



## HOW A FOSSIL IS FORMED

Fossils are incredibly rare. You probably won't find one in your back garden. Pretty much everything that dies breaks down into the earth. Many are eaten by other animals. Those that are left alone are still unlikely to form a fossil. Let's have a look at how a fossil is formed. Hopefully, you will see just why they are so rare.

The first thing that must happen to an animal to become a fossil is to be buried quickly. To do this, it must die in the right place. Dying in the open is no good. It will probably be eaten by scavengers or worn away by the weather. If it dies on a hard rock like granite, then there is nowhere for the bones to rest while they fossilise. Only a tenth of all rock types can preserve fossils. That's not a lot. The material that covers the body must also be soft. Wet mud or clay is perfect. A pile of rocks is not. It's important to remember that a fossil isn't the actual bones of the animal. The bones are replaced by minerals. These have to leave an impression on the mud. If the animal is buried under rocks, that won't happen.

The process can start once the animal is safely buried away. Oxygen is bad for the fossil. If it gets in, then they might rot before they are preserved. This is a bad outcome. If they are kept safe, then the bones will start to be petrified. This means that they are turned into rocks. This process can take millions of years, so it's probably worth putting the kettle on. It's also the reason why there aren't many fossils of early humans - there hasn't been enough time yet.

It is also important to remember that the Earth's crust moves a lot. Many animals that die in the right conditions and start the process of being fossilised will have been destroyed before they are dug up. This might be by moving rocks or crushing glaciers of ice during ice ages. This is why it's very uncommon to find complete skeletons in one place. Since fossil hunting began, only about 50 Tyrannosaurus rex skeletons have been found. Only about 10 of those are considered "complete". This means that they have over half of their bones. There has never been a single Tyrannosaurus found with all of its bones. Most other dinosaur species are even rarer to find than this.

Because fossils are so hard to make, they are incredibly valuable. Most of the fossils you see in



museums are replicas made from plaster of Paris— any originals are just too rare to put on display. Scientists estimate that only one bone in every billion will ever become fossilised. Now, I told you they were rare!

## SUMMARY FOCUS

1. What is the first step that must happen to make a fossil?
2. Why aren't there many fossils of humans?
3. Why is wet mud perfect for a fossil?
4. Why aren't there many real fossils in museums?
5. Why might a fossil be broken over time?

## VIPERS QUESTIONS

**V**

Which word in the text describes something that is made to look like something valuable?

**R**

How many "complete" Tyrannosaurus skeletons have been found?

**E**

Why has the author used quotation marks around "complete" to describe the T-rex skeletons?

**E**

What is the author's view on fossils?

**I**

Why might it not help to form a fossil if an animal died in an open field?

Answers:

1. The animal must die in the right place
2. There hasn't been enough time since the first humans to form a fossil. It takes millions of years
3. It is soft and the bones can leave an impression. It will also keep out oxygen
4. They are too rare to be left out. Most of them are replicas
5. The Earth's crust moves a lot and rocks and glaciers can damage fossils

V: Replica

R: About 10

E: Because they are only half complete. Even though they are classed as complete, they are not actually complete

E: They are rare and valuable and very difficult to make

I: Scavengers would eat it and the weather would wear it away