

How to Become a Fossil

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art by Marnie Galloway



120 million years ago, an iguanodon stood on a riverbank, chewing a leaf. It had been raining, and the bank was full of fresh new plants for his breakfast.

The rain also turned the hillside above into mud. Some of the mud began to slide,

faster and faster, down the hill. And right in the middle of breakfast, *Wham!* The poor iguanodon was rudely buried under a ton of mud.

Sadly, that was the end of the iguanodon. But it was the beginning of a brand new fossil.

Under the mud, bacteria and worms nibbled away all the soft bits of the iguanodon's body. They left a collection of bones and teeth under the muddy river.

Bacteria and bugs eat soft body parts but leave bone to make fossils.

art © 2019 by Marnie Galloway

Step 1 Get buried



Step 2 Keep your bones covered



Living bones are full of tiny holes.

Step 3 Soak up minerals



Like all bones, the iguanodon's were not completely solid. Each bone was filled with millions of tiny holes—holes so small you can only see them with a microscope. When the iguanodon was alive, these holes held tiny blood vessels and nerves.

Rain falling on rock and seeping through soil dissolves minerals as it passes through. So the water where the iguanodon lay was full of minerals, tiny bits of rock.

Some of this mineral-filled water seeped into the iguanodon's bones. The rocky bits in the water washed into the tiny bone holes and stuck. For thousands of years, hard minerals from water slowly replaced the bone.

The minerals clumped into crystals and hardened. After a long, long time, there wasn't much of the original bone left. The iguanodon's skeleton had been fossilized: replaced by a stone copy.

Rain and wind dumped more dirt and sand on the spot where the bones lay. They built up heavy layers. Eventually, the old mud was compressed into solid rock.

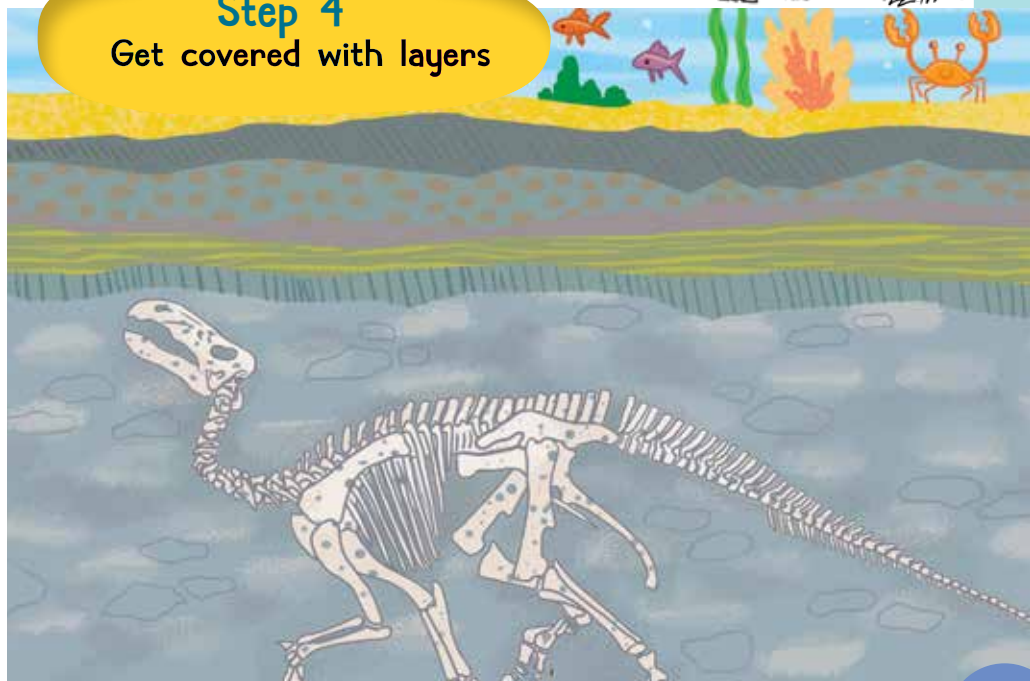
Water carries tiny bits of rock into holes in bones. Over time, rock replaces the bone.

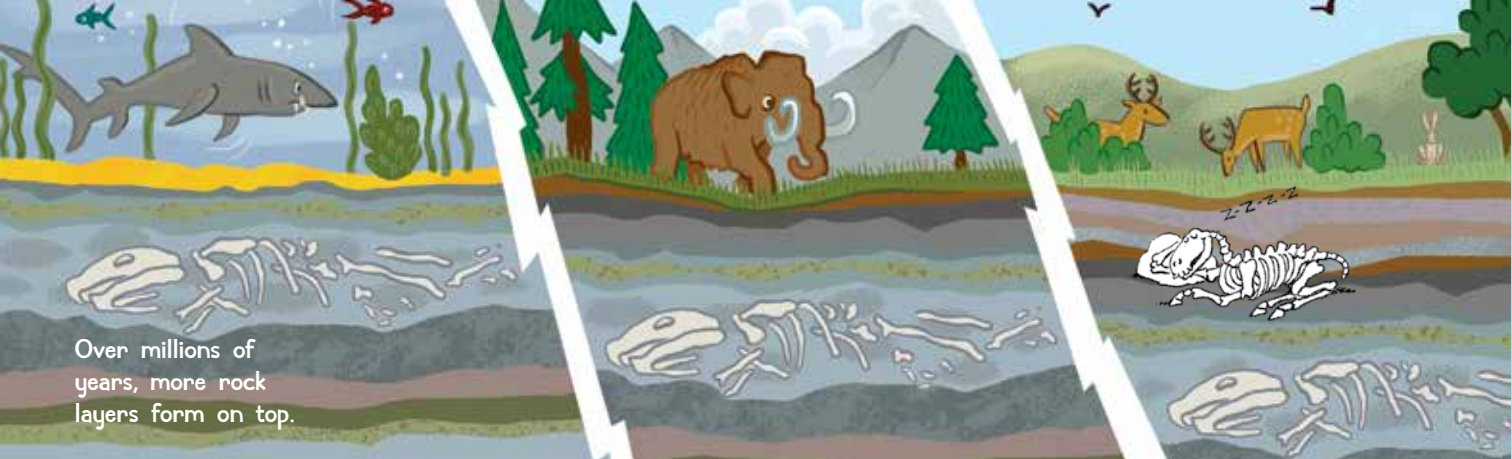
A fossil is a rocky skeleton inside layers of other rocks.

Or walking around!



Step 4 Get covered with layers





Over millions of years, more rock layers form on top.

Step 5 Get found



As continents shift, they push layers of old rock to the surface.

Millions of years passed. More layers of rock formed on top of the fossil. New animals evolved. Different plants covered the land. The land itself was moving too. As the continents slowly shifted, the layer of rock containing the iguanodon skeleton was pushed up when a ridge of mountains formed. Up, up, up it went, until just a few inches of rock hid the fossil from view.

Ice cracked the layers of stone. Wind and rain carried away tiny bits as sand. Inch by inch, the rock over the fossil iguanodon wore away.

One day, a paleontologist, a scientist who studies dinosaurs, was walking along a rocky cliff. She noticed an interesting rock sticking out.

She soon came back with a team. They chipped away at the cliff. Sometimes they put rocks on their tongues to test them. Fossils stick to the tongue more than ordinary rock—the spongy pattern of the old bones make them rough. Over many months, the team slowly uncovered the skeleton. After a hundred million years, the iguanodon would finally see the light of day. 🦖



Fossils stick to the tongue more than other rocks.

