North York Moors National Park

River investigation (Key stage 2)



Stream investigation measuring physical aspects of the stream and dipping for freshwater invertebrates to monitor water quality.

This investigation uses a small tributary of the River Esk less than a mile from Danby Lodge National Park Centre. Children observe river features and measure and record data including width and depth of the channel, time taken for objects to float a measured distance and size and shape of material on the river bed. Adaptations of invertebrates are explored by using props to transform a volunteer into a freshwater invertebrate! Children then collect and identify freshwater invertebrates using nets and a key and use their results to indicate water quality. All equipment provided.

Age Range: Years 3 - 6 (Age 7 to 11)

Duration: 2 hours

Location: Danby Lodge National Park Centre

Main curriculum links

Geography

- geographical skills
- physical geography of the North York Moors
- the water cycle

Science

- living things and their habitats

Key learning objectives

Children should learn…

Other skills involved

- team working
- using equipment appropriately and safely
- looking closely / observation skills

Learning outcomes

All children will be able to:

- the water cycle: Understand how rivers link to precipitation, surface runoff, infiltration, and catchment systems
- data collection: Use equipment (such as measuring tapes, and flow-speed floats) to measure channel width, depth, and velocity
- match animals to pictures on a key
- identify ways in which an animal is adapted to its habitat

Most children will be able to:

- use a simple identification key
- identify how water wears away the landscape, carries sediment, and drops materials to form features like meanders
- interpret results to provide an indication of water quality

Some children will be able to:

- describe and explain the course of a river from its source (high ground/spring) to its mouth (sea or lake), including upper, middle, and lower course features and how it changes
- suggest how different animals are adapted to living in different parts of the stream habitat

Assessment for learning

We assess learning using a variety of techniques appropriate to the activity such as: questioning, questioning games, observing how well children are performing tasks, checking results, quizzes and feedback forms.

Ideas for extending learning before and after this activity

The video 'From source to mouth – the journey of the Esk' was put together specifically to give teachers an extra resource for this activity and can be used as an introduction before the visit or as a recap of the day.

Use identification keys for other groups of animals or plants. Can the children design their own identification key for a small group of plants or animals such as trees in your school grounds – or to identify children in their class?

For information about rivers and river wildlife in the North York Moors go to: www.northyorkmoors.org.uk/wildlife-and-habitats/rivers

The Canal and River Trust provides resources for schools at: canalrivertrust.org.uk/specialist-teams/learning-and-youth-development*

*This is an external website for which the National Park Authority has no responsibility

Further information

To find out more, make a booking or view other activities please visit our Outdoor learning and school visits page.

You can contact the Outdoor Learning team on 01439 772751 or email outdoorlearning@northyorkmoors.org.uk