

Fossils

What are fossils?

Fossils are the remains of plants and animals that lived on Earth a long time ago. They are usually found preserved in rock, such as shale and limestone.



Where can I see fossils in Ireland?

Often the best place to collect fossils is from loose stones found on beaches, but do not over collect and only go to places which are safe and where you have permission to go. If you find anything unusual please contact your nearest geological museum for help identifying your specimen. Many fossil sites in Ireland are now protected by law and it is illegal to remove any geological specimens from them.

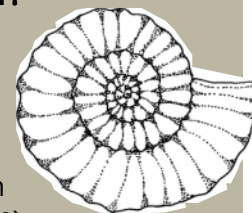
You can see fossils in the Geological Museum of Trinity College, Dublin, the Ulster Museum, Belfast, the Geological Survey of Ireland, Dublin, the National Museum of Ireland, Dublin; the James Mitchell Museum, National University of Ireland, Galway; and the Department of Geology, University College, Cork.

The study of fossils is called **palaeontology** and a person who studies them is a **palaeontologist**. They describe fossils and also use them to date rocks and to discover the environmental conditions that occurred on Earth in the past.

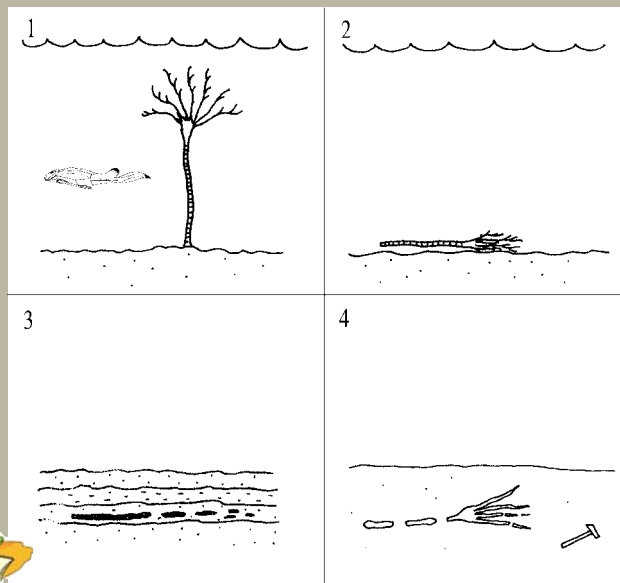


How do fossils form?

Millions of years ago there lived many different types of plants and animals (1). When an organism died it fell and lay on the sea floor (2). As time went on it became covered with sediment (3).

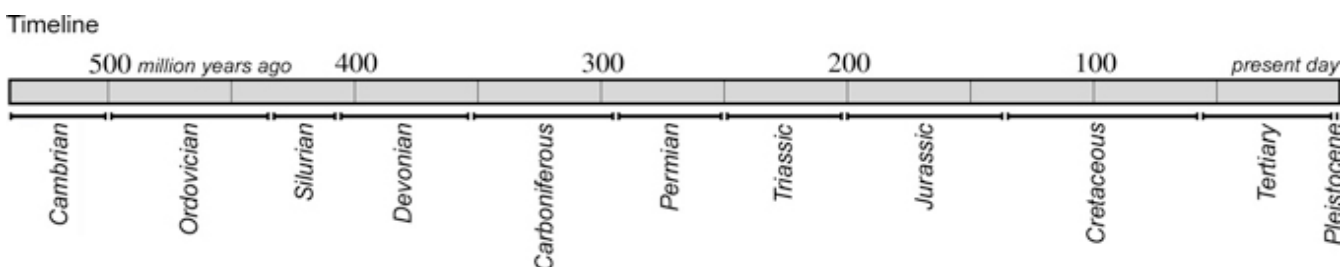


Often shell, bone or the structure of the organism dissolved away and was replaced by minerals from the sediment around it. What was left was either an impression or mould of the original organism. Fossils often became flattened by layers of sediment pressing down on top of them. After many years and dramatic earth movements, these rocks have risen above sea-level where erosion from wind and rain has exposed the fossils hidden inside (4).



Fossils and the geological timescale

Fossils are useful in that they can help scientists work out the age of the rocks in which they are found. The Earth is at least 4,567 million years old and fossils (and isotopes – different forms of atoms of the same element) have been used to divide up this time into a number of Eras and shorter Geological Periods. The timeline below shows how these shorter Geological Periods have been divided in time since the Cambrian period, which began 545 million years ago:



Information adapted from "Fossils Colouring & Guide Book"

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