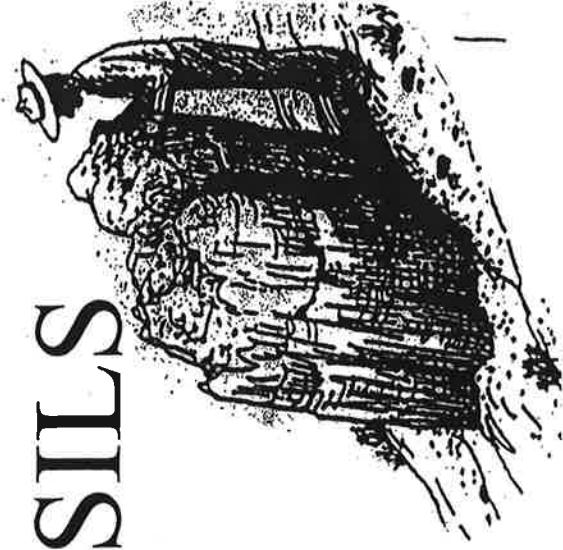


Fossils

Fossils are the (I) impressions, (II) remains and (III) preserves of ancient life. They are the clues that paleontologists use to learn about prehistoric animals and plants. They use this information to help them understand the history of the Earth.

For something to become a fossil it needs to be buried by sediments or covered by something that will keep it safe from nature's elements (rain, snow, wind, cold, heat, water, ice). Then it can go through the process of becoming a fossil. It usually takes thousands or even millions of years for something to become a fossil.

HOW NATURE MAKES FOSSILS



I. Impression Fossils

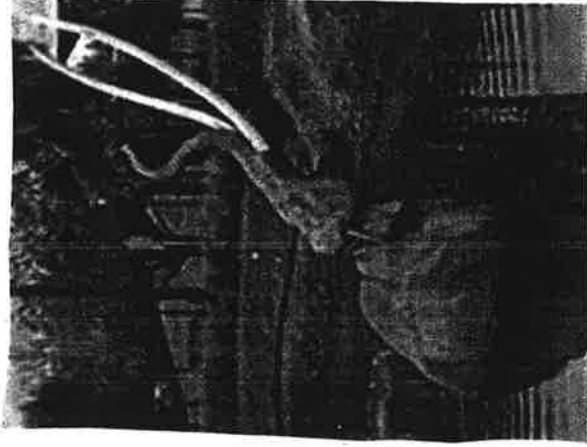
Impressions are marks left in something soft by objects that are hard. Impression fossils are made by organisms (1) leaving marks in sediments either by pressure or (2) getting covered by sediments and leaving their markings on the sediments. The sediments later harden into rock with the impressions still visible. There are three types of impression fossils (1) trace, (2) imprint, and (3) cast.

1. Trace Fossils (impression)

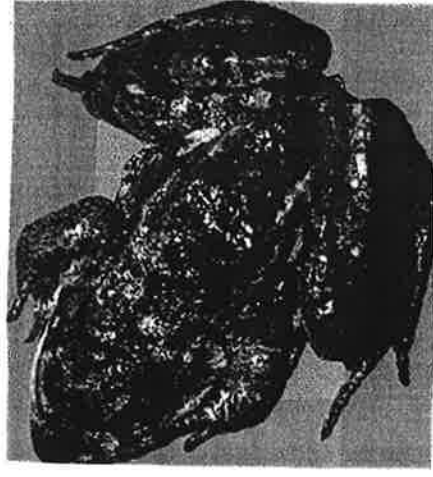
These fossils are made by organisms when they are alive as they are passing through or living in an area. They show the activities and behaviors of organisms so we know what they were like. While doing their activities they leave impressions in the sediments.

Examples of trace fossils are tracks, trails, burrows, teeth marks, nesting areas, skin prints, and tail drags.

Preserved Fossil Pictures



Mammoth Stuck in
a tar pit.



Frog in Ice



Insects in
Amber

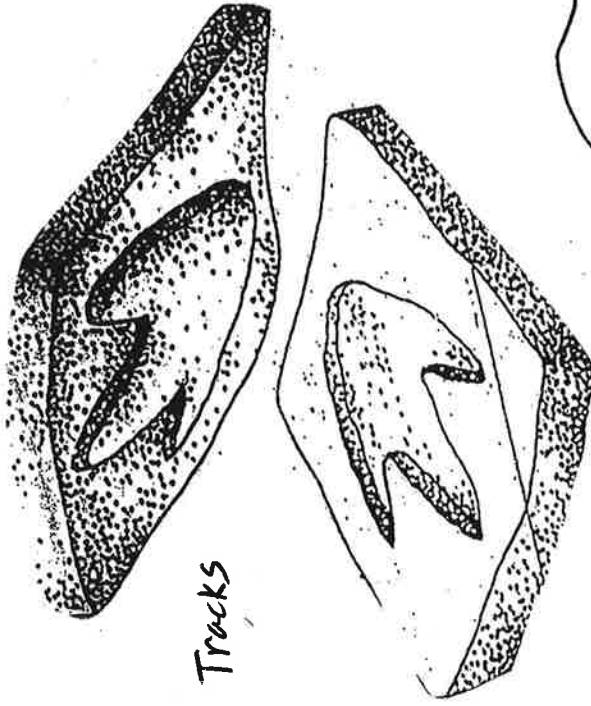
III. Preserved Fossils

Preserved means to keep something exactly the way it was when it was picked or when it died. It hasn't spoiled, decayed away, or changed. It is exactly the same. Possibly you have eaten fruit or vegetables that have been preserved because they look exactly the same when they were picked.

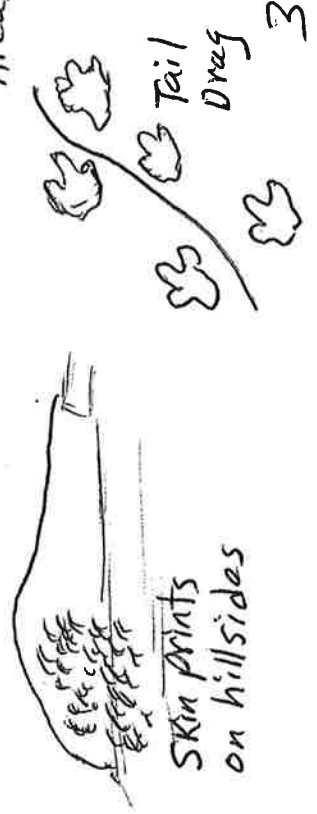
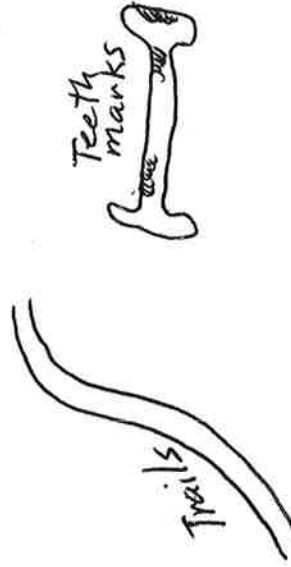
Preserved fossils are kept exactly the way they were when they died even though they may be 100,000+ years old. They haven't decayed away, been replaced, or even changed over time.

They were covered with special things keep them in this condition. These special coverings are ice, sap, and tar. If organisms fall into one of these coverings they will be preserved until they are found.

Trace Fossil Pictures



Tracks



2. Imprint Fossils (impression)

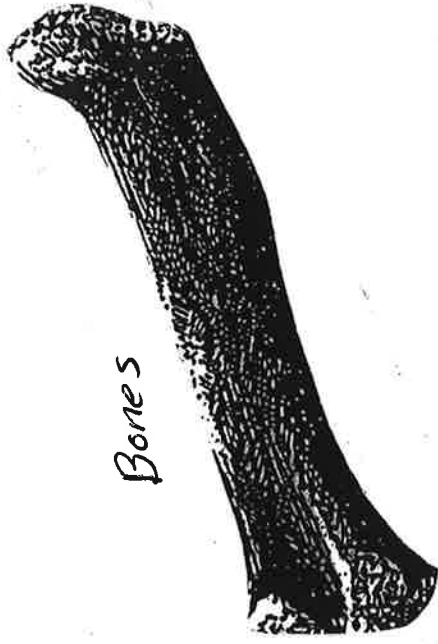
If small, thin organisms fall into sediments and become buried, they can become imprint fossils. While they are buried they decay away. These fossils, when found, only leave behind an impression and carbon. The carbon is what is left after it decays.

Examples of imprint fossils are fish, feathers, and leaves.



Fish Imprint

Mineral Replacement Fossils Pictures



Bones

Wood



Jaw and Teeth

II. Mineral Replacement Fossils

These fossils form when minerals replace wood, bones, shells, claws, teeth and other hard body parts that are buried in sediments. Here is the process:

- a. Hard organism parts are left on the ground.
- b. These organisms get buried by sediments.
- c. As rainwater or running water flows into the ground, the water dissolves minerals.
- d. Eventually, the mineral water reaches the hard organism parts:
 - The mineral water begins to decay the hard organism parts.
 - At the same time the mineral water decays the hard organism parts, they are replaced by minerals.
 - The minerals harden and turns hard and looks just like the original organism parts.

Imprint Fossil Pictures



Leaf Imprint



Fern Imprint



Feather

3. Cast Fossils (impression)

These fossils are the results of sediments filling in an empty space (mold) where organisms once occupied those spaces. Here is the process:

- A larger organism dies (original) and falls into soft sediments.
- It then gets covered with more sediment.
- The organism decays or gets washed away from its place leaving a space (mold) in the sediment with impressions of the organism on the sediments.
- After the sediments have hardened, mud fills in the space. It has the same shape and impressions as the original organism but it is made of stone (cast).

Cast Fossil Pictures

