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Types of fossils:

There are altogether three different kinds of fossils. These are given below:

1. **Petrification:** This represents that type of fossil in which some of the original portions of the organisms have been replaced by the mineral matters dissolved in water; e.g., sedimentary rock.
2. **Impression or Mould:** The plant or the animal parts just after decay have left their impression in mud or sand, such impression becomes permanent when the mud or sand gets harden into stone; e.g., foot and leaf prints.
3. **Cast:** This denotes such kind of fossil in which the cavities of the impression may be filled by some hard minerals, e.g., stem of Calamites, Asterocalamites, etc.

Importance of Fossil:

The study of fossil may furnish the interesting past history of earth with regard to the determination of the age of the rock strata and the prevailing environmental condition in which the plants and animals might have existed. Importance of fossil can be described under following points:

- **Evidence for Evolution:** Fossils provide solid evidence that organisms from the past are not the same as those found today; fossils show a progression of evolution. Fossils, along with the comparative anatomy of present-day organisms, constitute the morphological, or anatomical, record. By comparing the anatomies of both modern and extinct species, paleontologists can infer the lineages of those species. This approach is most successful for organisms that had hard body parts, such as shells, bones or teeth. The resulting fossil record tells the story of the past and shows the evolution of form over millions of years.
- **Dating Layers of the Earth:** Fossils aren't used only to understand individual organisms. Geologists also use fossils for what's called biostratigraphic correlation, which allows researchers to match layers of rock in different locations by age based on how similar the fossils in each rock layer are. This information can be used to help understand when different layers of rock were formed even when large distances separate them.
- **Documenting Changes:** Environmental interpretation, or understanding how the Earth has changed over time, is another area where fossils supply invaluable evidence. The type of fossil found in a particular location tells us what kind of environment existed when the fossil was formed. For example, if you find fossil marine animals like brachiopods in the sandstone in your backyard, you know that there must have once been an ocean where your house now stands.
- **Fossils and Oil:** Fossils also have practical and commercial applications. The oil used in our energy and plastics industries tends to collect in specific types of rock layers. Because fossils can be used to understand the

age of different rock layers as described above, studying the fossils that surface when digging oil wells can help workers locate oil and gas reserves. And of course, coal, oil and gas are themselves called “fossil fuels” because they’re formed from the organic remains of prehistoric organisms.

- **Evolution:** Perhaps one of the most important functions of fossils from a scientific perspective is that they constitute one line of evidence for understanding evolution. Using information pieced together from fossil evidence, scientists can reconstruct body types of animals that no longer exist and put together a “Tree of Life” to describe the evolutionary relationships between organisms.
