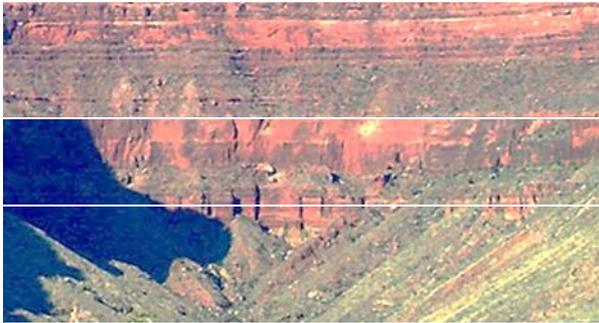


Actual rock layers of the Grand Canyon



Set 1

Layers 5, 7, 8



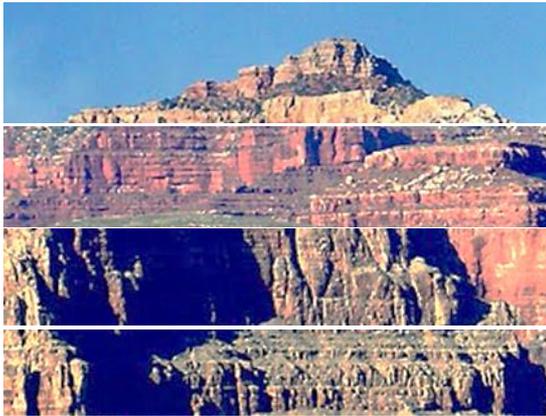
You have surveyed this area and found several interesting fossils. In the younger, first layer, made of limestone, is the most reoccurring layer in the Grand Canyon. It has marine fossils like brachiopods, clams, snails, corals, and fish.

The next layer was tested by carbon and radioactive dating and was determined to be about 515 million years old.

The last, (confirmed oldest layer above ground) has a lot of folding and faulting and has a few stromatolite fossils.

Set 2

Layers 1, 4, 6, 7



You have been studying this part of the Grand Canyon for several years. You are certain that the top layer is the youngest layer of the Grand Canyon, which is 250 to 255 millions years old. There are marine fossils found there.

The next layer is about 30 million years older and contains plant fossils in its mixed shale, limestone, and sandstone rock layers.

The third to last layer is full of brachiopods, trilobites, and trilobite tunnels. You believe it is the oldest layer above surface in the Grand Canyon.

Set 3

Layers 1, 2, 3, 4



You have just started with this section of the Grand Canyon a month ago after the last geologist retired. After reviewing his notes and the data samples from the lab, you have concluded that there are some unconformities in between your second and third layer.

The first layer is the youngest layer with brachiopods, coral, mollusks, sea lilies worms, and fish from about 250-255 million years ago. The next layer, also made of limestone, has vertebrate animal tracks and fossilized burrows but no skeletal fossils.

Third layer comes after what appears to be a lot of erosion from the shale above it. It's been dated to be 265 million years old and has plant fossils of ferns, conifers, and even some reptile and amphibian footprints.

The fourth layer was formed 285 million years ago and it has a mix of shale, limestone, and sandstone rock. You are beginning to identify some of the fossils but the previous scientist stated that there are plant and marine fossils in those layers.

Set 4

Layers 2, 3, 6, 8



You are the lead geologist for this area of the Grand Canyon and your goal at the end is to determine the original layering of the canyon before thousands of years of weathering and erosion.

Your studying has led you to conclude that the first layer of your rock layers has burrows and was formed about 259 million years ago. The next layer is full of plant fossils and some amphibious tracks.

The next layer comes almost 300 million years later, with trilobite and brachiopod fossils.

The last layer is dated between 825 million to 1 billion years old with the oldest fossils, stromatolites, found in the Canyon.

Arrange these layers into the correct time layering sequence based upon the evidence from the four scientists.

