



Viewpoint

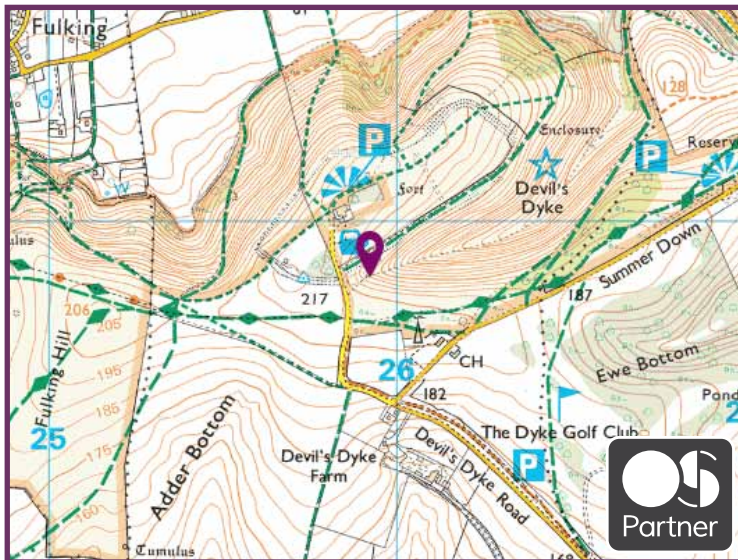
The devil in the detail



Time: 15 mins

Region: South East England

Landscape: rural



Location:

Devil's Dyke, near Brighton, East Sussex BN1 8YJ

Grid reference:

TQ 25902 10839

Directions:

National Trust car park near The Devil's Dyke pub or route 77 bus from Brighton Pier

Keep an eye out for:

The concrete pylons of the cable car which once crossed the dyke

At 100 metres deep - that's 20 times the deep end of an average swimming pool - a kilometre long and 400 metres wide from rim to rim, Devil's Dyke on the South Downs is a jaw-dropping spectacle.

But looking into this deep chasm a question springs to mind. Where is the river? You would normally expect a river to have carved a valley this deep.

It's the longest, deepest and widest dry valley in Britain - so where's the water?



For the answer, we'll need to think about what's under our feet and travel back in time to the last Ice Age.

The North and South Downs of England are formed from chalk which is a porous rock, meaning that water can pass through it. Some 20 times in the past 2.5 million years of the Ice Age, thick ice sheets and glaciers covered much of northern Britain. Further south, the Ice Age created tundra like conditions, much like those in Alaska today and froze the chalk to depths of 30 metres and more (that's six times the depth of a swimming pool!).

When chalk freezes in this way it becomes impermeable. So, whenever the weather warmed, such as in brief Ice Age summers or at the start of longer warmer phases, the top layers of ice in the soil and rock thawed. Gravity did the rest – the sludgy mass of water, rock and soil particles flowed across the frozen ground beneath, carving out steep valleys in the soft chalk.

You can see from here that the valley floor curves away to the left. This would have been the path of least resistance for the water, flowing downhill and eroding the softest rocks on its journey.

In the warm phases of the Ice Age, which each lasted around 10,000 – 15,000 years, the rock thawed completely and the chalk of the Downs became porous once more. So, rainwater percolated through the rock, leaving valleys high and dry as reminders of our tundra past! By the way, we are currently in the most recent warm phase, which started some 10,000 years ago.

If you look at the view from the Devil's Dyke pub over the Weald towards the North Downs, you can see a line of villages just below. Poynings, Fulking and Edburton are spring line villages. These small settlements developed here as they were near a source of water, farming was easier here on the flat valley floor and the chalk above provided dry routeways all year round

A devilish distraction

Poet Edward Thomas and painter Eric Ravilious are just two of the many writers and artists to have been inspired by the South Downs. In the late 1900s Devil's Dyke became a major tourist attraction.

A cable car was built across the dyke itself while a steep railway carried visitors up from Poynings at the bottom of the valley. A fairground, bandstands and a camera obscura all helped to transform the dyke from a striking landscape feature to a Victorian theme park.