KS3 Geography. Maps and navigation.

Contour lines and gradients.

JOE CROWLEY: When you're planning a route you need to work out how strenuous it's going to be. Now obviously distance is one thing to consider. The other thing is how many ups and downs there are going to be. How tough is it going to feel to walk the route? And that's where you need to look for contour lines.

Maps are often full of these lines which connect points of equal height. The height is marked on as a number, which indicates metres above sea level. Cross contour lines and it means you're going up or downhill and the closer they are together the steeper the gradient.

Contour lines allow us to read the landscape from a map. When it comes to this magnificent view it's really clearly marked on the map. When contour lines are close together it tells us it's a steep slope. So we see these lines very close together going all the way round the valley and that's exactly what we have in front of us. This is how it looks on the ground.

Contours can reveal distinctive features that allow us to spot where we are on a route. For example, on a walk along this disused railway track hikers will spot an unusual section of hillside where a stream has cut into the ground. Look at the map and the contour lines reflect what's visible on the ground. And it's obvious from the map - because of how close the lines are together - that the path heading up the side of this feature runs steeply uphill.

So you've got to look at contours to read the landscape and work out just how tough your route is going to be.