

Coast

Unit 3 Cliffs

1. Whole class instruction

Objective: To get children to understand that cliffs occur in many different shapes and sizes. The shape of the cliff is often affected by the rock it is made of. Many cliffs are also unstable. They are made unstable because they are eroded by waves at their bottoms, so that overhanging or over-steepened material collapses as a rockfall or landslide.



1.1. Cliff videos. Begin with 22

“What makes a cliff so steep?”

- The video shows waves coming in to the bottom of a chalk cliff and breaking against it. Get children to say that they see it hit the **BOTTOM** of the cliff and that they see a (**NOTCH**) which has been worn away. At this stage they may not see that as unstable, so you may need to develop that idea by putting up a pile of wall blocks (that is to make a model cliff) and removing a bottom one.

1.2 Textbook pages 12-17

- Reinforce the idea of powerful waves using pages 12-13. The lighthouse gives a very useful scale. The group exploration shows this power, and the literacy activity develops the example of Holbeck Hall Hotel shown on page 17, so get to page 17 before you do the literacy activity.

2a. Group exploration

The power of waves

- This is a dramatic activity. Just keep an eye on your local health and safety regulations as it involves forces.
- Get an empty 2l soft drink bottle and screw on

The other videos for cliffs and headlands are:

- 22 Cliff notch
- 231 Many kinds of cliff
- 232 Soft cliffs
- 241 Old Harry stacks
- 242 Exploring a cave
- 243 Stair Hole
- 244 Bedruthen Steps stacks

Cross-curricular with pushes and pulls – forces.

Pile of building blocks, 2l soft drink bottle, string, water to fill the bottle).

the cap. Tie a strong piece of string around it (it needs to be strong – see below) and then set up a pile of play bricks as though they were a cliff. Get a good pile. Now swing the bottle against the bricks and nothing much should happen. You are simply showing that what comes next is due to water.

Now fill the bottle with water and do a fair test by repeating the swing exactly as before. It should knock the bricks over if you have everything set up properly. That shows the force of water.

- The idea of force can also be used in a later unit with Grace Darling (see unit 8) to explain why the ship broke up and why it was difficult to reach the survivors.

2b. Literacy activity

Comprehension workbook 4: Landslide

- One of the most dangerous thing about cliffs concerns landslides and rockfalls. The unit gives a case study and general information about this. Make sure you have seen video 232 before you do the comprehension. There is more information on the multimedia screens (the whole of section 2) that would also be useful.

3. Plenary session

- Get children to say how erosion occurs at the foot of the cliff and some of the consequences.

4. Further work/homework

- Ask children to look for examples of rockfalls in other pictures. The more fallen rock they spot, the more dangerous that cliff is.



There is an alternative experiment in worksheet 5C, 'The way water works on a cliff'. It is even more dramatic and far messier. Which you choose is up to you. Do 5C if you can get out into the playground.

**Do literacy
comprehension
workbook 4**