features of their local river that give it its identity. These could include human-made features such as bridges or weirs, natural features such as the trees and plants that grow along its banks, and the physical features of the river itself such as its width and the speed at which the water flows.



In the first activity the children sketch different scenes, features or details of the river or riverbank that they think could be effectively recreated as a collage using mixed media. After selecting an image as a focus, they work in pairs in the subsequent sessions to recreate the image using a variety of materials, assessing the properties of each and using them as the basis for selection.

To increase the range of materials available to the children to use in their collages – and to introduce an element of environmental responsibility to this project – encourage the class to collect and bring in a selection of clean, used materials to incorporate into their collages. Things like bubble wrap and cellophane lend themselves to recreating the water, while scraps of used wrapping paper, tissue paper or pages from magazines that have a dominant colour will all work well. Fabric from textiles destined for recycling and even the buttons from worn-out clothes could also be used effectively. Collecting these materials will involve some planning and collaboration ahead of time.

Ideas for assessment

As this sequence of activities is split into two parts, with initial ideas and observations recorded using sketching and then translated into mixed media collage, it may be helpful to have two foci for assessment. If the children have a sketchbook that they regularly use to record ideas and try out new techniques, they can be encouraged – before starting the first activity – to review the sketches in their books and to set themselves a target against which they will assess themselves after the

CURRICULUM LINKS

National Curriculum (England, Wales and Northern Ireland)

ART:

- Use sketching to record observations and to review and revisit ideas
- Improve art and design techniques using a range of materials

Curriculum for Excellence (Scotland)

EXPRESSIVE ARTS (ART AND DESIGN):

- I have the opportunity to choose and explore an extended range of media and technologies to create images and objects, comparing and combining them for specific tasks (EXA 2-02a)
- I can create and present work that shows developing skill in using the visual elements and concepts (EXA 2-03a)
- Through observing and recording from my experiences across the curriculum, I can create images and objects which show my awareness and recognition of detail (EXA 2-04a)
- Inspired by a range of stimuli, I can express and communicate my ideas, thoughts and feelings through activities within art and design (EXA 0-05a, EXA 1-05a, EXA 2-05a)

sketching part of the learning is completed. It may be helpful to provide them with example targets that they can consider or adapt to set their own target. For example: 'I will use a range of different shading techniques/use a selection of H, HB and B pencils to achieve different shading effects' OR 'I will try to show more accurately in my sketch when something is behind or in front of something else'. They can then work with a partner to assess the extent to which they have met this target at the end of the sketching activity.

The children can also be involved in the process of assessing their progress by ticking statements on a simple 'self-assessment ladder' at the start of the sequence, and again at the end, as with the poetry-writing activity. This might look like...

	Before	After
My Mixed Media Collage		
I can describe the properties of different materials		
I can use a range of materials to achieve different effects in my collage		
I can use tearing and cutting techniques to achieve different effects in my collage		

ACTIVITY 1 How can I sketch what I see by our river effectively?

AIM: To use sketching to record observations about the river

Explain to the children the sequence of activities, stressing that the sketches they complete in this session will form the basis for their final artwork. This will help them to understand the importance of capturing a good level of detail. At the river, the children select one or more features or parts of the landscape that interest them and sketch them, paying attention to the relative size of different things they can see and adding shading to show areas of shadow. In addition to sketching a wider scene, encourage the children to create sketches of details of the river environment that they find particularly interesting. For example, they might wish to sketch the opposite bank and then create additional, more detailed sketches of a tree or bench that appears in their composition.



TEACHER TIP:

It is a good idea to take photographs of different river scenes and details during the sketching activity. These can be used in subsequent sessions to support children who were not able to capture a sufficient level of detail to create their mixed media collage.

IDEAS FOR DIFFERENTIATION:

SUPPORT

Provide a rectangular 'viewfinder' frame that children can use to help them focus on one area of the river landscape; photograph the scene/details the children are sketching so that these images can be used to support the children in subsequent sessions if necessary (see TEACHER TIP).

EXTENSION

Encourage the children to add labels and notes to their sketches about, for example, the textures of the scene in front of them. This will help in their selection of materials for their collages.

REFLECTING ON LEARNING:

The children work with a partner to offer feedback on the areas in each other's sketches that have worked particularly well, and on others that would benefit from adding greater detail. The children self-assess their sketching against the target they set themselves.

ACTIVITY 2 How can I use my sketches to plan a mixed media collage of our river?

AIM: To revisit and review ideas recorded in a sketch; to start to explore the properties of different materials and how these might be used in a mixed media collage



TEACHER TIP:

Before this session, complete a sketch of a scene from – or feature of – the local river. Alternatively, ask a child for permission to use their sketch. This will be used to support the adult input at the start of this session.

Using as an example a sketch of a scene from – or feature of – the local river, model how to decide on a composition for an A3 mixed media collage and how to draw the outlines of the elements of the composition (without adding much detail) at an appropriate scale. Allow the children time to start working independently on this step in the process. Next, discuss with the children the properties of the different materials available to them to use in their collages and what these would lend themselves well to recreating in their river compositions. Show how tearing or cutting can be used to create different effects. For example, torn edges can be layered effectively to create the fluid ripples of water, but this can be contrasted with a more defined cut edge of a leaf shape. The children work to select materials for their collages and experiment with different cutting and tearing techniques in their sketchbooks.



TEACHER TIP:

Giving each child a large (named) ziplock bag, paper envelope or cardboard folder will enable them to store the materials they have started to select, or which they have brought in from home, for use in the next session.

REFLECTING ON LEARNING:

How effective was my sketch in helping me plan the composition of my collage? How effectively have I selected materials to use in my collage, based on their properties?

ACTIVITY 3 What effects can I create in a collage using different materials and techniques?

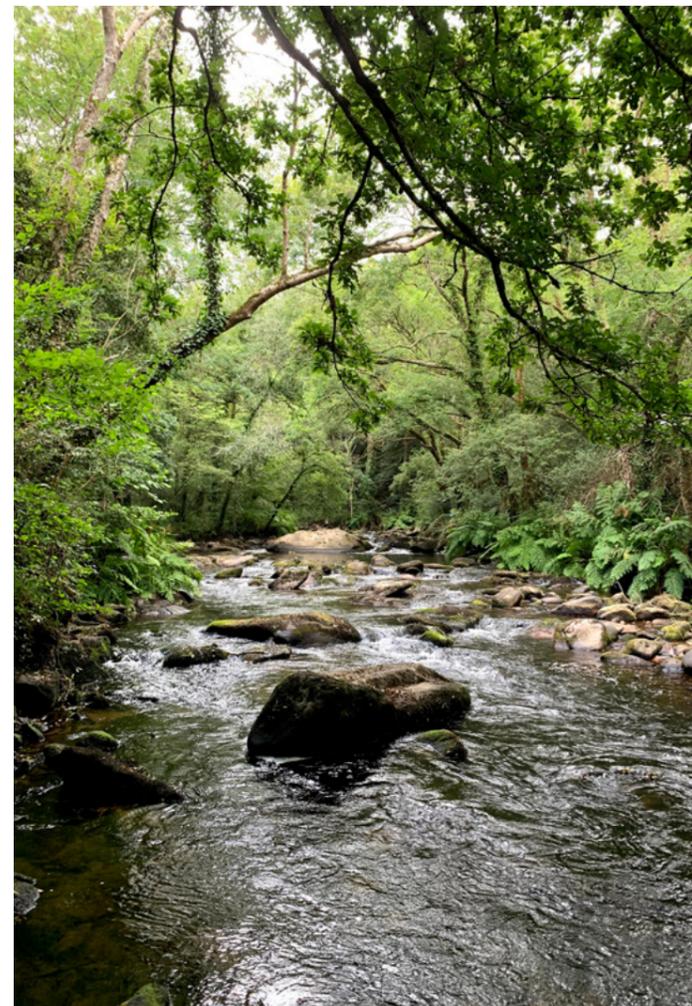
AIM: To use a range of materials to achieve different effects in a collage; to use different cutting and tearing techniques to achieve different effects in a collage

Allow the children time at the start of the session to review the progress they made in the previous activity in planning their composition, selecting materials and exploring different techniques using those materials. Model for the children how to cut or tear materials with outlines or shapes that match the outlines of their composition, or how to use several smaller pieces to build up an area, showing how to stick these in place with glue. The children then work independently on their collages.



TEACHER TIP:

Creating a mixed media collage can take time, so this activity would work well as an extended session, or being run as two or even three sessions, depending on the speed at which the children work.



IDEAS FOR DIFFERENTIATION:

SUPPORT

Allow the children to work with a partner or work on a smaller artwork (A4); prepare an outline based on the child's sketch by the river, and allow them to work with this to create their collage; instead of working to recreate a scene or a feature of the river, children can create a more abstract collage recreating the colours and patterns on the surface of the water, or the colours and outlines of the plants growing along the banks of the river.

EXTENSION

Encourage the children to overlay more detailed cut-out shapes to recreate, for example, reeds by the bank in the foreground of their composition. This will need to be modelled.

REFLECTING ON LEARNING:

Set up a 'tabletop gallery' of the children's completed mixed media collages and allow them time to view and reflect on the artwork of others. Remind the children of the statements in the assessment ladders and encourage them to give feedback to others either verbally or on sticky notes. The children revisit their assessment ladders, filling in the 'After' column to show progress.

TAKE THE LEARNING FURTHER 4

What lives in and around our river?

Over the course of four activities, the children get to know (or get to know better) the living things found in, on and in proximity to their local river, including plants, fish and other animals. They use simple classification guides to identify different species and then use this knowledge



to investigate a question – for example: What species of waterbird live on the river? Which are the most common? What different species of plant can we find on a 10m stretch of the riverbank? The children decide on ways to collect their data and, back in the classroom, choose the best way to present the data they have gathered, and pose and answer questions about the findings of other groups in the class. There may also be an opportunity to work with data collected by organisations such as The Environment Agency about the living things in the local watercourse.

CURRICULUM LINKS

National Curriculum (England, Wales and Northern Ireland)

SCIENCE:

- Gather, record, classify and present data in a variety of ways to help in answering questions
- Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables
- Recognise that living things can be grouped in a variety of ways
- Explore and use classification keys to help group, identify and name a variety of living things in the local and wider environment
- Report on findings from enquiries
- Use results to draw simple conclusions, suggest improvements and raise further questions

MATHS:

- Present and interpret data using appropriate graphical methods

Curriculum for Excellence (Scotland)

SCIENCES:

- I can identify and classify examples of living things, past and present, to help me appreciate their diversity (SCN 2-01a)
- Learning in the sciences will enable me to develop curiosity and understanding of the environment and my place in the living, material and physical world
- Learning in the sciences will enable me to develop the skills of scientific enquiry and investigation using practical techniques

NUMERACY AND MATHEMATICS:

- I have carried out investigations and surveys, devising and using a variety of methods to gather information and have worked with others to collate, organise and communicate the results in an appropriate way (MNU 2-20b)
- I can display data in a clear way using a suitable scale, by choosing appropriately from an extended range of tables, charts, diagrams and graphs, making effective use of technology (MTH 2-21a, MTH 3-21a)

Ideas for assessment

At the start of this sequence of learning, ask the children to share their ideas about what they know – or think – might live in, on or around the river they are exploring. They may well know the names of some of the waterbirds that live there, but what about fish, insects, plants and even small mammals? This will provide useful insight into their level of knowledge about the living things found in this local habitat. This initial assessment of their subject knowledge could take the form of a 'name the living thing' quiz, which could then be repeated at the end of the unit.

This also provides an opportunity before starting the learning to gauge how confidently the children can use scientific vocabulary to describe some of the identifying features of different living things (for example, beak, bill, webbed feet, antennae, scales, fins, buds, bark). This can be used as a baseline against which to assess progress made in this area by the end of this sequence of learning and will also highlight whether the children would benefit from having a word bank of this key vocabulary available to them throughout the learning.



ACTIVITY 1 What helps us to identify living things in, on and around our local river?

AIM: To recognise that living things can be grouped in a variety of ways; to explore and use classification keys to help group, identify and name a variety of living things in the local and wider environment

Using simple classification guides, the children work in pairs to identify some of the living things they can see by the local river (or work with photographs if it's not possible to carry out this activity in situ). The children draw each living thing they identify and/or write its name on a blank card or sticky note. Bring the class back together to get some quick feedback on what the children have discovered. Working as a class, discuss some different category names that could be used to group the living things they have identified, modelling how to organise the cards or sticky notes the children have been recording their findings on. Each pair joins another pair to investigate the different ways in which the living things they identified could be grouped, moving their cards or sticky notes around under different headings.



TEACHER TIP:

It may be useful to provide the children with a word bank of useful vocabulary they can use to discuss the features of living things more scientifically (for example, beak, bill, webbed feet, antennae, scales, fins, buds, bark).

REFLECTING ON LEARNING:

What helped me to identify different living things? How can you tell different living things apart?

IDEAS FOR DIFFERENTIATION:

SUPPORT

The children work in mixed ability pairs; provide identification guides with simplified text or featuring fewer living things, depending on need.

EXTENSION

The children work with more complex identification guides and use bullet points to list two distinguishing features of each living thing they record on their blank cards or sticky notes.

ACTIVITY 2 How can I gather data to answer a question?

AIM: To gather, record, classify and present data in a variety of ways to help in answering questions

In this activity, the children work with a partner, or as part of a small group, to collect data in order to answer a question such as: What is the most common species of bird that lives by our local river? What different species of plant can we find on a 10m stretch of the bank? Some children may want to pose a question of their own to investigate by collecting data. Give them time to discuss in their pairs/small groups what data they will collect to answer the question they are investigating, how they will collect it and how they will record it. As a class, discuss the children's ideas, bearing in mind their safety near the water at all times. In groups, the children set up and carry out the investigation, for example measuring and marking out a 10m stretch of riverbank and then working methodically to capture and record the number of different plant species along it.

IDEAS FOR DIFFERENTIATION:

SUPPORT

The children work in mixed ability pairs/groups, or in a group with adult support; provide a template/format in which the children can record their data.

EXTENSION

The children reflect on the accuracy of their methodology. What might the problems be (e.g. counting the same duck twice)? The children suggest improvements.

REFLECTING ON LEARNING:

How well did we work in an organised, scientific and methodical way? What have we learnt?

ACTIVITY 3 How will I present what I have found clearly and effectively?

AIM: To record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables

Allow the children time to refamiliarise themselves with the data they collected in the previous session. With a partner, discuss how they might present their data so that someone else would find it easy to interpret or learn from it. If they were investigating the most common bird species, for example, they might choose to present their raw data as a graph, with a key. The key might include a drawing of each of the birds that were part of the survey, with labels to show the bird's key features. If they were investigating the range of plant species in a 10m stretch of riverbank, they might create a booklet or a poster with a drawing of each plant, its flower or its leaf. To add an additional level of challenge, they might include labels or captions about the identifying features of each living thing or information about where it was found on the bank. The children work individually to present their findings. To end the session, ask the children to swap their learning outcomes with another child and discuss what they have learnt from each other's work, along with any feedback on improving it. Allow some time to respond to peer feedback and make any amendments.

IDEAS FOR DIFFERENTIATION:

SUPPORT

Provide drawn axes to create a graph or a table to complete with drawings and labels.

EXTENSION

The children select additional levels of challenge within the main learning tasks (see overview).

REFLECTING ON LEARNING:

How clearly have I presented my findings to someone else?



ACTIVITY 4 What have we learnt about our local river from our investigation?

AIM: To report on findings from enquiries; to use results to draw simple conclusions, suggest improvements and raise further questions

Begin the session by sharing with the class one or two examples of the children's presentations of findings from the last session. What do these findings tell us? Using one of the examples, model through shared writing how to write a few sentences or a short paragraph about the results of the investigation. Allow the children some time to write up the results of their own investigations. As a class, use the examples from the start of the lesson to answer the question: What do these findings tell us about our local river? Model through shared writing how to write a conclusion for the investigation. For example, does our local river support a diverse range of living things? Did the children expect to find this? What surprised them? The children work independently to write their own conclusions.

IDEAS FOR DIFFERENTIATION:

SUPPORT

The children write simple statements in response to questions about their investigation or use a writing frame to help structure their writing.

EXTENSION

The children write a reflection about how they might protect or promote an even greater diversity of life in, on or around their local river.

REFLECTING ON LEARNING:

In groups, the children share their conclusions with each another and discuss them. Did they all have similar thoughts? If not, how did their conclusions differ? What else could we investigate about the living things in, on or around our local river? What can we do to ensure our rivers stay healthy and well?

Deciding on a Celebration of Learning

Finding a way to showcase the children's learning journey at its conclusion through a Celebration of Learning can help make the experience even more memorable. It is worth giving some thought to the form a Celebration of Learning might take when you start to plan this unit in more detail. This isn't something that should be thought of as an add-on and it shouldn't require any additional work other than preparing the outcomes of the children's learning you wish to share.

Ideally, the Celebration of Learning is something that gives the children the opportunity to share their learning with a wider audience, whether this is another year group, the whole school, parents and carers, a partner school or the local community.

A Celebration of Learning could be...

A poetry recital

An assembly about what the local river means to the children and the community

A book of river poetry written by the class for the school library

A quiz about the local river for another year group

An audiobook of river poetry written by the class for the school website

A guided visit to the local river for parents and carers, led by the children

A presentation about the wildlife that the local river supports

A picnic for parents and carers at the local river, organised by the children

A mini-guidebook to the local river that others can use to explore it

An exhibition of river-inspired artwork



Mixed-media collages of the parts of a river by Year 5 children: (L-R) 'Waterfall', 'Tributary' and 'River mouth'

APPENDIX 1

EXAMPLES OF POETRY (TAKE THE LEARNING FURTHER 1)

Looking-glass River

by Robert Louis Stevenson

Smooth it glides upon its travel,
Here a wimple, there a gleam –
O the clean gravel!
O the smooth stream!

Sailing blossoms, silver fishes,
Pave pools as clear as air –
How a child wishes
To live down there!

We can see our coloured faces
Floating on the shaken pool
Down in cool places,
Dim and very cool;

Till a wind or water wrinkle,
Dipping marten, plumping trout,
Spreads in a twinkle
And blots all out.

See the rings pursue each other;
All below grows black as night,
Just as if mother
Had blown out the light!

Patience, children, just a minute –
See the spreading circles die;
The stream and all in it
Will clear by-and-by.

The River

by Valerie Bloom

The River's a wanderer,
A nomad, a tramp,
He doesn't choose one place
To set up his camp.

The River's a winder,
Through valley and hill
He twists and he turns,
He just cannot be still.

The River's a hoarder,
And he buries down deep
Those little treasures
That he wants to keep.

The River's a baby,
He gurgles and hums,
And sounds like he's happily
Sucking his thumbs.

The River's a singer,
As he dances along,
The countryside echoes
The notes of his song.

The River's a monster
Hungry and vexed,
He's gobbled up trees
And he'll swallow you next.

*Retrieved from
childrens.poetryarchive.org/poem/
the-river*

The Singing River

by Ernestine Northover

The river tumbles onwards to the sea,
And rushes, racing over rocks and stones,
And boulders, branches, pebbles, sand and scree,
Singing so many melodies to me,
In whispering notes and thunderous roaring tones.

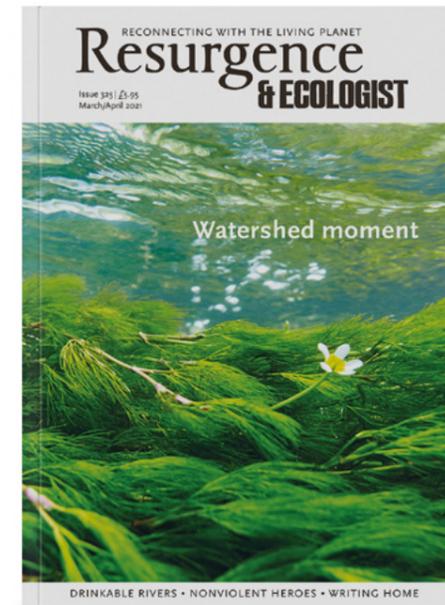
Music that lingers in the ears and mind,
Soothing confusing thoughts that come my way,
Easing all stress, so my spirit is resigned,
To watching its water ripple, swirl, glide and wind,
And giving a soft contentment to my day.

Always there, this river, which is never still,
And every night and day, how strong it flows,
Into each pool, each inlet and each new rill,
It does, my thirsty soul, with pleasure fill,
And sets my thoughts on peace, and my 'being' glows.

Retrieved from poemhunter.com/poem/the-singing-river

APPENDIX 2

BACKGROUND READING



The article overleaf was taken from the 'Watershed Moment' issue of *Resurgence & Ecologist* magazine. This publication seeks to inspire people to connect with the living earth and focuses on topics such as the environment, nature and ecology, food and farming, wellbeing, ethical living and the arts.

The 'Watershed Moment' issue of *Resurgence & Ecologist* explores the theme of rivers and was one of the inspirations behind this teaching and learning pack.

A free, digital copy of this issue is offered as background information for teachers and other educators who wish to read around the subject of rivers more widely.

It can be viewed and downloaded at resurgence.org/watershed



Stills from *Beavers: Nature's Ecosystem Engineers* by Lauren Cook for Beaver Trust @laurens_colours
lodge.beavertrust.org/media-hub

Rewilding Britain's waterways

Marianne Brown meets 'beaver man' Derek Gow

The road to Derek Gow's farm is muddy and wet and often indistinguishable from the ditches at either side. Much of the track is flanked with 'improved' grassland, ground dominated by grass species that outcompete native flowers and fine grasses. This dearth of biodiversity is typical of the landscape here in West Devon, but Gow's 300-acre patch promises something quite different. The farm, home to his wildlife consultancy business, breeds wild animals for reintroduction: mostly water

voles, but he also houses wild cats and storks. Since he bought it in 2006, much has already been transformed by some of his most storied residents: beavers.

Beavers, Europe's largest rodent, are a keystone species, transforming the landscape around them and creating habitats for numerous other creatures. Their dams, built in shallow rivers and waterways, provide nurseries for fish and other water-dwelling critters, and the clearings they create by cutting



down trees for food and material for their dams and lodges give space for wild flowers and pollinators. Riparian trees like willow, black poplar and rowan have evolved to accommodate the habits of these toothy herbivores.

The animals have been doing this for the last 40 million years, and in the Anthropocene their presence on our waterways has other benefits too. By slowing the flow of water with their dams, beavers can not only reduce the risk of flooding downstream, but also help the land retain water in times of drought. Added to this, the dams can help reduce pollution by trapping agricultural runoff and preventing it from flowing downstream. As if *that* weren't enough, wetlands like the ones beavers create can store up to five times more carbon than dry areas. Britain is one of the most Nature-depleted countries in the world, ranked 189th out of 218. So why aren't there legions of beavers across this island helping us sort out our ecological crisis?

The answer is that there might have been if we hadn't killed them all. Hunted to extinction for their fur, scent glands and meat, the last beavers in Britain disappeared in the 1500s. Thanks to people like Derek Gow (or 'Beaver Man', as he is described by Alastair Driver, director of Rewilding Britain) they are coming back.

The first official reintroduction of beavers in Britain took place in Kent in 2002, and today there are an estimated 550 beavers in the UK – not many compared to Germany (35,000) and Poland (125,000), but the situation is hopeful. "The idea of having beavers in the landscape [in Britain] is light years away from where it was a quarter of a century ago," Gow tells me.



As a Nature conservationist, Gow has spent much of his career arguing the case for the restoration of beavers. In his book *Bringing Back the Beaver* (Chelsea Green, 2020), he describes battling senseless levels of bureaucracy, misinformation and agonising caution, in the crusade led by him and other specialists to enable the return of these ecosystem engineers. As well as his keen powers of observation and belligerent wit, he pulls

no punches in communicating the urgency of our situation.

A large part of the problem is bringing beavers back into a micromanaged landscape reserved entirely for industrial farming. As well as breeding beavers at his farm, Gow translocates others from Tayside, Scotland, where conflict with farmers has led to culling. Beavers were given European Protected Species status in May 2019, meaning they could only be shot under licence. However, out of an estimated 450 beavers in the Tay catchment, 87 were officially culled in Tayside in 2019, a move that prompted widespread condemnation in the media.

A recent opinion poll commissioned by The Scottish Rewilding Alliance showed that 66% of Scots thought beavers should be translocated instead of being killed when they needed managing. Only 5% disagreed. This public support bodes well for the beavers, Gow says, but changing the attitudes of many farmers is going to require political will. "A much wider part of society is saying: we want Nature, we want to live in a landscape where other things live too. We do not want to live in a landscape where everything dies and we pay for it."

Gow blames farming subsidies for encouraging many farmers to seek to preserve the post-world-war-two farming landscape. Up until Brexit, the UK government paid farmers nearly £3 billion as part of the Common Agricultural Policy. I ask Gow if there is any hope post Brexit that farmers could be paid to have beavers on their land. "It's certainly something that's been talked about," he says. "There's a strong hope that, with the 25-year environment plan, farmers are going to get paid to actually produce Nature. Now, quite how that's going to translate we don't know."

The tide for restoration has emphatically turned, Gow says. Following the successful five-year beaver trial on the river Otter in East Devon, the government promised a consultation on the management of beavers in the wild. Gow is optimistic about the results. "At the moment we're treading water, putting licence applications into Natural England for small projects, enclosed projects or single isolated river systems. But when this decision is reached we'll move to bigger and bigger projects." **R**

Marianne Brown is editor of *Resurgence & Ecologist* magazine.

Read or download a free copy of the rivers-themed issue of *Resurgence & Ecologist* at resurgence.org/watershed



**Smooth it glides upon its travel,
Here a wimple, there a gleam –
O the clean gravel!
O the smooth stream!**

**Sailing blossoms, silver fishes,
Pave pools as clear as air –
How a child wishes
To live down there!**

by Robert Louis Stevenson



Resurgence

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