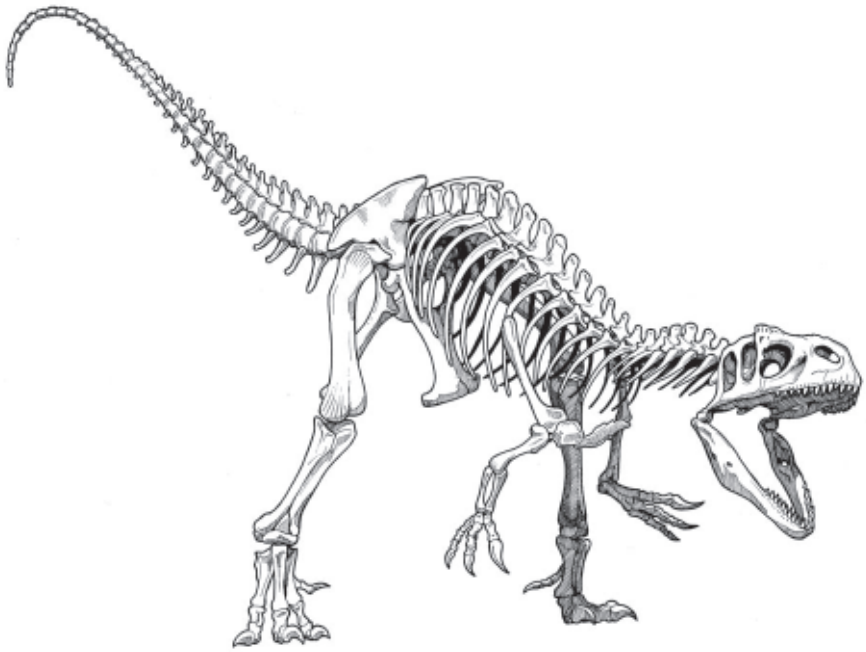
Fossils
Primary Years - Student Notes



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Adventures of two young palaeontologists

On your visit to the museum you will discover some very old fossils.

Imogen and Harriet visited the museum looking for fossils.

A fossil **tree** *(Outside the museum, standing by the wall.)*

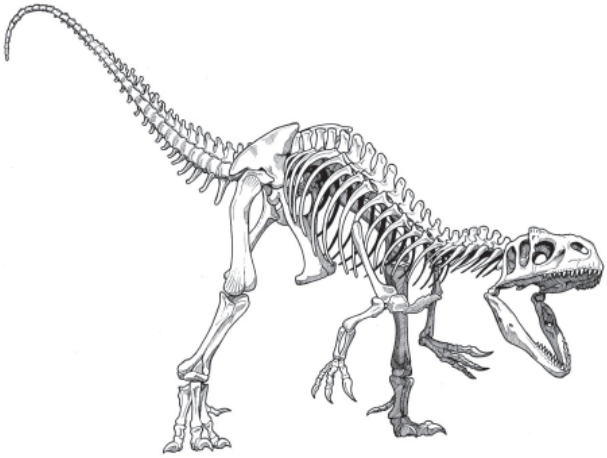
Over a million years ago an old gum tree was growing near Lake Eyre in South Australia. The weather was much wetter then and the gum tree grew in an area where there were lakes and rivers. Hungry insects bored holes into the trunk.

Eventually the gum tree died and fell over into a swamp and soakedup water like a sponge. The weather became much hotter and drier and the lakes and rivers dried up. As the old gum tree trunk dried out, the minerals in the water were left behind and eventually the wood turned into stone.

Aboriginal people who lived in the area called the fossil tree Kardimakara, and believed it was the body of one of their Dreaming Ancestors who died and was turned into stone.

***Allosaurus atrox* ankle bone discovered in Victoria**

Amongst the first fossils discovered in Victoria was the ankle bone of an animal that has been identified as an Allosaurus. The size of the bone suggests the dinosaur was a bit smaller than the great Allosaurus that hunted in other parts of the world.The Australian dinosaur would have only been 6 metres long and 2 metres tall. (Still quite a fierce animal.)



The South Australian Museum has a cast of an *Allosaurus atrox* skeleton that can give you a good idea of what these carnivores would have looked like.

Although Allosaurus is best known from western U.S.A it has also been found in East Africa, Eastern Asia and Victoria, Australia. The American bones are about 140 million years old whilst the ankle bone found in Australia is about 120 million years old.

The Addyman **Plesiosaur** *(Origin Energy Fossil Gallery Level 3.)*

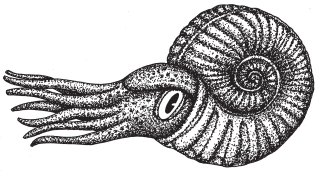
Plesio = ribbon - *saur* = reptile

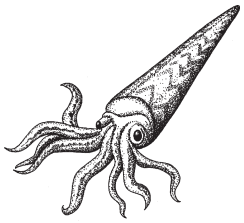
120 million years ago when dinosaurs lived on the land, plesiosaurs swam in an icy inland sea here in South Australia. Plesiosaurs were reptiles and hunted for fish and belemnites (squid-like animals) using their long necks and sharp teeth to snare their prey. A plesiosaur's body would have been encrusted with scales, biting parasites and barnacles.

About 115 million years ago a plesiosaur died and its body sunk down onto the seafloor where it was buried by layers of sand and mud. Its skeleton was turned into a fossil and later the bones changed into opal. Scientists believe it is the best opalised skeleton on earth.

Gems from a **desert ocean** *(Origin Energy Fossil Gallery Level 3.)*

The Eromanga Sea that covered the interior of Australia 100-120 million years ago was rich in marine life. Ichthyosaurs, plesiosaurs, fish, sharks, ammonites and belemnites swam in the open water. Starfish, crinoids, cockles, mussels, snails and tube-worms lived on the seafloor.





Imogen discovered opalised cockles.

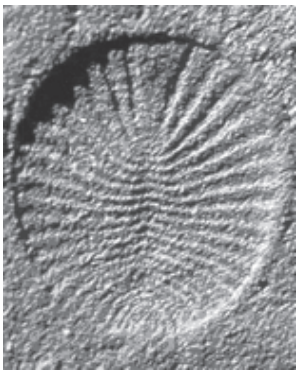
Only those bones and shells that became trapped in sea-floor sediment had a chance of becoming fossils. Some were replaced by clear silica, and others by precious opal.

Harriet discovered an opalised sea lily.

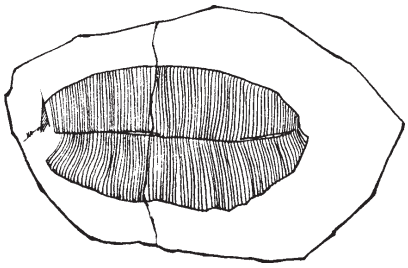
The **oldest fossils** *(Level 3 Outside the lift.)*

Soft-bodied

Some of the oldest known animal fossils are found here in South Australia.



These animals didn't have shells or skeletons. Scientists describe this animal as a flat worm called *Dickinsonia costata.*

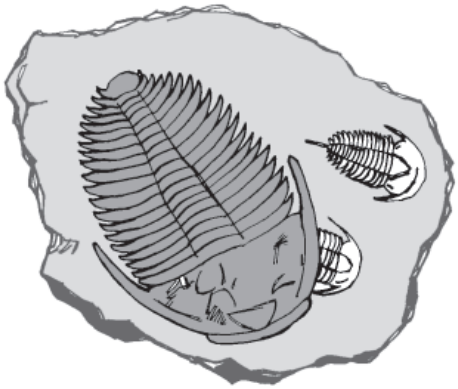


This is a drawing of a flat worm fossil that lived on the seabed.

When these soft bodied animals died on the sea floor, the shape of their bodies was left behind in the sand. Eventually they were covered with more sand and turned into fossils.

Armour plated

This is a trilobite fossil discovered on Kangaroo Island that had skeleton on the outside. It was armour plated to protect it from predators that also lived in the sea.



Imogen and Harriet are investigating some of our hands-on fossils.