Fossil

A fossil (from Classical Latin fossilis, lit. 'obtained by digging') is any preserved remains, impression, or trace of any once-living thing from a past geological age. Examples include bones, shells, exoskeletons, stone imprints of animals or microbes, objects preserved in amber, hair, petrified wood and DNA remnants. The totality of fossils is known as the fossil record.

Paleontology is the study of fossils: their age, method of formation, and evolutionary significance. Specimens are usually considered to be fossils if they are over 10,000 years old. The oldest fossils are around 3.48 billion years] to 4.1 billion years old. The observation in the 19th century that certain fossils were associated with certain rock strata led to the recognition of a geological timescale and the relative ages of different fossils. The development of radiometric dating techniques in the early 20th century allowed scientists to quantitatively measure the absolute ages of rocks and the fossils they host.

There are many processes that lead to fossilization, including permineralization, casts and molds, authigenic mineralization, replacement and recrystallization, adpression, carbonization, and bioimmuration.

