

Creation of Fossils

There are several methods of creating fossils and different categories of fossils. By understanding the method of creating and what category of fossil it is, people can better understand the environment of that organism.

Fossil Creation:

1. **Permineralization:** This process occurs when the pores of a plant or animal are filled in with minerals brought in by groundwater. Over time this hardens into rock. When this process is used, the original shape of the object is not changed.
2. **Molds and Cast:** In this situation the physical characteristics have created impressions on or into the rocks. This happens when the organism becomes buried or trapped in mud, clay, or other materials that harden around them. The bodies decay leaving molds. Over time, minerals can be wash into the mold, or other sediment material creating a cast of the original object.
3. **Carbon Films:** This type of fossil occurs when many layers of sediment bury the soft tissue of an organism, causing tremendous pressure and heat to build up. These conditions force the release of gases and liquids from the body resulting in the depositing of a thin film of carbon residue on a hard surface. The end result is a type of silhouette of the original organism.
4. **Preservation of Original Remains:** Under the above fossil creation methods original soft parts are lost. In rare situations an organism, or its parts, can become trapped tree sap (amber), ice, or tar pits, to name a few, and be surrounded in such a way that when the material hardens the original organism is encased. This was part of the story line for the original Jurassic Park movie.

Categories of Fossils:

1. **Trace Fossils:** This type of fossil tells the scientist something about how the organism lived and its activities. Examples include footprints, tracks, or trails that can tell overall size, hunting area, and lifestyle structure.
2. **Index Fossils:** This group of fossils is the remains of organisms that where on Earth for only a short period of time, were very abundant, and were present over much of the Earth. Because they were short-lived, finding them in layers of the Earth allows scientists to date other fossils found at the same level.
3. **Body Fossils:** This group of fossils includes original body remains, molds and casts, carbon films, plus permineralized remains.