Step into Brimham

This walk takes you through the central part of Brimham Rocks to the Visitor Centre and Refreshment Kiosk and picnic tables. Along the way the key features of the rocks are pointed out and more detailed explanations are given.

1. Start from the main car park. Take the footpath by the noticeboard. It bends round to the right.
Immediately you will notice rock formations – low flat slabs of sandstone with moss and lichen growing on them on either side.

The rocks were formed during the Carboniferous Period 325 million years ago. Take a close look at the lichens. These are remarkable organisms consisting of both algae and fungi growing symbiotically, looking a little like plants but not related to either. Some species are actually able to dissolve the rocks they live on to provide their nutrients.

2. Continue along the path and bear left. Pause on the edge of the slab of rock to your left and see across, through the trees to the distant hills.

This shows the typical patterns of erosion. The different layers of rock – known as ‘bedding planes’ – have been eroded at different rates according to how hard they are. Holes and fissures and vertical cracks are also evident. These bedding planes and the erosion patterns are a clear indication of the environment in which the rocks were formed. 325 million years ago the area that is now Brimham was part of a huge river delta. To the south was an ocean and running from the north a river draining from a large mountain range located a few hundred miles north. As the mountains were being eroded by wind, ice and rain, the debris, consisting of sand, silt and pebbles, was washed into the river and down to the sea. As the current flows down river, the debris fell to the bottom forming layers of sand and mud banks. These were turned into rocks by being buried and compressed over millions of year. Subsequent erosion exposed these structures which are now visible as bedding planes. Many of the bedding planes lie at angles to each other, a vivid reminder of how turbulent the currents were in the ancient delta.

3. Head along the path, bearing left, to the signpost board. Now to your left you can see a tall rock tower.
4. Head up the path as indicated by the sign. Notice the huge hole in the flat rock to the left and you can also see where there is vertical weakening (cracks).

5. Just beyond it on both sides are clear examples of bedding planes.

6. Continue up the path. Some of the rocks have fallen but most of the curious shapes have been carved out by the forces of erosion. It is this process that has made Brimham Rocks so unusual. Notice how some of the bedding planes seem to be at angle to the horizontal. This is clearly visible in a rock formation a little ahead on your right.

7. Continue and take a little detour to your left. Stand on the flat rocks at the end to get a view over the valley. This is a clear example of a valley carved out by a glacier during the last ice age.
During the last ice age, which ended 12,000 years ago the Nidd valley was filled by a glacier which has left the characteristic U shaped valley walls. The ice from the glaciers that filled the valley has played a crucial role in creating the amazing shapes at Brimham. The crystals of ice blown by the strong winds at the surface of the glaciers eroded the rocks. The softer parts of the rocks were worn away first, leaving the harder parts behind. Sometimes lower softer layers have been worn away more rapidly leaving harder rocks appearing to balance on a pinnacle. The best example of this is the ‘Idol Rock’ found behind the visitor.

8. Return to the path and walk on past a large formation to your left. Pock marks can be observed on one side.

9. Further round to the right a circular formation shows extensive holes and fissures. The peculiar power of wind erosion. The sand in the soil underfoot derives from the erosion.

This means the sand that you are now standing on started out being eroded from a mountain range that extended north of here some 400 million years ago being formed as part of Europe collided with part of North America. As the rivers flowing from the north, 325 million years ago, entered the sea via the large delta, the erosion products, silt sand and pebbles, formed the complex series of sand banks that were compacted into the rocks you see. Close examination of the rocks reveals quartz crystals embedded in the matrix together with pebbles. As the rocks are eroded by the weather, these sand grains are again washed from the rocks onto the ground.

10. Continue along the path; you can glimpse the 18th Century building ahead that is now the Visitor Centre. Pass between two rocks noticing the oak tree growing out of the one on the left.

The growth of a tree like this causes more rapid erosion as the roots split the rock and expose more of it to the weather.
11. Up ahead are the largest formations (known as the Castle Rocks) but make a detour down into the dip just ahead to your left. Through the base of the overhanging rock you can see a long cylindrical hole. This was probably caused by ancient giant moss-like vegetation, being buried in the rock when it was starting to be formed. Later when the whole rock became exposed this area eroded much more quickly leaving the hole. This one is known as the ‘Smartietube’.

12. Return to the path (back past the ‘Smartietube’) Turn left at the T-Junction. Walk on about 50m. Notice the huge rock pillar to your right with huge vertical split. Sometimes called ‘The Camel’, the strangely shaped rocks on top are also known as the Eagle rock.

This central area of Brimham is well worth exploring for the many examples of bedding planes and varied effects of erosion. Ahead of you is the Visitor Centre and Refreshment Kiosk.

This guided walk can be printed out or downloaded on to your mobile phone for use on a visit.