

# ARE YOU READY TO GO BACK IN TIME? GET READY FOR A TRIP THROUGH THE AGES AS WE LEARN ABOUT DINOSAURS!

Dinosaurs were ancient reptiles that roamed the Earth millions of years ago. Hundreds of species of dinosaurs have been discovered so far and they came in all shapes and sizes. Some dinosaurs walked on four legs, some walked on two legs, some were as small as a cat and some were taller than a house! Scientists who study ancient living things, like dinosaurs, are called paleontologists. They learn about dinosaurs by finding and studying fossils, which are the remains of ancient living things. Fossil bones are bones that have been replaced by rock and minerals over a very long time. By looking at fossil remains of dinosaurs, and comparing them to animals alive today, paleontologists can understand what dinosaurs may have looked like, how they moved and how they lived!

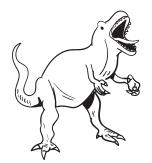
## DAY 2:

### DINO DASH

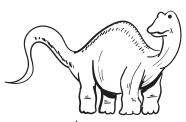
Dinosaurs (except birds) are extinct, which means that there are no members of their species alive today. If we can't go outside and observe them in the wild, how do we know what they moved like? Fossils of dinosaur bones can help us figure out how dinosaurs may have moved by showing us what their skeletons looked like. Paleontologists can compare the fossils of dinosaurs to the skeletons of modern animals alive today. Since scientists can observe modern animals in the wild, they can see how these animals use their skeletons to move. Animals and dinosaurs that have similar skeletons or body shapes probably moved in similar ways!

#### Before you start, you should have:

- An area where you can move around or run
- Pictures of two dinosaurs
- Pictures of two modern animals



Saurophaganax



**Apatosaurus** 



alligator



ostrich

#### **Get started:**

- 1. Look at the different dinosaur and animal pictures and think:
- How many legs do they have?
- How are their bodies similar and different?
- How do you think each animal walked?
- Do they have anything that might affect how they move, like wings or a long tail?
- 2. Set the boundaries for the area you are playing in you'll need room to move at least 20 feet.
- 3. In the area, pick a start line and a finish line.
- 4. Before starting, practice moving like the different dinosaurs and animals:
- Saurophaganax: walk on two legs, leaning forward with your arms stretched out behind you like a tail
- Apatosaurus: bend over to walk on your hands and feet directly underneath your body (if you have trouble balancing, you can walk on your hands and knees).
- Ostrich: walk on two legs with your arms tucked by your sides like wings
- Alligator: walk on your hands and feet with your hands and feet positioned out to the side of your body (if you have trouble balancing, you can walk on your hands and knees).
- 5. Moving like Saurophaganax, race from the start to the finish line. Go back to the start.
- 6. Moving like Apatosaurus, race from the start to the finish line. Go back to the start.
- 7. Moving like an ostrich, race from the start to the finish line. Go back to the start.
- 8. Moving like an alligator, race from the start to the finish line.
- 9. Compare how each dinosaur and animal moved.
- Which modern animal moved like a Saurophaganax?
- Which modern animal moved like an Apatosaurus?
- If you discovered a new dinosaur that had two long back legs and much shorter arms, do you think it would more like an ostrich or an alligator? Why?
- If you discovered a new dinosaur that had four legs, do you think it would more like an ostrich or an alligator? Why?
- Did the Apatosaurus and alligator move exactly alike? What was different about how they moved?

#### What did you find?

What did you discover? Upload a photo or video and tag the Sam Noble Museum on Instagram or Facebook. You can also use the hashtags **#samnoblehome** and **#summerexplorers** to share!

## Keep Exploring!

- Use a timer to see how long it takes you to race from the start to the finish line as each animal or dinosaur.
- Challenge a partner to race with you! Have each player race as a different dinosaur or animal and see who can reach the finish line first.
- Add obstacles to your dash!
- Dinosaurs have legs that are positioned under their bodies, rather than out to the side like an alligator. To see how four-legged dinosaurs, like the Apatosaurus, moved their legs, look at the movement of elephants: <a href="https://www.youtube.com/watch?v=qiXADxRECus">https://www.youtube.com/watch?v=qiXADxRECus</a>

# More information on how dinosaurs moved:

https://www.youtube.com/ watch?v=7ABSjKS0hic&vl=en-US



https://www.smithsonianmag.com/science-nature/dinosaur-division-is-all-in-the-hips-20477310/

