

# If Chalk Could Talk

KS1

KS2

GeoG

Suitable any tide

## Learning Outcomes

After taking part in this activity, children will understand how old the chalk cliffs are, how they were formed and why they are important.

## Introduction

The Thanet coast has the longest continuous stretch of coastal chalk in Britain and, believe it or not, that chalk was being made when dinosaurs roamed the Earth! It's important nationally and internationally, as Thanet has 20% of the UK's and 13% of Europe's coastal chalk.

About 85 million years ago a warm, tropical sea covered what is now Thanet. Living in that sea were coccoliths, microscopic marine algae. Their shells were made of calcite and as they died their bodies sank to the sea bed creating a chalky, muddy sediment. Over millions of years this sediment was compacted to become the chalk we see today. Since then falling sea levels and other geological events have elevated the ancient sea bed into the chalk cliffs that fringe the Thanet coast.

Chalk is a **sedimentary** rock because it is formed of compressed sediment. It is also **permeable** because water can pass through it.

In amongst the chalk are layers of **flint**, a hard, **impermeable** rock made of silica derived from the skeletons of sponges and other marine creatures. The flint often formed in burrows of marine animals and along fault lines between the bedding planes of the chalk which is why you will often see lines of flint in the chalk cliff face and find knobbly nodules of flint on the beach. Flint was much prized by early man for making tools such as axes, knives and scrapers, and weapons such as arrow heads.

Many different types of fossils, such as urchins, echinoids and ammonites, can be found in the chalk.

Because chalk is sedimentary and porous it can be easily eroded and weathered by wind, rain and waves which means the chalk cliffs are often unstable. In many places along the Thanet coast the concrete sea defences have been built at the foot of the cliffs to stop this happening.



## Before the visit

Get children to think about rocks. What do they think they are? What are the differences between certain rocks i.e. hard rocks and soft rocks?



## During the visit

It is not recommended that you actively search for fossils at the foot of the cliffs as in places they are can be unstable and potentially dangerous.

## After the visit

See Changing Coasts activity

## Resources

Resource 13: Changing Coasts, Coastal Erosion Explained

Resource 14: Changing Coasts, Cliff Formations

Resource 15: Common Chalk Fossils

