Investigating Coasts

Learning Objective:
To find out about the physical features of coasts and the processes of erosion that affect them.

NEXT

What do you know about how coasts are formed?

Describe an erosion landform and a depositional landform.

Erosion landforms, such as cliffs and headlands, are created when the waves wear away the rock and when weather conditions weaken the rock and break it down.

Depositional landforms, like beaches and dunes, are created when the sea deposits sand, rocks and other sediment onto the shore through waves and tidal action.

How do you think these coastal features were formed?

Yesnaby, Orkney Islands

Durdle Door, Dorset

Flamborough Head, Yorkshire

Sea caves are formed when waves erode the base of a cliff. They often start as a small crack in the rock. Sand and rocks carried by the waves also help to wear away the rock of the cliff face.

Natural arches are formed when there is a difference in the rate of erosion due to the varied resistance of bedrock. Sometimes the collapse of rock around a sea cave can produce an arch.

Stacks are formed when sea arches collapse, leaving a single pillar of rock standing. Stacks can collapse or become further eroded to a stump.

Can you think of any other ways that coastal areas could be eroded?

Think, pair, share your ideas.

BACK

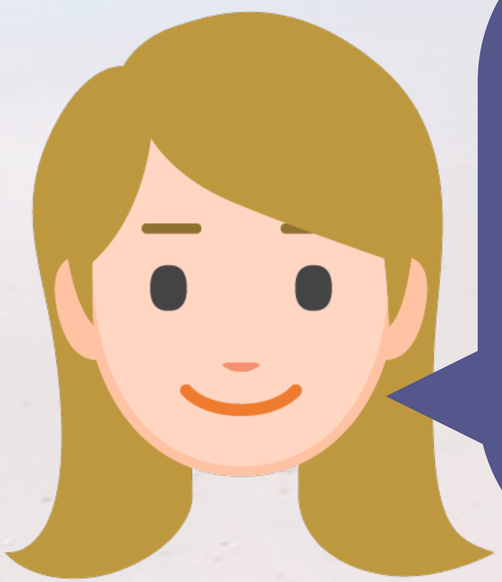
NEXT

Human activity can also cause erosion. A good example of this is the Holbeck Hall Hotel in Scarborough. The hotel was built in 1880. It had a cliff top setting with beautiful views of the surrounding coast.

But in June 1993 something terrible happened...

At 6am on the 4th June a guest noticed that most of the garden had disappeared. The hotel was evacuated. By the evening of the 5th June the whole east wing of the hotel had collapsed in a massive landslide.

The landslide had occurred because of coastal erosion. The force of the waves wore away at the cliff and caused it to collapse.



Why do you think building on a cliff edge can increase the risk of cliff instability?

PLENARY

What can we do to reduce the risk of coastal landslides?

Is your local coastal area at risk from coastal landslides? You can find out on the Environment Agency's website! Click here to open it.

BACK