WARNING:
CHOKING HAZARD - Small parts. Not for children under 3 years.
My First Dino — Activity Guide

A long time ago, dinosaurs were the most awesome creatures on earth. Then they disappeared. So how do we know so much about them? Because scientists have uncovered dinosaur bones, which tell us a lot about these giant creatures and what they were like.

In this kit, you’ll find everything you need to dig up your own dinosaur. You’ll put the bones together and have your own dinosaur to play with! You’ll also build a dinosaur that glows in the dark, and you’ll see how huge you can get a dino to grow. Along the way, you’ll learn some cool science about dinosaurs—what they looked like, how they lived and what happened to them. You’ll even discover where to find real, live dinosaurs today!

In each activity, you’ll get to act and think like a scientist. You’ll compare things, you’ll ask questions and you’ll also make observations using your different senses: You’ll use your eyes to see, your nose to smell, and your hands and fingers to feel.

Let’s dig up some dinosaurs!

**Note to Adult Helpers:** This kit is designed for children 4-8 years old. If your budding scientist is too young to read, please go through the information provided and share what you think your child can comprehend. Be sure to ask lots of questions and encourage creativity and experimentation. This kit will provide a great beginning for a lifetime of scientific exploration!

### What's included in the kit:
- Dinosaur excavation block
- Excavation tools — brush, chisel
- Glow-in-the-dark dino skeleton
- Growing dino
- Safety goggles

### What You need to get or use:
- Water
- Paper
- Large container (such as a bucket)
- Pencil
- Non-toxic glue
- Ruler
- Newspaper
- Lamp (or other light source)
- Sponge
- Scale (optional)

**Fun Fact:**
Scientists that study dinosaurs are called paleontologists.

**Fun Fact:**
Dinosaurs are reptiles. Reptiles breathe air, lay eggs and have skin with scales. Here are some other reptiles you might have heard of: snakes, lizards and turtles!
Activity #1: Digging for Dinos!

When people discovered the first dinosaur bones, which are called fossils, they didn’t know what they had found. They thought the bones came from dragons or giants! They also didn’t realize that fossils can easily break. That’s why scientists, including you, have to be very careful when digging up fossils.

What’s included in the kit:
- Dinosaur excavation block
- Dinosaur excavation tools
- Safety goggles

What You need to get or use:
- Non-toxic glue
- Newspaper
- Water
- Sponge

Let’s get started!

WARNING: Adult supervision required. Wear safety goggles at all times. When digging for dinosaurs, chips may fly off the block.

Step 1: Digging for dinos can get messy. Cover your work surface—a table or countertop—with newspaper to catch any bits and pieces that fall off your dino block. Before you put on your safety goggles, be sure to peel off the covering on both sides of the lenses.

Step 2: Place your dino block on top of the newspaper. Let’s make some observations! What does it look like? How does it feel? What does it smell like? Can you see any bones?

Step 3: Using your digging tools, gently start to scrape away at your block. Be careful—you don’t want to chip or break any bones! How deep do you have to dig to find your first bone? There should be 7 pieces in the block.

Step 4: When you come across a bone, continue digging around it very carefully. Scrape away all of the plaster around the bone before removing it from the block. Let’s make some observations! What do the bones look like? Are they all the same or different? What do they feel like?

FUN FACT:
The name dinosaur comes from Greek. It means “terrible lizard.”

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FUN FACT:
Today, a lot of dinosaur fossils are being found in China and South America,
Step 5: Using the brush from the kit, sweep away any plaster that remains on the bones. Once you’ve removed the bones from the block, you can wash them in water if you’d like.

Step 6: Now that you’ve removed and cleaned all of the bones, let’s see what you’ve got! Fit the bones together to form the dinosaur skeleton. Have an adult help you glue the bones together.

(NOTE: A non-toxic glue is recommended.)

WHAT’S THE DEAL WITH DINOS?

Dinosaurs ruled the earth way before there were ever any people. So how do we know so much about them? Through their fossils. Fossils are the remains of plants and animals that lived a long time ago. Fossils can be bones or teeth or even footprints, sometimes even feathers and fur are preserved. But it’s actually pretty rare for fossils to form—conditions have to be just right. Sometimes entire animals are turned into fossils when they’re frozen in really cold places, like Alaska. Sometimes plants disintegrate and leave behind an impression in the rock. The most common way that fossils form is for minerals to replace the original material and turn into rock.

Dinosaur fossils have been found on every continent, including Antarctica. (Look at a map. Can you find all seven continents?) By studying these remains, scientists have learned a lot about dinosaurs. We know that they built nests and laid eggs. They had four limbs, like your arms and legs—some of them walked on two legs, like people, and some walked on four legs, like dogs. Some of them ate meat, some just ate plants and some ate both meat and plants. Some dinosaurs even had horns and other kinds of armor.

Look at your dinosaur skeleton. What can you tell about it just by looking at its bones?
Activity #2: How Does Your Dino Grow?

The largest dinosaurs were gigantic—way bigger than anything you’ll find on earth today. Let’s see how big you can get your dino to grow!

What's included in the kit:
Growing dino

What You need to get or use:
Water
A large container
Paper
Pencil
Ruler
Scale (optional)

Let’s get started!

Step 1: Before you get your dino to grow, let’s see how big it is to start with. Place the dino on a sheet of paper and using a pencil, trace around it. If you have a ruler handy, take some measurements and write them down. How long is your dino? How tall is it? You can even weigh it if you like. Is your dino very heavy? How does it feel? Is it smooth or rough? What color is it?

Step 2: Now place your dino in a large container—the larger the container, the bigger your dino will grow!

Step 3: Fill the container with cold water; enough to completely cover your dino. Note: Do NOT use hot water. It will hurt the dino.

Step 4: Let your dino soak in the water overnight.

While you’re waiting, check out the next fun activity!

Step 5: In the morning, take your dino out of the water. How does it look? Is it bigger? How does it feel? What about the color?

Step 6: Let’s measure your dino again to see how much it’s grown. Remember that piece of paper that you traced your dino on? Let’s trace it again! Using your ruler, measure how long your dino is and how tall. How does this compare with your first measurements? Put it on the scale. Does it weigh more?

Fun Fact:
One reason dinosaurs were so big is that their size protected them against
**Step 7:** If you want your dino to grow some more, put it back in the container with fresh water and let it soak overnight again. Keep observing for a couple of days—repeat your measurements and refill the container with fresh water. How big does your dino get?

**Step 8:** To shrink your dino, take it out of the water and place it on a clean surface to dry. Does it shrink back to its original size?

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**WHAT’S THE DEAL WITH DINOS?**

So how did your dino get so big? It was made out of a super absorbent material called **sodium polyacrylate** (SO-dee-um PAH-lee-ack-ri-late), which is the same stuff used in baby diapers. It can hold a lot of liquid! It soaks up water and expands like a sponge—that’s how your dino grew.

Did you know that not all dinosaurs were huge? A lot were the size of people or even smaller. But certain kinds of dinosaurs were enormous. The only thing on earth today that even comes close in size is the blue whale. So how big did dinosaurs get? Well, the tallest dinosaur could reach as high as a six-story building, the longest was 190 feet long, (that’s about half a football field) and the heaviest weighed about 500,000 pounds!

Even though these giants disappeared, became extinct, there are still some smaller dinosaurs alive today. You see them all the time—there might even be one in your yard right now. Can you guess what they are? Birds! Birds are the direct descendants of certain kinds of dinosaurs. Suddenly birds seem way cooler than you ever thought!

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**FUN FACT:**

Not all creatures died off with the dinosaurs. Crocodiles were around back then and are still around today!

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**Activity #3: Make Your Dino Glow!**

Want to amaze your friends? Let’s get your dino to glow!

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**What’s included in the kit:**

Glow-in-the-dark dino skeleton—11 pieces

**What you need to get or use:**

Lamp (or other light source)
Let’s get started!

Adults: Your child may need your help putting the skeleton together.

Step 1: Assemble the skeleton:

• Find the spine and tail pieces and snap them together.
• Find the ribs and snap them into the spine, with the large hip bones pointing toward the tail.
• Find the legs and snap them into the holes of the hip bones.
• Loosely snap the two sides of the skull together around the ball at the end of the neck.
• Snap the jaw into the skull, and then completely snap together the top of the skull.
• Snap the hands into the holes in the ribs.

Step 2: Now that you have a complete skeleton, let’s make some observations! How does this dino compare with the others in the kit? Is it bigger or smaller? What about the color of the bones or the way they feel? How is it the same or different?

Step 3: Hold your dino up to the light for a few minutes. Then turn off the light and watch your dino glow in the dark!

How long does it glow? Experiment and see if you can get it to glow longer!

WHAT’S THE DEAL WITH DINOS?

You were able to see your glowing dino in the dark. But you won’t see any of these giants walking around today. Why not? What happened to the dinosaurs? This has been a big mystery for scientists.

After studying fossils, most scientists think that a major event, or several events, changed the climate on the earth. One idea is that a giant asteroid hit the earth, another is that there were a lot of massive volcanic eruptions.

This made the earth’s temperature colder, which caused animals and plants to freeze. There was less oxygen in the air, which made it harder for the dinosaurs to breathe. And with fewer plants and animals around, there was less food for the dinosaurs to eat. Eventually, except for birds, all of the dinosaurs died off—they became extinct.
Name Your Dino!

There are lots of different kinds of dinosaurs—we’ll describe a few of them for you. Take a look at your dinos from all of the activities in the kit. What kind do you think your’s are?

TYRANNOSAURUS REX:
The name means “Tyrant Lizard King.” The T. Rex walked on two legs. Its arms were very small compared with the rest of its body, but they were very strong. It was one of the largest meat eaters to ever walk the earth!

STEGOSAURUS:
The name means “Roof Lizard.” It walked on all fours, with a rounded back and its head low to the ground. It’s one of the easiest dinosaurs to recognize because it has plates on its back and spikes on its tail. It was about the size of a bus!

BRACHIOSAURUS:
The name means “Arm Lizard.” It had a very long neck and front legs—kind of like a giraffe. It walked on all fours and was a plant eater. It was one of the largest animals ever!