THE ROAD TO FOSSILIZATION

START

Let's hit the road!
Follow the road to learn what fossils are, how they form, and what happens to them.

Subtropical Fossil Lake was home to a wide variety of plants and animals.

What is a Fossil?

Fossils are any remains or evidence of life preserved in a geologic context. Fossils include body or plant parts as well as traces of an organism's activity.

DEATH
Straight Ahead

ONE WAY

In order to start along the Road to Fossilization, an organism has to die. Death isn't the end of the road, in fact, it is the beginning of a new road.

The Road to Fossilization is not easy.
Rest in Peace? Many don't even make it to rest!

Rough Road Ahead

EATEN
Exit 1

Scavengers eat dead organisms. End of the road.

DEAD END

BROKEN
Exit 2

Running water and waves are powerful forces that can break up and destroy dead organisms. End of the road.

DEAD END

ROTTEN
Exit 3

Decomposers, such as bacteria, break down dead organisms. End of the road.

DEAD END

BURIED
Keep Right

Bodies not destroyed may become covered by sediments. Welcome to Fossilization!

Welcome To
FOSSILIZATION
Elev 5100 ft

Services Ahead
Next 6 Exits

As sediments accumulate over time, the weight compresses the mud, squeezing water out of the mud and out of any remains buried in the mud. Thus begins the fossilization process.

Remains can undergo more than one type of fossilization.

Merging Traffic Ahead

ORIGINAL MATERIAL
Exit 5

Some fossils contain original material, most commonly bones, scales, and teeth.

PERMINERALIZATION
Exit 7

The pore spaces of an organism's hard parts are filled with minerals, often calcite, leaving the surrounding material intact.

MOLDS AND CASTS
Exit 9

Molds and casts are formed in similar ways. After sediment covers the remains, an impression, or mold, is formed.
Casts are made from molds. If the organism rots away, the void (mold) can be filled with sediment, creating a cast.

CARBONIZATION
Exit 4

A slow decay process similar to distillation. Volatile organic compounds such as hydrogen, nitrogen, and oxygen are removed leaving a thin film of carbon. This carbon gives these fossils their distinctive color.

REPLACEMENT
Exit 6

The remains are completely replaced by inorganic material, such as calcite or other minerals.

RECRYSTALLIZATION
Exit 8

Shells of clams and snails are made of aragonite, which has an unstable crystal structure. Over time, the crystals reform into calcite leaving the external appearance generally unchanged.

Now Leaving FOSSILIZATION

Before discovery, fossils can be destroyed. Proceed with caution.

Rough Road Ahead

EROSION
Exit 10

As exposed rock erodes, fossils within the rock are destroyed. End of the road.

DEAD END

MOLTEN
Exit 11

Rocks, carried by motion of the earth's crust, are returned to the earth's mantle and melted, destroying fossils within the rock. End of the road.

DEAD END

FLATTEN
Exit 12

Rocks submitted to the pressure and heat of deep burial are changed, destroying fossils within the rock. End of the road.

DEAD END

DISCOVERY
Fossil Basin
Straight Ahead

The last stop on the Road to Fossilization! Fossils remain unknown until they are discovered. They are sometimes discovered through erosion removing overlying rocks. Here in Fossil Basin, many fossils are discovered through active quarrying by paleontologists and collectors.

Fossil Butte National Monument was established in 1972 to preserve and interpret a small portion of the Fossil Lake area. Fossils discovered in the park are placed into the park's museum collections for use in research projects or exhibits.

Remember as you enjoy Fossil Butte National Monument, and all areas in your National Park Service, to take only pictures and leave only footprints. Disturbing any part of the park including rocks, fossils, plants, or animals, is against the law. Help us take care of the resources here, some have travelled a long road!

The Road to Fossilization
It's not an easy road!

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