Discover uses of rock in the landscape around Keswick and Borrowdale

The Lake District landscape has been fashioned by its geology. Rock is everywhere to be seen – not only forming the fells and dales, but also visible in the buildings of the towns and villages, in farmsteads, walls and in the ancient monuments. Rock, stone and minerals, hewn and quarried from the fells, have been part of the livelihood of the region for centuries. Even today, rock and stone products are still an important part of the rural economy. This trail takes you to key sites where you can see the main rock types and understand the part they have played in shaping the heritage of the Lake District.

The trail has been designed to take advantage of different means of transport: on foot, by bicycle and by using local bus and ferry services. It can also be undertaken by car, but to get the most out of it and to see all the locations, you will need to leave your car behind. There are two main parts to the trail, both starting from Keswick:

1. A circular route to Threlkeld and back.
2. A second trail into Borrowdale and to Honister Slate Mine on a linear route.

Geology of the Lake District

Along this trail it is possible to see the three main kinds of rock to be found in this area and to recognise the impact each has made on the local heritage.

Around Keswick and along the trail to Threlkeld are rocks of the **Skiddaw Group** – dark grey, slaty rocks that readily break into thin flat fragments. They form fells with smooth, rounded outlines and are the oldest rocks in the Lake District at almost 500 million years old.

Next are rocks belonging to the **Borrowdale Volcanic Group**. These
are the products of violent volcanic eruptions that occurred around 450-460 million years ago. They vary from dark lavas to light green slaty rocks and are found down the eastern side of Derwentwater, in Borrowdale and over the rugged central Lakeland Fells.

The third kind of rock to be found on the trail is far less obvious. Beneath the whole of the Lake District is a huge, bulbous mass of [granitic](#) rock called a batholith. This granite dome lies about 2 km beneath the surface, but occasionally parts appear at the surface; one site being near Threlkeld, where the outcropping granite created an important quarrying industry. Another location is Castlehead, just south of Keswick.

During the last 2 million years, the Lake District has endured periods of severe cold ([glaciations](#)). Ice covered the landscape and left its mark by eroding the terrain, scouring rock surfaces, excavating lake basins (like Derwentwater) and steepening many slopes. When the ice finally melted around 10,000 years ago, it left behind thick deposits of boulder clay and sand, visible in parts of Keswick and Borrowdale.

**Keswick to Threlkeld and back via Castlerigg Stone Circle**

(16 Km/10 Miles)

The best way of doing this trail is by bicycle or on foot. The trail begins at the old Keswick Railway Station next to Keswick Leisure Pool. The first section of the trail follows the picturesque railway footpath and cycle route to Threlkeld. From Threlkeld the trail follows minor roads back to Keswick.

There is a limited bus service (no. 87) from Keswick to Penrith via Castlerigg Stone Circle. Contact Traveline for more details.
The old station and adjoining Keswick Hotel are both built of ‘Lakeland Green Slate’ from the volcanic rocks of Borrowdale, using ‘imported’ sandstones for the mullions, door jambs, sills and corner stones.

The former railway line was known as the Cockermouth, Keswick and Penrith Railway. It was built to transport iron ore from west Cumbria and return with coke from the north-east, and also brought tourists to the Lake District during Victorian and Edwardian times. The Keswick Hotel was built to accommodate these visitors arriving by train. Work started in 1862 and was completed in 1864. However, as with many minor railways, the line could not compete with competition from roads and closed in 1972.

The large rounded boulders have been transported here by ice from the Thirlmere Valley and are known as erratics.

Just before the bridge carrying the A66, look left to the cluster of buildings at Brigham. This was an old industrial site where, as well as water-powered mills, there was a smelting and refining plant to process copper and other minerals dug from the local fells.

The huge span of Greta Bridge can best be appreciated from below and was voted the best concrete engineering structure of the 20th century in September 1999.

The footpath/cycle route skirts round the deep gorge of the River Greta, whereas the railway line had to tunnel through the rock to keep on a straighter course. The entrance to the ‘Big Tunnel’ is now blocked, but notice the huge irregular blocks of dressed stone, fronting the entrance and the retaining wall.

Low Briery is the site of a former bobbin mill. Wooden bobbins were required by the textile mills of Lancashire and Yorkshire in vast quantities as spools for cotton and other threads. The local woods were coppiced in order to provide the poles for the bobbins.
9 Wescoe Tunnel is where the railway has cut through an outcrop of Skiddaw rock. At both entrances to the tunnel you can see these dark, slaty rocks, which are easily broken into thin irregular pieces.

Continue to the end of the railway footpath which leads up to the busy A66. Follow the pavement round to the left into Threlkeld.

10 Threlkeld village is one of the few places where Skiddaw rocks are used as building stone. You can pick it out by its very dark colour, often with a distinct brown weathered surface. The second building on the right (Valeview) is built of Skiddaw rock. Further along are other examples – The Rectory, the former village shop and the row of small cottages opposite.

Turn right by the old village shop down to the A66. Cross the A66 with care onto the B5322 and follow the signs for Threlkeld Quarry and Mining Museum.
Ahead are the remains of **Threlkeld Quarry**. Here part of the great batholith that lies beneath the Lake District is exposed at the surface, revealing a fine-grained granite (called a microgranite). The quarry was opened in 1879 and stayed in production until the early 1980s. It produced stone blocks, railway ballast, and crushed aggregates. At its height it employed over 200 workers and gave rise to a self-contained community with their own school, chapel and housing. Threlkeld Quarry and Mining Museum has samples of all the quarried rocks in the Lake District and extensive displays on the mining and quarrying heritage of the area. Other attractions include an underground mine tour and a narrow-gauge railway trip around the old quarry. Threlkeld Quarry Museum is open from Easter to the end of October only. Admission charge payable. Contact details overleaf.

**Return to the B5322 and continue southwards.**

On the hillside to your left are other microgranite quarries, now abandoned. Ahead is High Rigg formed of Borrowdale Volcanic rocks—notice how the sheets of rock slope down to the left, with the harder lavas standing out as ridges.

**Take the first minor road on the right (signposted Keswick), cross over Wanthwaite Bridge, and keep right at the next minor junction. The road begins to climb and passes Shundraw farmstead. From the top of this road, look back across the Vale towards the Threlkeld quarries. The impact of man seeking the riches of the rock from this landscape is all too obvious. Continue along this minor road, following signs for Castlerigg Stone Circle.**
Castlerigg Stone Circle consists of 38 stones in the main ring, with 10 forming a rectangular enclosure on the SE side and a single upright stone about 90 metres to the SW. The stones are glacial erratics, transported from the Thirlmere valley by glaciers and abandoned when the glaciers melted. They are all composed of Borrowdale Volcanic rocks, either black lavas or tuffs (rocks made of volcanic ash). The stones must have been dragged, possibly on crude sledges, and man-handled into upright positions around 3000 BC.

The siting of the stone circle commands a spectacular all-round view of the landscape. To the north lie Skiddaw, Lonscale Fell and Blencathra, carved out of the Skiddaw Group rocks – these fells generally have smooth, rounded outlines, covered with grass or heather. Southwards are the more irregular crags and terrain of the Borrowdale Volcanics.

Return to the road where you first entered the site and continue (left) along this minor road, down the steep hill and back into Keswick.

Most of the central area of Keswick dates from Victorian times when the local Lakeland Green Slate was used extensively in the town. The houses in Southey, Blencathra, Helvellyn and Church
Streets are all built of this material, which came from quarries in Borrowdale and Honister.

**The Keswick Mining Museum** can be found opposite Bell Close car park. This museum has extensive displays on the geology and mining history of Cumbria, along with mineral samples and artefacts from the mining era. The museum is open every day from 10.00 to 5.00 with an admission charge payable.

**Keswick Museum and Art Gallery** has good displays of local rocks, minerals, fossils and various historical artefacts, many collected in Victorian times. It also houses the musical stones – a unique rock xylophone made in 1785. The museum is open April to October, but telephone in advance for opening times and admission charges – see contact details overleaf.

**Keswick to Honister**

The recommended means of transport are to use the local ferry, regular buses and on foot. Alternatively, it can be done partly by bicycle or by car, but you will miss certain locations. The walking section is approximately 9.5 km/6 miles long.

If you are using the launch, make your way to the Lakeside car park in Keswick. If you prefer not to use the launch, take a bus (service 79 or 77/77A) from Keswick Bus Station or drive down the B5289 to Bowder Stone car park, about 1 km south of Grange-in-Borrowdale.
Stone Settings
From the Lakeside car park you can see how the town of Keswick is built on **drumlins** – oval mounds of glacial material left behind during the last glaciation. The grassy knoll in Crow Park is one of these drumlins. From the top of the knoll, another drumlin can be seen towards Keswick town centre, this time lined by a row of hotels and guest houses.

Just beyond the landing stage, notice the rocky promontory of **Friar’s Crag** with **Castlehead** behind. Both are formed of dolerite, another igneous rock and probably related to the great batholith at Threlkeld. On your right is the drumlin forming Derwent Isle, and further down are other examples – Lord's Island and St Herbert's Island.

As you approach Ashness, notice the steep rocky slopes of **Walla Crag**, **Falcon Crag** and **Brown Knotts** above. They are made up of thick horizontal layers of rock formed from volcanic lavas. Note the contrast with the smoother-outlined fells on the other side of the lake, formed from the Skiddaw rocks. Ahead are the ‘Jaws of Borrowdale’ – where the valley narrows and through which 18th century tourists were warned to pass quietly and with speed (Thomas Gray's Journal, 1769).

**Take the launch from the landing stage to Lodore (a clockwise route is shorter and cheaper).**

**Disembark at Lodore and walk up to the road outside the Lodore Falls Hotel. Take the bus (Service 79) to the Bowder Stone car park and walk up the track towards the Stone.**
18 On the left are the abandoned workings of **Quay Foot Quarry**. This is a fenced-off area and must not be entered. The quarry was one of the main sources of the green slate seen in the buildings of Keswick. This was a valuable building material not only because of its attractive greenish/grey colour and even texture, but also because it could be split into building blocks and sometimes very thin roofing slates. It is not a true slate, but compressed volcanic ash. It occurs here in a narrow band – extending from these quarries in a SW direction to Honister. The band of green slate ends just beyond the first gate further up the track.

19 Further on lies the **Bowder Stone** – a massive lump of rock balanced on one corner. The Bowder Stone has been visited by tourists for over 200 years. A local eccentric landowner called Joseph Pocklington bought the site in 1798 and encouraged people to come and see it. Apart from building Bowderstone Cottage (for the resident guides), he also erected a Druid Stone (opposite the cottage), a small chapel (now a climbing hut) and a ladder to enable visitors to stand on top of the stone. You may also notice a hole at the base of the stone, where you could ‘improve your luck’ by shaking hands with someone else on the other side – still just possible to do! Although some people believe the stone was carried here by ice, it is more likely to have fallen from the cliff above in one catastrophic rock fall. There are many other large blocks of stone littering the slopes, but this is the largest and heaviest at almost 1,250 tonnes.

Retrace your steps to the car park and proceed along the B5289 for a short distance before crossing the bridge into Grange.
Optional detour to High Hows Wood Caverns.

After about 2 km, there is a wooden signpost on the left at the top of a rocky slope. The smaller track on the right leads to two huge caverns cut into the rock (old green slate workings). Please note that there is a risk associated with falling rock and we advise that you do not enter these caverns.

These caverns are associated with one of Lakeland’s great eccentrics – Millican Dalton, the self-styled ‘Professor of Adventure’ – who made his home here. He became a familiar figure around Borrowdale, and survived in these woods until he died in 1947, at the age of 80.

Return to the main path and continue towards Rosthwaite.

This fine packhorse bridge is constructed of local volcanic rock with river cobbles inset on its humped back.

Cross the bridge and follow the track alongside the stream.

These 24 stepping stones are made of volcanic rock and mark an ancient crossing point over the river. Notice how the river banks are reinforced with huge slabs of volcanic rock and gabions (metal cages filled with boulders).

Follow the track round to the left towards Rosthwaite.
The two upright slabs of slate (stoops) originally formed a slop-stone gateway. Each stoop is pierced with holes; one stoop has rounded holes and the other square holes. The gate bars were set in position by wedging the butt ends in the square holes first and then flexing the thinner ends into the round holes on the other stoop.

Rosthwaite village huddles around a rocky outcrop of volcanic tuff called The How, which is a very large roche moutonnee. The village is a collection of traditional Lakeland cottages and farmsteads made from locally gathered stone. The name itself is Norse for ‘clearing with the heap of stones’. There are some fine roofing slates here with graded courses (largest slates at the bottom grading towards smaller ones at the ridge). Many buildings have incorporated huge boulders as foundation stones and use large slabs of slate as lintels over doorways and windows.

At Yew Tree Farm, turn right and follow the road round to the right. Just after the garage for Clare’s Cottage, turn right again and take the footpath towards Borrowdale (Longthwaite) Youth Hostel over fields.

At the top of the field, you are standing on a curving raised ridge. This is one of three moraines found in the valley floor here. The moraines mark positions where the glacier’s snout halted for a time before melting back around...
10,000 years ago. It is worth taking a look at the **stone walls** surrounding the fields. They contain many large boulders at the base, grading to smaller rounded cobbles and angular pieces of green slate nearer the top. The top of the wall is ‘finished’ with a jumble of cobbles resting on large slates.

The path exits by a cottage called Peat Howe. Either turn left and follow the directions to the Church of St Andrew’s (optional detour) or turn right and follow the road into the grounds of the Youth Hostel and along the riverside path.

### Optional detour to the Church of St Andrew’s.

Turn left, and a little further on is a house appropriately called ‘Moraine’. Immediately after the house is a narrow slit in the wall, which leads to a path along the top of the middle moraine and then onto the main road (B5289). Turn right for 50m and then take another path on the opposite side of the road to Stonethwaite Road. This brings you out by Chapel House Farm. One of the barns is built into the side of the third moraine – easily seen from the front of the church.

The **Church of St Andrew’s** is built of green slate (largely rendered over) with imported sandstone for the window and door surrounds. The roof is of graded green slate. The older headstones are of sandstone or dark grey mudstones, but more recent headstones are of green slate, with some made of granite.

Behind the graveyard you will see a number of large boulders on the sloping field. These are **erratics** – boulders brought here by the ice and deposited as the ice melted.

From the Church continue to the road, turn left and back to the B5289. Cross over and follow road back to Peat Howe. Continue down into the grounds of the Youth Hostel, bearing left along the riverside path.
Here the river has eroded the middle moraine, revealing a jumble of large and small boulders and finer material.

Follow the footpath through oak woodland and fields to Seatoller.

Seatoller lies at the foot of the steep road up to the Honister Pass and the Honister Slate Mines. It is little more than a collection of farm buildings and quarry workers’ cottages; many dating back to the early 17th century. These were originally built to house miners brought over from Germany during the reign of Elizabeth I. There are still many families in the valley (often with anglicised surnames) that can trace their ancestry back to these miners.

Honister Yew Tree restaurant was formerly a pair of miner’s cottages that date from 1628. Slate is used extensively for the floor, walls and roof. From here you can book tours to Honister Slate Mine. Opposite is Borrowdale Information Centre (open April – October only) with tourist information and displays on the local area.

From Seatoller, the trail continues to Honister Slate Mines and Quarries. Either take the Honister Rambler service 77/77A (April to November only) or walk uphill for 1 1/2 miles (2 1/2 km).

Honister Slate Mines have been a major source of green slate for centuries and continue to be worked to the present day. The visitor centre has information on mining and runs regular guided tours around some of the abandoned levels. The newly opened Edge Tour is an old miner’s route around the side of the mountain that enters the mines on a higher level. The tour ends with a visit to the slate finishing works, where you may get a chance at making your own finished slate.

Service 77/77A will return you to Keswick, or walk back to Seatoller and catch service 79 instead.
Stone Settings

Useful Contacts

Keswick Tourist Information Centre
Moot Hall, Keswick, CA12 5JR. Tel: 017687 72645
Email: Keswicktic@lake-district.gov.uk

Borrowdale Information Centre (April - Oct only)
Seatoller, Borrowdale, CA12 5XN. Tel: 017687 77294
Email: Borrowdaletic@lake-district.gov.uk

National Trust
(for information on Castlerigg Stone Circle and the Bowder Stone)
Bowe Barn, Borrowdale Road, Keswick, CA12 5UP. Tel: 017687 74649

Threlkeld Quarry and Mining Museum
Threlkeld, Keswick, CA12 4TT. Tel: 017687 79747

Keswick Mining Museum
Otley House, Otley Road, Keswick, CA12 5EP. Tel: 017687 80055
Email: coppermaid@aol.com
Website: www.keswickminingmuseum.co.uk

Keswick Museum and Art Gallery
Fitz Park, Station Road, Keswick, CA12 4NF. Tel: 017687 73263

Honister Slate Mine
Honister Pass, Borrowdale, Keswick, CA12 5XN. Tel: 017687 77230
Email: info@honister.com Website: www.honister.com
Getting around

For details on public transport, please contact Traveline on 0870 608 2608.
Email: info@traveline-cumbria.co.uk.
Website: www.traveline.org.uk.
LEADER+ (Cumbria Fells & Dales)  
The Old Stables, Redhills, Penrith, Cumbria CA11 0DT.  
Tel: 01768 869533  
Email: info@fellsanddales.org.uk.  
Website: www.fellsanddales.org.uk.  

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