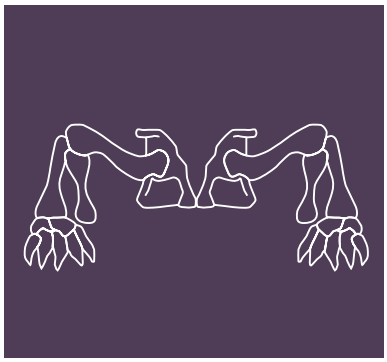
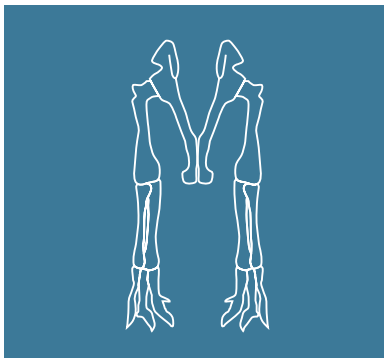
Thump, thump, thump or ... HOW DINOSAURS MOVED

DID YOU KNOW that a defining feature of a dinosaur—like *Velociraptor*—is a hole in the hip socket? This feature allowed dinosaurs to walk upright. Other reptiles, like crocodiles, do not have this feature. Look at the drawings on this page. On a separate sheet of paper, answer the following questions, and be sure to write down the reasons for your answers. The activities on the right will help you figure out the answers.



Crocodile Hip (head-on view)



Dinosaur Hip (head-on view)

Assuming the two animals are about the same size,

- Which animal do you think could run faster, the crocodile or the dinosaur? Why?
- Which do you think might grow taller? Why?
- Which do you think might have a heavier body? Why?

Looking at your answers, how do you think dinosaurs differed from crocodiles in the way they moved?

HIP FACT

For decades, scientists believed that *T. rex* stood upright, propped on its tail. Based on new evidence, scientists now think that *T. rex* walked with its body parallel to the ground, more like modern birds.

BIRD VS. LIZARD

You can understand the difference between dinosaurs and other reptiles by looking at other animals alive today! Birds are now considered by scientists to be a kind of dinosaur. Observe a bird as it walks along the sidewalk or in your backyard. Then observe a lizard in the wild (or a pet store). As you look at each animal, notice the position of its legs, then write your observations down. If birds are living dinosaurs, what inferences can you make about the way in which *T. rex* moved?

ANIMAL PUSH-UPS

Pretend you're a dinosaur. Do two push-ups with your hands directly beneath your body. Then do two crocodile push-ups, with your arms way out to the side. Which is easier?

REPTILE RACES

Have a friend record your time for each of these races: First, walk across the room normally. Notice that when you're standing, your legs are directly beneath you, like a dinosaur's. Then, walk across the room like a crocodile, with your legs spread and your feet pointing outward. What's the difference in your time?

ANSWERS Main Activity: Because of the hole in the dinosaur's hip socket, its legs are positioned beneath its body. In this position the dinosaur can run faster, support more weight, and grow taller. Bird vs. Lizard: Answers may include: A bird's legs are positioned directly beneath its body (like the dinosaur). It can walk faster than the lizard. The lizard's legs stick out to the side.