



## Fossils transcript

Fossils can help us to find out what happened before our time. They can tell us how ancient animals obtained food, reproduced and about their behaviour. Scientists who study fossils are called palaeontologists.

We find a variety of interesting fossils, right here in Yorkshire. A lot of them can teach us about marine animals that used to exist.

*Ammonites* were shelled cephalopods, so were closely related to the nautilus, squid, octopuses and cuttlefish. They had squid like tentacles extending from their distinctive, spiral shell.

*Belemnites* were also related to animals like squid and cuttlefish. They had a squid-like body but, unlike squid we see nowadays, they had a bullet shaped internal hard skeleton, which is why we find a lot of them fossilised.

*Devils toenails* are an extinct type of oyster. They lived on the seabed in shallow waters, possibly in large groups.

We get different types of fossils, but today we are going to focus on trace fossils. Think about when you step in mud, you leave footprints behind. Well so did animals that used to exist like dinosaurs. Fossilised footprints are called trace fossils.

Footprints can tell us the size of animal, number of legs, movement and running speed.

Today we are going to become 'seashore scientists' and try to find out how tall a Megalosaurus was using its fossilised footprint which was found at Burniston Bay in Scarborough and is 164 million years old. A Megalosaurus was an ancestor of the T-rex.

The three-toed footprint indicates that the dinosaur walked on two legs, just like human beings, as we are both bipeds.

The same ratio applies to you as it does the dinosaur and we can prove this.

First, if you measure your own foot, from heel to toe. Mine is 20cm

Now measure the length from your feet to your hip. Mine is 85cm

Using these numbers, you can calculate our magic number, the ratio of leg: foot length. You do this by dividing the leg length by the foot length, so my magic number is 4.25.

If I measure the length of the dinosaur's footprint, it is 66 cm

You can now use the same magic number to estimate the leg length of the dinosaur and hence its overall height.

For immature animals, like most of you, the ratio will be smaller than for mature animals, like your teachers and parents. There is a range of results that you will get but, as a rule of thumb, it works quite well.