

CASE STUDY 3: TECTONICS

CASE STUDY DETAILS

Key Skill Subjects:

Geography
Geology

Duration:

1 Day ✓
2 Day ×
3 Day ×
5 Day ×

Locations:

Single – location

Accessibility:

Coastal Section ✓
Tidal Dependant ✓
Steps ◇
Unmade Footpath ✓
Open Moorland ×
Steep Gradients ✓
Former Industrial Site ×
Mine / Underground ×
Weather Dependant ✓

Optional Extras:

There are no extra cost options at this locality.

Key To Symbols:

Yes: ✓
No: ×
Optional: ◇

Many of the thousands of people who come to the beach at this locality every year, will make sandcastles and paddle in the sea. Some will comment on the strangely shaped rocks that they see, but few will realise the forces and timescale involved in shaping and sculpting these rocks.



Anticlines in the cliff

We will visit Whale Back Rock, where we will see 400 million year old sandstones and mudstones which have been folded in two directions to form an elongate dome.

Amazingly, in some places the erosion from the sea has peeled back some of the layers like an onion so that we can gain a truly 3D glimpse into the structures which remain.

Students will learn to recognise different geological units, and how to distinguish by colour, grain size and shape. Students will learn how to record the features they see through accurate description and sketching / drawing.



Layers of rock have been exposed due to erosion

Older students may also have the chance to record detailed information such as dip / strike and plunge / trend.

In the afternoon students will be encouraged to turn their attention to the cause of the geological structures we see at this site: Why were the rocks formed like this, how long did it take, where

were the rocks when this deformation took place? This will give the students an understanding as to the forces required literally to make a mountain!



Cliffs to the rear of the beach