

## FOSSILS AND EXTINCT ANIMALS

### Extinct Animals

Many animals have become extinct over millions of years. **Extinct** means that no longer living on Earth. When a species is **extinct**, it means there aren't any animals of that kind living on Earth. Animals that are extinct include dinosaurs, saber-toothed tigers, and dodo birds.

**Lesson Checkpoint:**  
*Name one animal that you know is extinct.*

### Reasons for Extinction



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**Extinction** is

- **Environment** changes on Earth. Environmental changes, which is what scientists believe to be the reason some animals are now extinct.
- Another reason that is believed to have caused some animals' extinction is **competition**. When animal resources such as habitats, food, and water become limited, animals have to compete for those resources. The stronger animals most often win out when competing for resources while the weaker animals may become extinct.
- Some animals may be extinct because of **human actions**. Many animals lose their habitats because humans destroy them by cutting down trees and building houses and roads where habitats existed. When an animal doesn't have a place to live, it often dies off, which leads to extinction.
- **Over hunting** is also another cause of extinction. Over hunting is when humans hunt animals too much and eventually the animal species that is being hunted dies off completely.

**Endangered** means an animal is close to becoming extinct but there is still time and hope for that animal species' survival.

**Lesson Checkpoint:**  
**What is one reason animals become extinct?**

## Fossils

How do we know about animals that once lived on the Earth millions of years ago but are now extinct? Answer is...(drum roll please)...by studying **fossils!** A fossil is the **remains or evidence of a once-living organism** from long ago. Fossils form in sedimentary rock.

### Steps to becoming a FOSSIL:

Step #1: The animal dies.

Step #2: The animal's dead body settles to the bottom of body of water.



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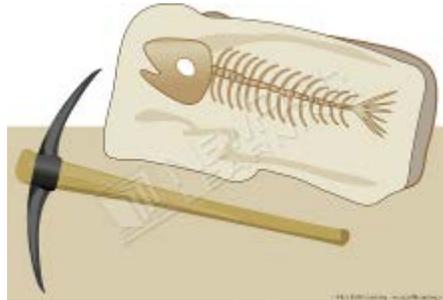
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After death and once in its final resting place, the soft part of an animal's body will decay. **Decay** means to break down or rot.

Step #3: The animal's dead body is covered with sand, dirt, and mud (**sediment**) forming many layers on top of animal's remains.



When the dead animal is covered in sediment, the materials in the animal's remains may be replaced with minerals in the sediment and harden into rock.



Step #4: The last step in becoming a fossil is the fossil appearing above ground. Over many, many years the rock layers weather and erode away, causing the fossil to become **exposed**.

**Lesson Checkpoint:**  
**What is the first step in fossil formation?**

**Types of Fossils**

Fossils are found in rock that is in the shape of a mold. Below you can see molds from the

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rock that is in a **mold**. The fossil



A fossil that is made when the mold of an animal in rock is filled in with other rock material is called a **cast**.

Some fossils are even found in **hardened tree sap**. Hardened tree sap is known as **amber**. Organisms' bodies can be preserved in amber for millions of years.



Fossils can form in tar pits as well. Some animals fell in **tar pits** millions of years ago and the soft body parts of the animals broke down and decayed but their **bones were preserved**.

**Lesson Checkpoint:**  
**What is one type of fossil and how is it formed?**

Fossils can tell us a lot of information...like what, when, where, and how old

**WHAT:**

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**WHEN:**

Fossils can also tell **when** certain animals lived on Earth according to the layer of rock the fossils are found in. Fossils buried **deeper** are older than the fossils found **above** them.

**WHERE:**

Scientists can figure out **where** organisms once lived by where they find its fossil.

**HOW OLD:**

Scientists can often figure out **how old** a fossil is according to the layer of rock it is found in.

**Lesson Checkpoint:**  
**What information do scientists get from fossils?**

**Not** all living organisms become fossils. Conditions in the environment around a dead organism need to be just right in order for the animal to become a fossil. It is important for an animal's dead body to be **quickly covered** with sediment and to remain covered so the animal remains are not eaten or exposed to bacteria.

**Paleontologists** are scientists who observe, examine, and study **fossils** in order to find out about the past.



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