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Science 8B

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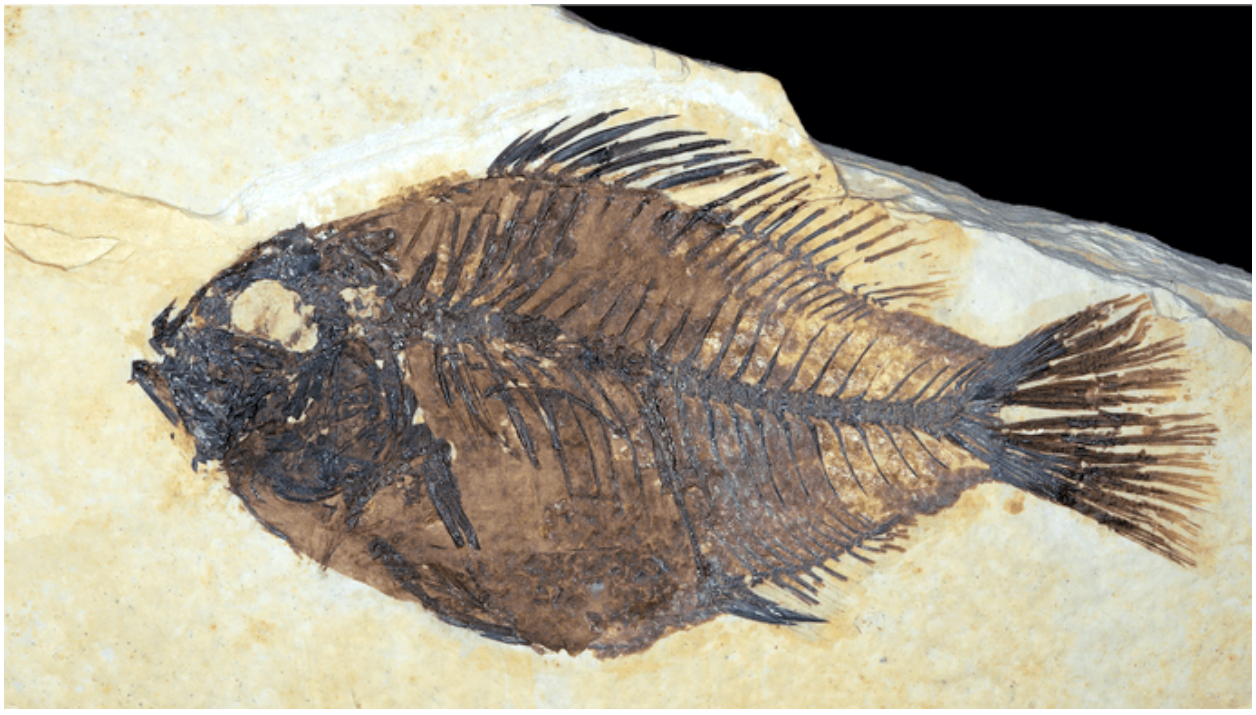
How Fossils are Formed

SUMMARY hard tissues preserve well in wetlands. 3 billion year record of climate and geography. Prints, nests, tunnels are trace fossils.



The best areas for fossils to form are wet areas such as riverbeds. The most common fossils come from hard tissues. These are tissues such as

wet areas

hard tissues

BEST CONDITIONS

shells, bones and tree trunks. **WHAT**

Soft tissues - rapid burial needed

become hard as stone. This can take thousands to millions of years. **TIME**

Bones, teeth, shells and tree trunks **WHAT 4**

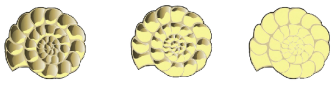
are usually preserved through permineralization.

Organism dies in wetland. Buried **permineralization**

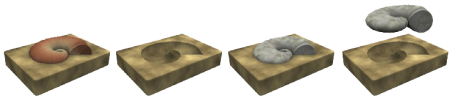
Under sediment: silt, sand, gravel. **Bones, trunks**

Examples of fossils

Permineralization

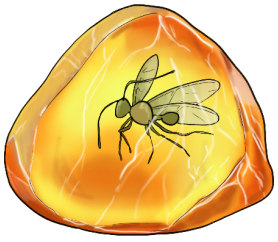


Molds



Trace fossils

Preserved in amber



Coprolites

Mold fossils are formed when an organism dies and decomposes, leaving a **HOLE** in sediment. The hole fills with outside sediment and hardens

HOLE - mold

Trace fossils are **footprints or burrowing tunnels** that have been preserved.

trace fossils

Trace fossils provide evidence of an organism's activity. They include footprints, trails and nests.

3 examples

Another way a fossil can form is through carbonization. This is how soft tissues leaves, stems, seeds, insects and feathers.

carbonization

5 examples

tissues are SQUEEZED Between rock layers Over time, this creates a 3-D print of the tissues.

Amber fossils form when resin from trees traps insects and is preserved.

Coprolites are fossilized waste from organisms.

Illustration: José Antonio Peñas/ Science Source and Newsela staff. Graphic by Newsela staff

coprolites

The fossil record goes back

oldest 3B

more than 3 billion years.
The oldest known fossils
tiny creatures.
bacteria, or germs.
jellyfish, sea anemones
and worms.

Fossils provide evidence of
ancient climates and ecosystems.
how the land has changed
sea creatures high up in the
Rocky Mountains.
great mountains were
once under the sea.

evidence
climate
geography

SOURCES

Fossil types and formation.
By José Antonio Peñas via Science Source and Newsela staff
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