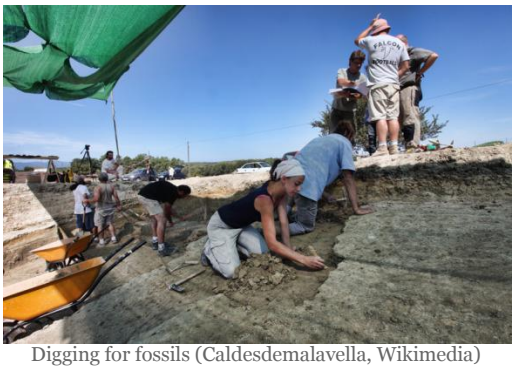
Palaeontology



Digging for fossils (Caldesdemalavella, Wikimedia)

Palaeontology is a science subject. It is the study of ancient animals that have been long dead.
These animals may have died hundred of millions of years ago. A specialist in palaeontology, called a **palaeontologist,** will find and dig up these bones for studying.
He or she will compare them to other bones from other animals and if they are different then the palaeontologist names it and a new species is discovered. Often these animals are extinct which means that nothing alive today looks like them.
Palaeontologists want to find out as much as possible about these animals. They want to find out what they looked like, what they ate, how they walked or flew and many other things too.

An important part of palaeontology is evolution. Palaeontologists want to find out what animals are most alike so they can tell how closely related they are.

What is sedimentation?

The Blue Lias. A cliff made out of layers of mud, sand and limestone near Lyme Regis, UK. (MichaelMaggs, Wikimedia)

Sedimentation is very important. Without it we wouldn't have any dinosaur fossils. It is the building up of layers of small particles like sand or mud. The easiest place to see this is the beach. A beach is made up of lots of sand which have been deposited, or left behind, by the sea.
Sand and mud come from inland. Rivers erode them from the land and bring them towards the sea. As the water slows, it can't carry as much and so sand and mud are dropped. The bigger the grain of sand, the sooner it is dropped.

If you look at a cliff, you will often see layers which make the cliff look like a **layer cake**. These layers are caused by sedimentation. Over a long period of time, the grains of sand and mud build up and up, forming the layers.

Fossils are found in these layers. The quicker bones are buried, the more chance they will be saved from scavenging animals and damage by weather.
The sea**,** rivers and lakes are the best depositors of sand and mud and dinosaurs are found where there used to be a sea, lake or river. But big glaciers also carry grains and the air can also carry very small grains.
A land-slide, where mud and rock fall down a mountain of a sand dune can also save the bones of a dinosaur. One famous fossil called 'The **Fighting Dinosaurs'** is two dinosaurs entwined as though they are fighting. Palaeontologists think that the *Velociraptor* was hunting the other dinosaur, *Protoceratops* when a sand dune collapsed on both, killing them and preserving their bones.

What is a fossil?

A dinosaur fossil (Mike Beauregard, Wikimedia)

A **fossil** is evidence of life from far back in the past. There are many types of fossil but the best known is bone. **Bone** is hard and strong and is often the only part of an animal to survive years after an animal has died. If those bones are buried, there is a chance that someone may find it millions of years later.
Other types of fossil include shells of sea animals like sea snails or oysters and clams. Plants can also be preserved and, occasionally, soft tissue like muscles, but these are very rare.