

Marine Fossils Activity in 25 minutes

1. What are fossils?
 - Impression of organism that has been preserved and turned to stone

2. Where do fossils come from? (ie, Where are fossils found?)
 - Different kinds of rock, or plant sap: Eg, Sandstone, limestone, tar, sap, ash, shale (most fossils are found in sedimentary rocks)

3. What kinds of animals can be fossilized?
 - All kinds, but those most likely to be fossilized are animals with bones or shells. Soft animals, like sea cucumbers or butterflies tend to decompose in soil before they can be preserved as fossils.
 - Show the kids the piece of emerald coral and some turret shells that are in the box and that are NOT fossils but were picked up on the beach in Rocky Point - use there to demonstrate modern day animals with hard skeletons (mostly CaCO₃)

4. Pass around a fossil (trilobite) and ask what they each think that it is, and where it might be found?
 - What are its characteristics (eg, is it a whole animal or part of one, does it have legs, eyes, mouth? What does its body symmetry tell you about how it lived and what it is?)
 - If they can't recognize the fossil, what would they do (ie, where go, who ask?) (library, paleontologist at a University or a museum)
 - Pass around 2 more fossils (shark tooth, brachiopods) & do same as above.

5. Finish by choosing fossils from Arizona (crinoid stems, brachiopods, coral, black clam and snail shells (FW), bryozoans) and asking what do they have in common? Where found? All were found in Arizona, near Tucson!
 - What can fossils tell us about past environments?
 - What do these fossils tell us about the past environment of Arizona near Tucson?

The Tucson area was a tropical ocean 250 mya
(Big flat, bi-colored rock comes from Winkelman with brachiopods, crinoid stems, horn corals, and numerous rice-grain foraminifera on the surface) to 400 mya (Mt Lemmon tabulate corals and branched bryozoans)

If the kids ask, the other fossils we have in Marine Discovery were bought at the Gem Show and come from far-away places:

Trilobites- from Morocco

Shark Teeth (small ones, and Megalodon teeth) (Europe or Asia)

Loose grey Brachiopods - Chile

6. What have we learned so far about fossils?

7. Geological Timeline - major events in earth's history
8. Conclusion: Do you have any questions about how fossils are made?
And again: What have you learned about fossils today? About how they are made? About what fossils can tell us about past environments? past animals?

Notes for the teacher:

trilobites and shark teeth can be found in AZ, but they are both rare here.

mya = million years ago

tropical seas covered southeastern AZ 250-400 mya

SE Arizona had dinosaurs, too (*Sonorosaurus* at the Desert Museum)

Megalodon was the giant fossil shark that we have a model of on the wall, and fossil teeth from. They co-occurred with early humans! So early humans might have seen it cruising by offshore. *Megalodon* could swallow a great white shark whole.

Megamouth is the common name for a huge, gentle shark that is around today. It is a filter feeder.