

Rocks and Soils Teachers Notes

Thank you for booking a visit. Please check all details both on the programme and on your booking confirmation.

Programme aims

To give students a real-life experience visiting areas of rocky outcrops and disused quarry sites to enhance their understanding of rock formation and uses, and the development of soil and natural spaces over time. This programme offers a student-led approach to enquiry and reporting, enhancing their creative thinking skills.

Learning Outcomes

All children will be able to:

- Identify 3 rock types
- Identify that the main rock type in the Peak District is Sedimentary
- Identify the rocks of the Peak District – Limestone, Gritstone and Shale
- Explain in simple terms how fossils and limestone are formed or gritstone
- Understand and describe different properties of rock
- Recall various uses of local rock, and how it is quarried
- Recognise that soils are made from rocks and organic matter
- Consider the effects of quarrying in the National Park
- Have had a fun and enjoyable day in the Peak District National Park

Most children will:

- Explain differences in how the three rock types are made
- Understand the processes involved in the formation of rocks
- Understand the processes involved in the formation of soil
- Understand colonization of plants to a new area
- Understand the term permeability and how this affects what the rock is used for.

Some children may also:

- Understand that different needs and peoples' views affect how our environment may be changed

Curriculum Links

Science:

- compare and group together different kinds of rocks on the basis of their appearance and simple physical properties
- describe in simple terms how fossils are formed when things that have lived are trapped within rock

To get the most from your visit, please come prepared. Here is some useful information to help you and your class optimize your learning:

We hold the **Learning Outside the Classroom** quality badge, certificate number R2QB103464

Quality Badge awarded by



Pre visit preparation. Read and follow guidance below.

Prior Learning activities

It is helpful if the children are familiar with the three types of rocks.

Post visit activity see our [Peak Curriculum](#) for resources on rocks and soils

Weather. We believe experiencing the outdoor elements is an integral part of your pupil's experience. We continue activities in all but the very worst weather so please make sure everyone comes prepared to be outside in rain or shine! Check the forecast before your day.

Clothing. Please ensure that children are wearing appropriate outdoor clothing. Waterproof

- recognise that soils are made from rocks and organic matter.

Geography:

- human geography including: land use, economic activity including trade links, and the distribution of natural resources.

Location and Coach instructions

- Longdendale Environment Centre
- Macclesfield Forest

Also available at these locations, but the programme has a different agenda

- Castleton (Mam Tor or Cavedale, however no quarry site, study exposed rock faces)
- Tideswell
- Hope Cement Works

See your confirmation letter for instructions on meeting point.

10:00-11:15 Indoors training becoming Geologists

- Introduction - Peak District National Park and plan for the day
- Staying safe - essential they listen to instructions carefully.
- Pupils become Geologists for the day, unravelling a parcel of clues to introduce the many different properties of rock, hands on investigation of rock samples.
- Drama of the rock cycle – getting pupils energised, thinking and acting out how the 3 main rock types are formed.
- Geologist training. In small groups of 4-5, pupils will undergo training how to use various scientific tests (permeability, hardness and observations) to determine the different rock properties and identify the Sedimentary rock samples. Classifying rocks found in the Peak District.

11.15-12:30 'Do rocks make the land the way it is?'

- **Identifying local rock** - Pupils go on the hunt to find rocks in the environment; this may take place in different settings at locations either within the old quarry or at rocky outcrops. At Longdendale this may be by the reservoir banks.
- Pupils will carry out their scientific tests once again on the local rock and determine which rock it is. Then question how was it made?
- Interactive gritstone /limestone story
- Permeability game – how are some rocks permeable and some not?
- How was the rock used? Once pupils have identified the rock they will go onto looking for how it was used.
- **Quarry quandary** - Viewing the old quarry how do they feel about the quarry? Learn facts about quarrying in the Peak District. 'Mission'

jacket, Wellies or stout shoes are advised for all visits. We have some spares to help.

Safety. All our activities and sites are risk assessed. Risk benefit assessments and health and safety information can be downloaded at:

<http://www.peakdistrict.gov.uk/learning-about>

Our staff to student ratios vary depending on age, and ability of the group and activities booked. All our leaders are first aid qualified.

Behaviour. Teachers are responsible for good behaviour, discipline & lunch time supervision.

Medical Information. Please let us know about any allergies, medical conditions or special needs.

We strive to make our visits accessible to all. Many of our sites are accessible to people with limited mobility, but do discuss your particular needs with us before booking.

Review & Evaluation. We aspire to continually improve our service and welcome your feedback, evaluations forms are available for download at <http://www.peakdistrict.gov.uk/learning-about> and will be sent to you with your booking information.

Payment. Please note you will be invoiced after your visit for the number of pupils booked, or the number on the day, whichever is

declared to students to investigate what happens once the quarry work finished? These quarries are old, what has happened? Trees have grown where there was once bare rock? How? This leads us onto the afternoon soil study. OR a wider critical thinking exercise on should we quarry in national parks?

12:30-1:00 Lunch

- Back at the classroom for lunch.

1:15-2:15 Afternoon Programme in the woodlands

- Student enquiry to investigate how the Quarry/landscape has changed over time. How does nature reclaim the land?
- **Great British Bake off Mud pies** – pupils will consider what makes up the soil? In small groups 4-5, they will be given a shopping bag to fill with ingredients from the woodland floor such as organic matter (leaf litter, sticks, twigs, bark, berries, feathers etc). All together we then add a seasonaing of weather and stamp down on our bags mixing the ingredients. Leaders will judge the groups mud pies, realising uickly what is missing – water and time.
- **Soil study – does the rock type affect the soil?** Pupils will undertake a dirty hands test, rolling up their sleeves and taking a sample of soil they will follow a flow chart to discover what type of soil is found locally, can they roll is into a ball? A sausage? A horse shoe? Does this tell us anything about the bed rock?
- Concluding messages: How nutrients continually cycle. How can we be more responsible in sustainable land management and consuming materials?

2:15-2:30 wash hands and depart

Free Resources

You can find free pre- and post-visit activities about the rocks and soils of the Peak District on our website: <http://www.peakdistrict.gov.uk/learning-about/peak-curriculum/primary-resources/rocks-and-soils>

You can also find a fun animated film for children on how to enjoy your visit responsibly and look after the countryside here:

<http://www.peakdistrict.gov.uk/learning-about/peak-curriculum/national-parks-the-bigger-picture/do-this-video>

greater.

Cancellation. Please let us know as soon as possible if you have to cancel or if your numbers change significantly. Read T&C's.

Insurance. Our education service is covered by £10 million Public Liability Insurance Policy. Please ensure that your school or LEA has appropriate insurance cover.

Contact Details. Peak District National Park authority, Aldern House, Baslow Road, Bakewell, DE45 1AE.
01629 816373 / 01457 855487
Learning.discovery@peakdistrict.gov.uk

We work in partnership with United Utilities.

At Macclesfield Forest and Longdendale Environment Centre we are based United Utility sites. Here you can learn more about the value of water as a precious resource and the surrounding landscape.



Learning & Discovery in the National Park

Discover, explore, enjoy

www.peakdistrict.gov.uk/learning-about



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