DIY Dino Dig

Kids can be amateur paleontologists with this fun dino dig activity.

Grade: 3–5

Activity Time: 30–45 minutes (plus, 24–48 hours of dry time)

STEAM Subject(s): Science (Paleontology), Art

Supplies:

- 2 cups flour
- ¾ cup water
- 2 cups sand
- Elmer's White School Glue
- Large bowl for mixing
- Mixing spoon
- Tiny dinosaurs, small toys, animal figurines, seashells (or sticks and stones from your backyard!)
- Amateur paleontology tools like:
  - An old toothbrush
  - Cotton swabs
  - Paintbrushes
  - A magnifying glass
  - Craft sticks
  - Parchment paper

Instructions:

- Let's start by making some "fossils." Measure 2 cups of flour and ¾ cup of water into the bowl. Mix with a spoon or your hands to make a sticky paste.

- Slowly add half of the sand into the mixture, kneading it in until it's completely mixed.

- Add 2–3 large squirts of Elmer's White School Glue to the sand-flour-water dough. You don't have to use exact measurements, but your blob of glue should be about the size of a quarter! Knead the glue into the mixture. This will make your fossils harden.

- Repeat steps two and three, adding the rest of the sand and then more glue. Your finished "fossil" dough should be wet and sticky enough to be moldable but not so dry that the dough is falling apart. You can keep adding glue and sand to the mixture until it reaches the perfect consistency.

- Once you're ready, form the dough into "fossils" about the size of an orange.

- Push dinosaur or animal figurines, small toys, seashells, rocks, or stones into the balls. Fold the dough over the objects so they are covered.

- Let the fossils sit and dry for 48 hours. (Tip: The fossils harden faster if they're kept uncovered and stored in a dry spot.)

- Once the outside of the balls is hard and dry, let the kids chip away with their paleontology tools and dig for fossils, just like real paleontologists!

Learn More – STEAM Extensions:

- **What are fossils?** Fossils are traces of ancient organisms, like bones, teeth, shells, footprints, and impressions of skin or feathers, that have been preserved, which we can see and study today. The "fossils" you made aren't real fossils, but they are a fun way to get a taste of the way that real paleontologists study the ancient world.

- **What is a paleontologist?** Paleontologists study fossils to learn about the past, but also to help us in the future. Paleontologists often spend time excavating fossils out of rock, cliffs, and creek beds … just like you did today!

- **Go on a fossil hunt!** Fossils are found all over the world! In fact, no matter where you live, you could probably find traces of fossils out in your environment. Ask a trusted adult to take you to a wooded area, a creek or creek bed, or an area near you where there are lots of rocks. Use your paleontology skills to see if you can find some fossils. Pick up and observe rocks to see if you see patterns that look like shells, animals, or leaves. Study rock ledges or cliffs to see if you can see a fossilized layer in the rocks. Fossils are all around us, and they give us a unique and interesting look at ancient history.

Level Up – Options for Older Kids:

- **The Challenges of Paleontology.** Most fossils aren't just lying on the ground waiting for a paleontologist to find and study it. Instead, paleontologists have to slowly chip away at thousands of years of rock, dirt, mud, and grime to find the fossils they need to study. This is called excavation! When you excavated your dinosaurs from your fossilized rock today, it wasn't easy, was it? You had to use your tools to really chip away at the sand and glue mixture! Paleontologists face the challenge of having to excavate their fossils from all sorts of places, and so we challenge you to do the same. Using the same formula that you used before, see what happens if you replace the sand with kinetic sand, corn starch, large pebbles, or even dirt from your backyard. Do the different substances make it harder or easier to excavate the dinosaurs?

Standards Alignment:

Next Generation Science Standards

- 3-LS4-1: Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.
- 4-ESS1-1: Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time.

1. **Visit a local plant store or garden center.** Ask about the different kinds of plants they have and the different ways they take care of the plants. Do flowers need different care than vegetable plants? Do different types of plants need different kinds of soil?

1. **Grow your own plants from seeds!** Certain flowers and herbs sprout faster than others. Marigolds, nasturtiums, basil, radishes, and some types of lettuce grow quickly. Make a plant journal to write down observations of the plant's growth and development each day. Look at the color of the plant, length of the stem, size and shape of the leaves, and the appearance of any flowers. Another important part of the plant's structure is the roots, but they are difficult to observe because they are underneath in the soil, helping the plant take in water and nutrients.

Standards Alignment:

Next Generation Science Standards

- 2-LS2-1: Plan and conduct an investigation to determine if plants need sunlight and water to grow.
- 5-LS1-1: Support an argument that plants get the materials they need for growth chiefly from air and water.