

Fossils - clues from the past

One of the reasons that the Isle of Wight is so rich in fossils is because it is made up of sedimentary rock - but how do they form?

Student Introduction

- ▶ Discover how fossils form
- ▶ Learn about where fossils are found and what geological periods they lived in



Understanding Fossils

A fossil can be described as: 'the remains or impression of a plant or animal (any once-living organism) hardened in rock'.

Task 1: Can you match the stage on the left to the correct (but jumbled up!) information in the boxes on the right? Draw a line to link them.

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Stage 2

In the end, there will be a 'rock copy' of the original organism (or part of it). This is the fossil! It looks like the original object even though it is more like a rock. It is now ready to be discovered!

Stage 3

Once the organism is covered up, the risk of being disturbed goes down. Soft parts of the plant or creature rot away and the hard parts, like teeth, bones, seed cases and stems, are left behind.

Stage 4

First of all an organism dies.

Stage 5

Mud and other sediments build up more and more and the ground gets saturated and heavy. As the bones decay, water infused with minerals seeps into the bone and replaces the chemicals in the bone with rock-like minerals.

Stage 6

If the organism is accidentally buried in sediments such as mud, clay, grits or sands then it has a better chance of becoming a fossil. If not, it will decay naturally or be scavenged by prey.

Microfossils

Have a look at the microfossils under the Dinosaur Isle museum microscope.

Why are they called 'microfossils'?

What has been fossilised?

What features can you see within the fossil?

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What type of creature is an ammonite and how does it differ from a nautilus?
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During which geological periods did the ammonite live?

What did the ammonite feed on?

How can we tell this was a fast-swimming type of ammonite?

How did the ammonite control its buoyancy?



Exhibit 32 information for teachers and students - in case QR code/wi-fi unavailable

Introduction

Deshayesites sp. is a type of ammonite. Ammonites are molluscs and are very closely related to living animals such as squids, octopuses and nautiluses.

Exhibit no. 32

Deshayesites would have been a carnivore, preying on other animals for its food. The shape of the shell is very narrow and relatively streamlined which means Deshayesites may have been a relatively fast swimming ammonite.

This specimen has been cut and polished so that you can see the internal structure of the ammonite, and the way that it has been fossilised.

Inside of the ammonite you can see numerous curved brown lines. These are chambers of the ammonite which allow it to control its buoyancy in the seas (how high it goes in the water column). The insides of the shell have been filled by a mineral called calcite. The calcite has been deposited by mineral rich waters; much of the calcite in the waters has probably been dissolved from the shells of other animals.

The calcite has formed in numerous layers, showing there were several periods of the calcite being deposited, stopping, and then starting again. Usually the calcite has been layered on the surface of the chambers but sometimes it has formed through them.

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