



Dino Discovery

PHOSPHOR
HELPING YOUNG SCIENTISTS SHINE

Even though dinosaurs lived millions of years before humans existed, we know a lot about what they looked like from studying fossils.

Back in 2006 Robyn and Stuart Mackenzie were riding their motorbikes on their farm in the Australian outback when they spotted a pile of what looked like large black rocks. They took a closer look and decided that they looked a bit like bones. Scientists were called in to take an even closer look and they worked out that they were in fact fossils of dinosaur bones.

Fossils

Fossils are the preserved remains of an ancient creature.

To turn into a fossil, the dinosaur died and its body was covered in sediment, very small bits of sand or mud. As the layers of sediment built up over time, the soft body parts like skin and muscle decayed, leaving behind the hard bones and teeth.



Minerals in the sediment seeped into the bones, turning them into hard rock.

The word fossil comes from the Latin word *fossilis*, which means 'unearthed'. Latin is an ancient language that was spoken by the Romans. There are quite a lot of Latin words used in science (more coming up in a bit).

Studying fossils helps us to show what life was like on Earth thousands, or even millions, of years ago. They give us evidence of how organisms evolve (change) over time and how species are related to each other.

Scientists used to think that dinosaurs were ancestors of today's modern lizards – like alligators. But after studying a lot of dinosaur fossils they have now decided that actually, dinosaurs are more closely related to birds. So, you can think of a T-Rex as just a giant chicken (although with very large teeth!).

There are some things we can't find out from fossils. We can't tell what colour dinosaurs were because no skin has been preserved. Scientists took a guess and thought that they might have been shades of grey and green, for camouflage. However, now we think that there is no reason why some dinosaurs couldn't have been bright colours, like some of today's birds. We also don't know what noise they made, although scientists can make a good guess from studying dinosaur skeletons and comparing them to modern animals.

Scientists that study fossils are called palaeontologists. It is very rare to find a whole preserved skeleton of a dinosaur so palaeontologists have to work out what the bones are and where in the dinosaur they would have been – it's a bit like putting together a massive jigsaw puzzle! This is why, despite being discovered in 2006, it took until 2021 to finally work out what type of dinosaur the Australian fossil was.

A New Species

It was worth the hard work – the dinosaur is a new species of giant dinosaur. It is the largest dinosaur ever discovered in Australia. It would have been up to 6.5m tall and 30m long. This is the same length as a basketball court. It would have roamed Australia during the Cretaceous Period, about 92-96 million years ago.

When the scientists started studying the bones, they noticed they were a similar size and shape to a group of dinosaurs called the sauropods. A famous member of the sauropod family is the brachiosaurus. They are giant, plant-eating dinosaurs.

At first they thought it might be an example of a sauropod species that had already been discovered. But they found some differences that did not exist in any known species. Eventually they concluded that they had discovered a brand new, never been seen before, species of dinosaur.

Naming a Species

When you discover a new species, you get the fun task of naming it.

All species have a scientific name. It has two parts – so it is called a binomial name (bi means two). Human's binomial name is *Homo sapiens*. It means wise man in Latin. The first part of the name shows what genus the organism is in. The genus is a large group which contains lots of similar species. We are all alone in our genus - all other *Homo* species are now extinct.



The new dinosaur was given the binomial name *Australotitan Cooperensis*. The genus name shows that it is a large dinosaur from Australia (the Titans were giant gods in Greek mythology). The second part is named after a place - Cooper Creek, which is near to where the fossil was found. The scientists nicknamed the dinosaur Cooper while they were working on it, so this name stuck.

It is the only species in the *Australotitan* Genus - so far. But in the future palaeontologists might discover other new species that they think share enough similarities to put it in the same genus.



Australotitan Cooperensis

Worksheet

1. Explain what we can learn by studying fossils.
2. Find out the scientific names of four different species. For each one, explain where its name came from.
3. Write about your favourite dinosaur. Include:
 - a) Its name, including its scientific name.
 - b) What it looked like including its size.
 - b) When and where it lived.
 - c) Three interesting facts.
4. Write a storyboard to show how fossils form. Include a picture and information for each stage.

Curriculum links

KS2

Rocks: describe in simple terms how fossils are formed when things that have lived are trapped within rock.

Living things and their habitats: recognise that living things can be grouped in a variety of ways.

Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals.

Evolution and inheritance: recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.

KS3

Inheritance, chromosomes, DNA and genes: differences between species. and its size.



www.phosphorescience.com