



Viewpoint

## The Yorkshire Matterhorn



Time: 15 mins

Region: Yorkshire and the Humber

Landscape: rural



### Location:

National Trust car park at Roseberry Topping, off A173, near Newton under Roseberry, Cleveland, North York Moors, TS9 6QS

### Grid reference:

NZ 57000 12800

Driving through the gently rolling landscape on the edge of the North York Moors, you cannot fail to notice the craggy peak of Roseberry Topping standing proudly like a church spire amongst a cluster of cottage rooftops.

The hill is known locally as 'the Yorkshire Matterhorn' because its shape reminds people of the pyramidal peak of that mighty mountain. Straddling the Swiss and Italian border, and standing 4478m tall, the Matterhorn is one of Europe's highest mountains.

**What has produced Roseberry Topping's distinctive shape and made visitors think of a mountain over 965 miles away?**



There are two reasons for the curious profile of Roseberry Topping.

The first is down to geology, or the rocks that make up this area. Roseberry Topping is rather like a layer cake, with bands of different rocks sitting one on top of the other. The base is sandstone, next is a layer of ironstone, then mudstone, and it is topped off with a sandstone cap. The other hills in the area are also layered from these stones, but most do not have a sandstone cap.

Over the years wind, rain and ice have battered the local hills, slowly breaking down the rocks and washing them away in a process called erosion. This has left the rounded moors we see today. Sandstone, however, is a harder rock than the others in the area, so the cap on Roseberry Topping acted like a shield and gave it more protection. The wind and rain could only wear away at the edges of Roseberry giving it smooth sides but a conical top.

We can see the distinctive top clearly from where we are standing now. However, if you travel around the base of the hill you will see that the top also features a jagged edge. What has caused this?

If you look closely at the side of Roseberry Topping you may be able to see all sorts of pits or depressions. These are man-made features, caused by jet and ironstone mining in the 19th and early 20th centuries. Some of the marks were open-cast mines (where the rocks were dug from the surface) others show where deeper mine workings have collapsed.

Ironstone was used to feed the forges of the North East, particularly in Teesside. Iron was in great demand for railway tracks, bridges and steam engines. Between 1906 and 1926 over 200 men were employed here.

Jet is a black semi-precious gemstone, formed from fossilised monkey-puzzle tree-trunks. Used to make jewellery and ornaments, it became particularly popular after Queen Victoria wore it in mourning for Prince Albert.

It is thought that there is a geological fault (a large fracture) in the rocks here, which would have made them unstable. But it was the mining that was finally responsible for Roseberry's jagged edges. The ironstone mines in particular dug right under the summit, undercutting the rocks. After a period of very heavy rain in 1912 the rock could no longer support the weight of the earth at the top and it came crashing down in a huge rock fall. This gave the hill the sharp edges we see today, which make people think of the pyramidal peak of the Matterhorn.

Both natural and human processes then have shaped this peak over time, meaning that locals see a little bit of Europe in North Yorkshire.

## Cooking up adventure

Explorer Captain James Cook grew up at Airey Hill Farm, just below Roseberry Topping. When he had time off from farm duties the young James liked to climb the hill, and perhaps its panoramic views fed his desire to see more of the world. Cook became one of Britain's most famous explorers, making the first recorded European contact with eastern Australia and Hawaii, and circumnavigating New Zealand.

There are plenty of other memorials to this famous son in the local area, including the Cook Monument on Easby Moor and a statue and museum in Whitby, where the young Cook served his seaman's apprenticeship. If you have time the climb up Roseberry Topping is steep but well worth it for the views. Who knows where you might be inspired to go next?