What Makes a Dinosaur a Dinosaur?

Activity for Grades 5–8

Introduction

What distinguishes dinosaurs from other reptiles? Reptiles, such as crocodiles and lizards, have legs that sprawl out to the side. Their thigh bones are almost parallel to the ground. They walk and run with a side-to-side motion.

Dinosaurs, on the other hand, stand with their legs positioned directly under their bodies. A hole in the hip socket permits this upright stance. This posture allows dinosaurs to run faster and with greater endurance than other reptiles that are the same size.

During the Age of Dinosaurs there were other reptiles living on the land and in the seas. While these animals lived alongside dinosaurs, they did not have a hole in their hip socket and thus were not dinosaurs. Modern birds are one kind of dinosaur because they share a common ancestor with non-avian dinosaurs. They have features such as the three-toed foot and s-shaped neck, and therefore are classified as dinosaurs.

Objective

In this activity, students will explore dinosaur stance and the dinosaur-bird connection.

Materials

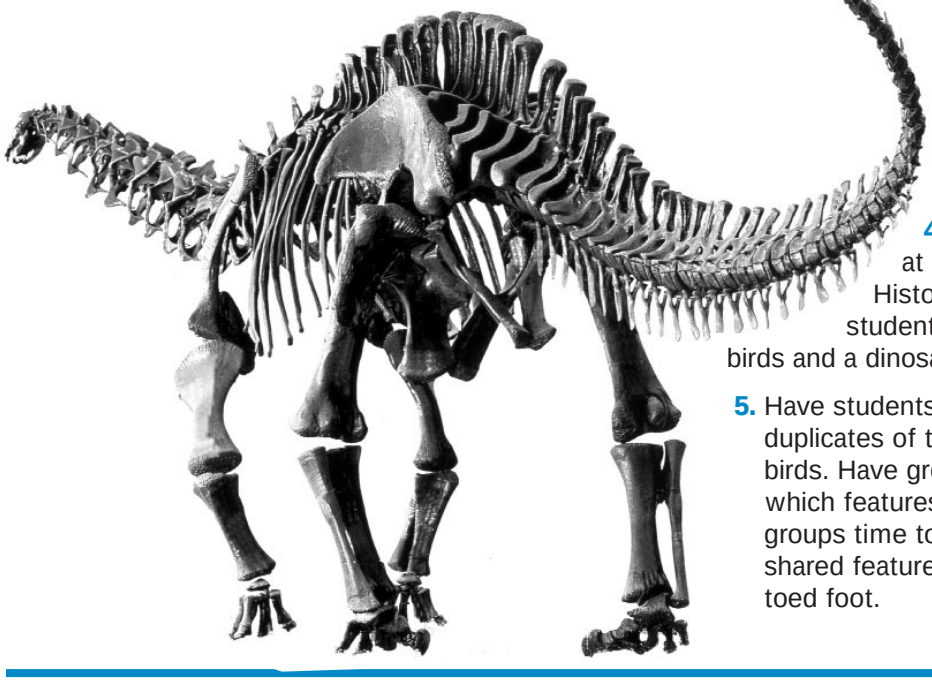
- Picture of a four-footed dinosaur, such as *Apatosaurus*
- Picture of a lizard and birds (from a nature magazine or calendar)

Procedure

1. Display the picture of the lizard and the picture of the dinosaur. Have students compare the stances and conclude that the lizard's legs are sprawled out to the side, while the dinosaur's legs are directly underneath its body. Tell students that all dinosaurs had a hole in their hip socket that allowed them to stand this way. The hole in the hip socket distinguishes dinosaurs from other reptiles.

2. Call on volunteers to duplicate the lizard stance by assuming a crawling position and then moving their arms and legs out to the side. Back feet should point forward, hands should point slightly away from the body. Have volunteers walk forward as students observe. (They should shift their weight from side to side (waddle), move slowly, and awkwardly.)

3. Call on volunteers to duplicate a quadrupedal dinosaur stance, with arms and legs positioned directly under their bodies. Have volunteers walk forward as students observe. (They should move more quickly, not as awkwardly.)



4. Tell students that paleontologists at the American Museum of Natural History classify birds as dinosaurs. Tell students they will examine pictures of birds and a dinosaur to find similarities.

5. Have students work in groups. Distribute duplicates of the *T. rex* skeleton and pictures of birds. Have groups compare the two and note which features the two animals share. Give groups time to share their findings. Some shared features are: s-shaped neck and three-toed foot.