3-LS4-1 Biological Evolution: Unity and Diversity

Students who demonstrate understanding can:



How Dinosaurs might have become trapped to become fossils: <u>https://www.youtube.com/watch?v=rzcMnb0yhxA 3:04 min</u>

Paleontologists excavating a 5meter tail https://www.youtube.com/watch?v=maSjPJb4rbQ

Adult Reference: Formation of Fossils: <u>https://www.youtube.com/watch?v=c_DCP4cLVNg</u>

Show students: How Fossils are made: <u>https://www.youtube.com/watch?v=3rkGu0BItKM for younger</u> <u>students:</u>

What are fossils? https://www.youtube.com/watch?v=3rkGu0BltKM_2:30_min

Tools for Digging up fossils <u>https://www.youtube.com/watch?v=oetS-bdZLOY_2 min</u>

La Brea Tar pits: <u>https://www.youtube.com/watch?v=G7FK59waeo0</u> 6 min <u>https://www.youtube.com/watch?v=9ySE6oY8BUg</u> 3 min. no narration

Students will participate in one activity that demonstrates how fossils are made and one activity involving the excavation of a "fossil".

After Discussion of what is a fossil, show students "How Fossils are made" Tell them they will make a cast of an actual fossil, then proceed with Activity 1.

Activity 1 Identify fossils (10 minutes)

Materials needed:

Fossils, fossils identifying keys

Magnifying lenses (1 per student)

Process:

Allow students to select fossils to examine and identify.

Activity 2 Fossil cast (10 minutes)

Materials Needed:

Flour and salt molding material: Make by combining 1cup salt/ 1 cup flour add sufficient water to make a soft dough. Make enough so that each student gets about ¹/₄ cup molding material

Fossil molds and fossil ID sheet

Small paper plates (1 per student)

Cupcake liners can be substituted for the plates.

Process:

Have students work their modeling material into a piece about the size of a thick hamburger patty. Allow the students to examine the fossils and see if they can identify a few. They can then select one to make an impression of the fossil l by pressing it gently into the modeling material. They can also make an impression of a thumb to remind them that footprints can also become fossils. They should write their name on the plate as well as the name of the fossil. Remind them that back in the classroom the impressions will dry after a day or two.

Activity 3: Fossil "excavation" (20 minutes)

Materials needed:

This can be somewhat messy, so you may choose to cover the table with paper. The trays do contain most of the mess.

Small plastic pieces of dinosaur toys, one small bag per student (save the directions for putting the toy together. These are to be distributed at the end of the activity.)

Using large white bowels, prepare a mixture of 5 Tablespoons school glue to $2\frac{1}{2}$ cups water that is used to moisten sand, into which the separate pieces of one toy have been placed in individual cupcake liners and the "excavation" left to dry. Drying time can vary, depending on how wet the sand was to begin. Suggest you allow 4 days drying time. Each student gets their own "excavation"

Chopsticks/skewers

Paintbrushes

Toothbrushes

Trays (to contain the excavation and tools, one per student)

Snack size baggies for students to take plastic "fossils" home.

Process:

You can show "Tools for digging up fossils". Tell students that they will become paleontologists and will be excavating a promising site to locate "fossils". They will use the tools of chopsticks, paintbrushes and toothbrushes to carefully remove the specimen from their dig site.

NOTE: Remind them that the "fossils" may be very small, so they should work carefully.

Allow students to explore their "dig" and to use their tools to dig out their specimens. Put student names on their baggies so that they can take their specimens home.

Debrief at the end:

Ask students to describe how easy or difficult it was to remove a specimen? Did it always come out intact? In pieces?

Activity 3:

Show the video on the La Brea Tar Pits and the Paige Museum as a location where students can see many fossils. Also point out that Sierra College has a good collection of fossils available for public viewing.

Supply List

Flour

Salt

Paper plates/cupcake papers

Fossils

Plastic dinosaurs (can be purchased intact from Amazon Vinyl Mini

Dinosaurs (72 count) or US Toy - Assorted Dinosaur Skeleton Toy Figures. Made of Plastic, (1-Pack of 12)

Play sand

Magnifying glasses

School glue

Snack size baggies

Plastic trays