



GCSE Geography

The story of Old Harry

We are in the county of Dorset.	We are looking at a headland.	The headland is to the north of Swanage Bay.	Most of this area is clay.
The area is known as the Isle of Purbeck.	Because the headland juts out to sea, it takes the full force of any wave erosion.	Chalk is a more resistant rock than clay.	The headland is made of chalk.
Chalk does not crumble away as easily as, for instance, clay.	Caves, arches and stacks could not be formed in a clay rock.	When chalk is formed, it contains areas which are less resistant than others.	Wave erosion attacks the base of the headland cliff.
Wave erosion takes place between the high tide and the low tide levels.	A wave-cut-notch is eroded along the cliff base between high tide and low tide levels.	A wave-cut notch undercuts the cliff above, making it unstable.	Hydraulic erosion takes place (continual small air explosions in existing cracks in the rock, each time water ebbs out of the cracks)
Corrasion erosion takes place (waves hurl pebbles at the cliff).	Wave erosion picks out areas of less resistant rock.	Several lines of weakness go right the way through the headland.	The headland is called The Foreland.

Small caves were formed.	Wave erosion enlarged the caves.	Caves developed on either side of the headland.	Caves on either side of the headland were eroded so far back that they met.
This formed an arch.	With further erosion, the roof of the arch became unstable.	The roof of the arch collapsed.	A column of rock was left standing in the sea, alone, away from the headland.
We call this feature a stack.	This stack is called 'Old Harry'	'Old Harry's Wife' was formed in the same way, but wave erosion has reduced her to a 'stump'	