

North Pennines

Geology & Landscape



Primary Education Pack

NORTH PENNINES

Area of Outstanding Natural Beauty



North Pennines Geology and Landscape

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North Pennines Geology and Landscape

I. Aims of the Primary Education Pack

- What are the aims of the education pack?
- Fieldwork areas
- Fieldwork codes

I. Aims of the Primary Education Pack

WHAT ARE THE AIMS OF THE EDUCATION PACK?

The North Pennines Geology and Landscape Primary Education Pack aims to highlight fieldwork opportunities at six sites across the North Pennines. Aspects of the geography and science curriculum will form the basis of the fieldwork but the fieldwork will also act as a stimulus for further work in the classroom.

The pack identifies the six sites across the North Pennines, with good access and facilities that can be used for the study of Earth sciences. Details of the fieldwork that can be undertaken are outlined in full with resource materials provided. A range of activities and resources are then provided for use in the classroom based on six 1-2 hour sessions. The pack also identifies the hazards at each site as a basis for a risk assessment.

In addition three Geo-activity Trails, aimed at Key Stages 2 – 3, have been developed which complement the Geological Trails produced by the North Pennines AONB Partnership.

Alongside the education pack a 'Rock Box' with suggested activities and a North Pennines Game are available for loan.

LINKS TO THE PRIMARY CURRICULUM

The recently published independent review of the Primary Curriculum (Rose review) recommends a structure, which provides a much greater degree of flexibility in the delivery of the curriculum. It encourages the integration of work into meaningful units without diluting the essential characteristics of the individual subjects. Two of the six suggested "areas of learning" embrace, historical, geographical and social understanding and scientific and technological understanding. These units built around fieldwork days fit well into such a curriculum.

The North Pennines Geology and Landscape Primary Education Pack is intended to provide teachers with background information and a detailed set of practical activities to develop a challenging block of work around a day visit to any of the six identified sites in the North Pennines.

Although the pack is intended to celebrate the unique geology and geography of the North Pennines, a European Geopark, the work provides great opportunities for practical maths skills, fieldwork skills, writing of various genre, art and science work. Aspects of rocks and soils, human interaction with the environment, rivers, contrasting localities and scientific methodology are the most obvious content areas covered.

The suggested approach to using the pack would be for the teacher to select one of the six sites and visit using the notes and suggested activities. Teachers could pick, mix and adapt the activities suggested both for the visit and for the follow-up tasks.

For each site there is a map work exercise, a one-day visit to the site with children working on selected tasks as a class or in small groups, and up to five follow-up sessions either working up or interpreting data collected or using the experience to stimulate creative work. But don't forget to leave time to enjoy and reflect when out and about!



FIELDWORK SITES AND DETAILS OF WORK

Fieldwork locations	Area of work covered in the field	Areas of work covered in the classroom
Bowlees and High Force, Upper Teesdale, County Durham	Landscape Detective - <i>Rivers and waterfalls</i>	<ul style="list-style-type: none"> • Introductory Activity 1 - <i>Detective map work</i> • Introductory Activity 2 - <i>Rivers and rock types</i> • Follow-up Activity 1 - <i>River measurements</i> • Follow-up Activity 2 - <i>Formation of High Force waterfall</i> • Follow-up Activity 3 - <i>Design an advertising leaflet for tourists coming to the area</i> • Follow-up Activity 4 - <i>Traditional tales</i>
Bowlees, High Force and Low Force Upper Teesdale, County Durham	Rock Detective - <i>Rock types and waterfalls</i>	<ul style="list-style-type: none"> • Introductory Activity 1 - <i>Detective map work</i> • Introductory Activity 2 - <i>Rivers and rock types</i> • Follow-up Activity 1 - <i>Formation of High Force waterfall</i> • Follow-up Activity 2 - <i>Igneous, sedimentary and metamorphic rocks</i> • Follow-up Activity 3 - <i>Design an advertising leaflet for tourists coming to the area</i> • Follow-up Activity 4 - <i>Traditional tales</i>
Stanhope, Weardale, County Durham	Contrasting locality - <i>Quarrying</i>	<ul style="list-style-type: none"> • Introductory Activity 1 - <i>Detective map work</i> • Introductory Activity 2 - <i>Rock types and quarrying</i> • Follow-up Activity 1 - <i>Limestone</i> • Follow-up Activity 2 - <i>Landscape impact assessment</i> • Follow-up Activity 3 - <i>How would you reclaim Harehope Quarry?</i> • Follow-up Activity 4 - <i>Plans to extend quarrying</i>

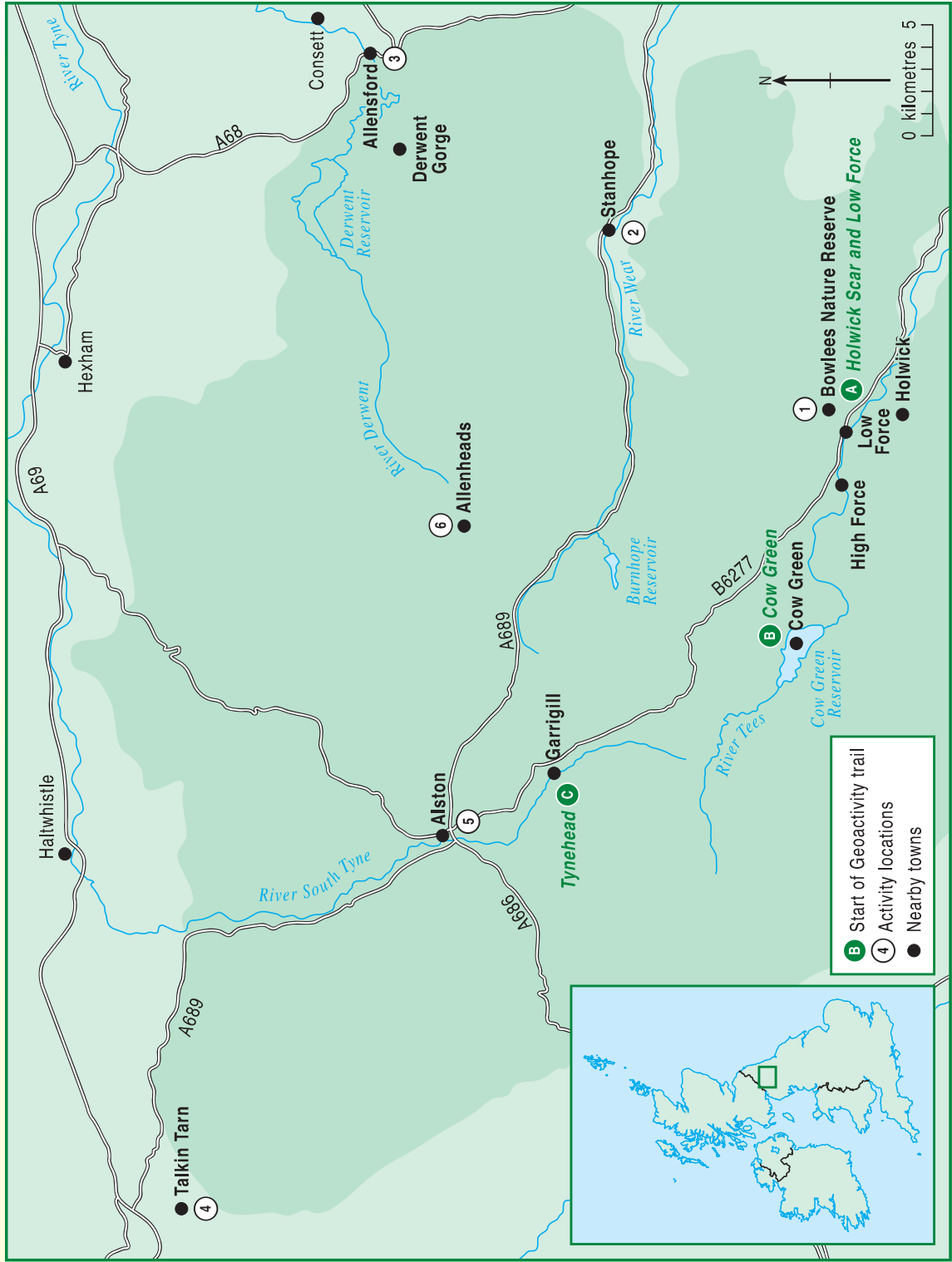


Fieldwork locations	Area of work covered in the field	Areas of work covered in the classroom
The Derwent Gorge, near Castleside, County Durham	Landscape Detective - Rivers, waterfalls and people	<ul style="list-style-type: none"> • Introductory Activity 1 - Detective map work • Introductory Activity 2 - Rivers, waterfalls and people • Follow-up Activity 1 - River measurements • Follow-up Activity 2 - Formation of a waterfall • Follow-up Activity 3 - Visitor survey results • Follow-up Activity 4 - Design a country park
The Derwent Gorge, near Castleside, County Durham	Landscape Detective - Spot the rock	<ul style="list-style-type: none"> • Follow-up Activity 1 - Making sandstone • Follow-up Activity 2 - The thirsty brick • Follow-up Activity 3 - Making limestone • Follow-up Activity 4 - Which rock is the thirstiest?
Allenheads, Northumberland	Contrasting locality - Lead mining	<ul style="list-style-type: none"> • Introductory Activity 1 - Detective map work • Introductory Activity 2 - Life of a lead miner • Follow-up Activity 1 - Permeable and impermeable • Follow-up Activity 2 - Make a water wheel • Follow-up Activity 3 - Dressed for the occasion! • Follow-up Activity 4 - Design an advertising leaflet for Allenheads, a lead mining village



Fieldwork locations	Area of work covered in the field	Areas of work covered in the classroom
Alston, Cumbria	Contrasting locality - <i>Farming</i>	<ul style="list-style-type: none"> • Introductory Activity 1 - <i>Detective map work</i> • Introductory Activity 2 - <i>An introduction to Coalith Farm</i> • Introductory Activity 3 - <i>Group study</i> • Follow-up Activity 1 - <i>Group study presentations</i> • Follow-up Activity 2 - <i>Grown your own!</i> • Follow-up Activity 3 - <i>Make a 'grasshead'</i>
Talkin Tarn, Cumbria	Landscape Detective - <i>Rocks, ice and recreation</i>	<ul style="list-style-type: none"> • Introductory Activity 1 - <i>Detective map work</i> • Follow-up Activity 1 - <i>Information leaflet on Talkin Tarn</i> • Follow-up Activity 2 - <i>Traditional tales and myths</i> • Follow-up Activity 3 - <i>Analysis of the visitor survey</i> • Follow-up Activity 4 - <i>Talkin Tarn - The Future</i>
Geo-activity trails: <ul style="list-style-type: none"> • Holwick Scar and Low Force • Cow Green • Tynehead 	Landscape features and processes	<ul style="list-style-type: none"> • Geology, landscape and human use • Geology, landscape and human use • Geology, glaciation and people





Map 1: Map of the fieldwork locations

Site number	Site name	Summary of site activities
I	Bowlees and High Force, Teesdale, County Durham	Landscape Detective - <i>Rivers and waterfalls</i> Start of Holwick Scar and Low Force Geo-activity trail
I	Bowlees Nature Reserve, Low Force and High Force Teesdale, County Durham	Landscape Detective - <i>Rock types and waterfalls</i> Start of Holwick Scar and Low Force Geo-activity trail
2	Stanhope, Weardale, County Durham	Contrasting Locality: Quarrying
3	The Derwent Gorge, near Castleside, County Durham	Landscape Detective - <i>Rivers, waterfalls and people</i>
3	The Derwent Gorge, near Castleside, County Durham	Landscape Detective - <i>Spot the rock</i>
4	Talkin Tarn, Cumbria	Landscape Detective - <i>Geology, ice and recreation</i>
5	Alston, Cumbria	Contrasting Locality: Farming
6	Allenheads, Northumberland	Contrasting Locality: Lead mining
A	Holwick and Low Force, County Durham	Start of Holwick Scar and Low Force Geo-activity trail
B	Cow Green, County Durham	Start of Cow Green Geo-activity trail
C	Garrigill, Cumbria	Start of Tynehead Geo-activity trail



FIELDWORK CODE

Whilst undertaking fieldwork in the North Pennines it is important to observe the Countryside Code and ensure the safety of those participating in the fieldwork. A code for fieldwork in the North Pennines is presented in bookmark form here:

North Pennines Fieldwork Code

- Fieldwork is potentially dangerous. Make sure you are properly prepared.
- Don't visit any site without prior permission of the owner.
- Leave others with your intended route and don't depart from your plan.
- Wear strong and waterproof footwear with non-slip soles.
- Wear a hard hat when working near steep faces.
- Do not hammer or collect rock samples in the North Pennines Geopark.
- Do not climb on steep faces.
- Take sensible safety precautions at all times - always carry appropriate safety equipment, including a compass and First Aid kit.
- Avoid disturbing plants and wildlife.

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North Pennines Geology and Landscape

3. Fieldwork sites

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- **Stanhope, Weardale, County Durham**
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- **Talkin Tarn, Cumbria**

Guide to Symbols



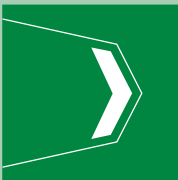
Rock based activity (field or classroom based)



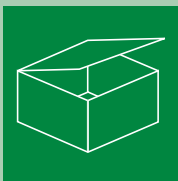
Landscape based activity (field or classroom based)



Car parking near to start of field based activity



Sign posting to other related local activities



Rock box (extra resource linked to the Education Pack and available from the North Pennines AONB Partnership)