



Carbon and Water Cycles

A great opportunity for pupils to carry out fieldwork to study the link between peatlands and the carbon and water cycles.

Pupils will learn about the moorland environment and the importance of the condition of the peat. Data will be collected including: aspect, slope angle, altitude, water table depth and water pH, soil pH and soil temperature. Quadrats will be used to sample vegetation type and cover. At the stream they will measure width, depths and carbon content of the water.

Students will use calculations to estimate the mass of carbon on the moor and the rate at which dissolved organic carbon is being lost from the stream. This information could be used to inform any discussions on future management plans for the North York Moors and peatlands as a whole.

The opportunity also exists for teachers and students to create hypotheses and carry out statistical analysis on the data they collect.

We are also able to provide a talk about peatlands, their management and the effects that climate change is having upon them, using case studies from the North York Moors National Park.

All equipment and recording sheets will be provided.

Optional extra: A 20-30 minute talk on climate change and peatlands is also available.

Location: Starting and finishing at The Moors National Park Centre at Danby, the study site at Park Bank is a short 5 minute drive.

When available: September to March only (to avoid disturbance to ground nesting birds on the moor).

Duration: Up to 4 hours, add an extra 30 minutes for the talk.

Maximum group size: 60

Your transport: May be needed to take pupils to fieldwork site to reduce walk in time.

Curriculum links: Geography fieldwork investigations and geographical skills – provides contextual learning in inspiring real world environments to develop geographical understanding.

- AQA – 3.1. Physical geography; 3.1.1 Water and carbon Cycles
- OCR – 1.2 Earths Life Support Systems – the importance of water and carbon to life on Earth
- Edexcel – Topic 6 The carbon cycle 6.2, 6.3 climate change, 6.9 role of peatlands
- Eduqas – 2.1 Global systems water and carbon cycles, 3.2 Ecosystems

Ideas for extending learning before and after this activity

See '*Investigating Moorland*' in the 'KS3 and above' resources section on our website -includes worksheets and factsheets on the wide ranging impacts of managing an upland environment for grouse shooting.

Find out more about moorland at: <http://www.northyorkmoors.org.uk/discover/moor>

