Revision Notes

Caves, arches, stacks and stumps

Platform, arch, cave and stack

Erosion can create caves, arches, stacks and stumps along a headland. Again weathering can also help to create these landforms.

Old Harry Rocks, Swanage, Dorset

Caves occur when the waves force their way into cracks in the cliff face. The water contains sand and other materials that grind away at the rock until the cracks become a cave. Hydraulic action is a predominant process. If the cave is formed in a headland, it may eventually break through to the other side forming an arch. The arch will gradually become bigger until it can no longer support the top of the arch. When the arch collapses, it leaves the headland on one side and a stack (a tall column of rock) on the other. The stack will be attacked at the base in the same way that a wave cut notch is formed. This will weaken the structure and it will eventually collapse to form a stump. One of the best examples in Britain is Old Harry Rocks. Old Harry is a stack found off the Foreland, a headland in the Isle of Purbeck. Old Harry s Wife is a stump, which collapsed in a storm at the end of the 19th century.

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