

# Lesson plan: What changes occur on coasts every day

Subject: Geography (years 5-6)

Duration: One hour minimum

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## Learning outcomes

In the lesson children will learn:

- about changes that occur on coasts daily
- to predict the effects of the tide on a specific place
- the layout of pictures and text on screen or paper can be changed using a simple desktop publishing program
- about the effects of daily changes in coastal environments.

The following questions may be useful for assessment:

Can a pupil:

- identify the features in the photograph? (cave, stack, cliff, wave-cut rock platform, beach, tide, tidal zone)
- relate the features to the processes shown in the simulation?
- predict the appearance of the coast at high and low tide?
- justify the inclusion of specific features in an annotated sketch?

## Background to the current lesson

This is the second lesson in the 'Investigating Coasts' unit of work. Previous work will have included identification of human and physical features of the coast in pictures and on maps, and the children will have some ideas about the physical processes that affect coasts and that are responsible for the resulting features.

## Lesson details

### Introduction

- Ask the children if they have seen the coast at different times of day and what changes they noticed. Talk about the tide, why it occurs, and how it covers and reveals the shoreline twice a day.
- If the children show any confusion in relation to waves and tides, emphasise that, even in high winds, waves roll only a short distance back and forth, while tides change sea levels regularly, by as much as 5 or 6m.
- Show an image of part of the shore at Flamborough Head. Where is this place? Identify its location on a map. What physical features can they see? – cliffs, layers of rock (chalk), cave, stack, wave-cut rock platform, etc. Children may also notice some human features – a path or a marquee.
- Does the image show high tide or low tide? (Tide data for the Flamborough Head area are on the *Easytide* website.)

This image shows a time of day when the tide is neither fully in nor fully out. What do they think the place will look like at high tide and low tide? What will be covered or exposed? Explain that the area affected by the tide (the tidal zone) is visited by people for a variety of reasons and is also a habitat for plants and wildlife. What do people, especially children, enjoy doing on a seashore? What plants and wildlife live in or visit the tidal zone?

### Main activity

- Children draw annotated sketches to show how the place will look at high and low tide. On both sketches, they label the physical features that can be seen in the image as well as the extent of the sea. What might be revealed when the tide is fully out? (Small sandy beach beyond the wave-cut platform, area of shingle, rock pools, etc.) They should include people or wildlife that might visit at low tide. What might people do in a place like this? (Crab-hunting in rock pools, fishing, walking a dog.) What wildlife is there?
- Children work on the sketches, either drawing them from scratch or using the outline (**see Activity Sheet 1**). Prompt them to think about (and include in their sketches) the effects of waves hitting the cliffs at high tide and a range of features (physical, natural and human) revealed at low tide. They should label all the features clearly.

### Plenary

- Ask the children to share their sketches and describe the features that they have included, particularly in the low tide sketches.

## Differentiation (including use of LSA if available)

Depending on their abilities as writers or sketchers, encourage children to record their ideas appropriately using text and/or lines, shading, colouring, etc. An alternative way of carrying out the activity would be to use ICT.

## Resources

Use coastline images, e.g. of Flamborough Head in North Yorkshire (**see Image download**).

*Easytide* website (<http://easytide.ukho.gov.uk>)