

Fossils



The fossilised remains of a young Siberian Woolly Mammoth © Matt Howry

Fossils are defined as traces of organisms that died more than 10,000 years ago.

There are several types of fossils, all of which are formed in different ways:

Sediment fossils

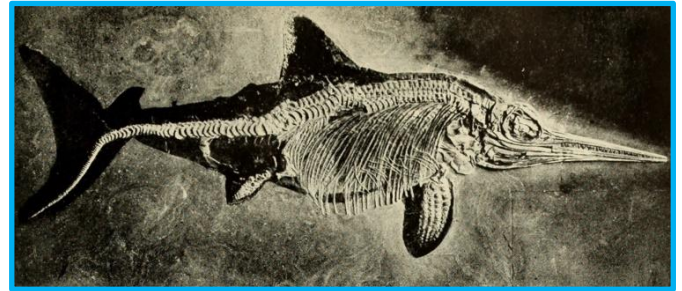
These form when an animal or plant dies in a watery environment such as a river, and becomes buried in mud and silt. Over thousands of years, sediment builds over the top of the remains and gradually hardens into rock, like coal.

Petrified fossils

These are usually trees which have turned to stone as minerals have gradually replaced the hard part of the tree. Coprolites are a type of petrified fossil formed from the remains of animal poo!

Trace fossils

Fossils of footprints, trails, burrows and other changes to the environment that only living things cause show us where these creatures lived. These fossils can give us valuable information as to the size and shape of the animals.



An Ichthyosaur fossil

Mould fossils

When mud presses on a shell for a very, very long time, eventually the substance of the shell is dissolved away. A cavity or mould is left behind bearing the imprint of the shell.

Cast fossils

The above mould might eventually become filled with some other chemical solution, preserving the detailed structure and pattern of the shell.

Imprint fossils

Footprints made in mud and covered over by many layers of sediments can be preserved as fossils. Ancient human footprints, as well as those of birds and animals, have been found in the Severn estuary off the coast of South Wales.



Fossilised dinosaur footprints © Alex Rebolledo

Amber fossils

Another method of fossilisation is preservation in amber, which is hardened resin from pine trees. This happens mainly to insects. Pieces of amber containing fossilised insects are frequently found on the Baltic coast.



An ant fossilised in amber

Human and animal bodies have been found in peat bogs which have anaerobic conditions, meaning no air can get to them and therefore they will not rot away. A famous example of a bog body in the UK is Lindow Man, which was found in Cheshire in 1984. Bodies can also be found sealed in ice as in Siberia, particularly those of woolly mammoths and woolly rhinoceroses.

The coal which we burn on our fires is a 300 million year old fossil! At that time our planet was mostly covered by steamy swamps (this was before the dinosaurs!). As plants and trees died their remains sank down into these swamps, making layers of plant material which became what we know as peat.

Oil and gas were also formed from the remains of animals and plants that lived and died in the sea millions of years ago. These remains piled up on the seabed, being buried ever deeper. Heat and pressure from the Earth's core then turned them into oil or natural gas, depending upon the type of plant or creature that had been buried.



The Lindow Man fossil © The British Museum



Where the Lindow Man was discovered © The British Museum

If you dig in your garden, you may find tiny sea snail shells or crinoids. Crinoids are feathery marine animals known as sea lilies or feather stars, and were common in the Jurassic seas. This proves that your garden once existed underneath the ocean!

The modern beach is a good place to try and discover some fossils so have a look amongst the rocks on your next visit.



Weston-super-Mare
Town Council