

Dinosaurs are Different

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I like to visit the dinosaurs. I like to study their skeletons. I have found out a lot about dinosaurs by looking at their bones. The minute I saw Tyrannosaurus, I knew it was a meat-eater. A meat-eater's teeth are long and pointy. But Iguanodon could never chew meat. Its teeth are too flat. They were made for crushing and grinding plants. I noticed something else. Look at their hips. Tyrannosaurus has a big bone pointing forward, Iguanodon doesn't. I looked at other skeletons. I was that some dinosaurs have hips like Tyrannosaurus. Others have hips like Iguanodon. I wondered what this meant. I soon

found out. Dinosaurs are different. Tyrannosaurus and Iguanodon were cousins. Each belonged to a different order of dinosaurs. Tyrannosaurus was a SAURISCHIAN dinosaur. Iguanodon was an ORNITHISCHIAN dinosaur. Saurischia and ornithischia belong to a larger group called ARCHOSAURIA-"ruling reptile." There were others in the archosaur group - THECODONTS, CROCODYLIANS, and PTEROSAURUS. But there were more dinosaurs than other archosaurs. Dinosaurs ruled the earth for 140 million years. All dinosaurs are either saurischians or ornithischians. They are divided into these two separate orders because they have different structures. One big difference between the two groups is their hips. Saurischians are "lizard-hipped" dinosaurs. They have hips like

other reptiles. One pelvic bone points forward. The other points backwards. Ornithischians are "bird-hipped" dinosaurs. They have hips more like a bird's. Both pelvic bones point in the same direction – backward. Their jawbones are different, too. A saurischian has a dentary – a main jawbone that holds the teeth. So do other reptiles. But an ornithischian has an extra beaklike bone in front of its teeth called a prementary. No other reptile has a prementary. The clues help us tell saurischian dinosaurs from ornithischian dinosaurs. But you can be fooled. Even dinosaurs belonging to the same order are different. The saurischians are divided into two suborders – SAUROPODA and THEROPODA. Most of the sauropods were plant-eaters. Most were gigantic, and they all walked on four legs.

Theropods all walked on two legs. All of them ate meat. *Coelurosaurs* were small theropods. *Deinonychosaurs* were clawed theropods. *Carnosaurs* were the giant theropods. They were the fiercest of all. There were different kinds of ornithischians, too. They are divided into four suborder – ONITHOPODA, CERATOPSIA, STEGOSAURIA, and ANKYLOSURIA. Ornithopods had two strong legs. They could run very fast from their enemies...or they could swat them with a forceful tail. *Hadrosaurs* were duck-billed ornithopods. Duckbills had hundreds of teeth and a flat beak. They had webbed feet, and strong tails shaped like paddles, to help them swim. Crested duckbills had bony crests on top of their heads. *Psittacosaurus* and *Pachycephalosaurs* were ornithopods, too. *Psittacosaurus* had a parrot-like

beak. *Pachycephalosaurs* was a dome-headed dinosaur. The rest of the ornithischians - ceratopsians, stegosaurs, and ankylosaurs - all walked on four legs. They all had tough skin and bony protection. Ceratopsians were horned dinosaurs. Stegosaurs were plated dinosaurs. Ankylosaurs were armored dinosaurs. Horned, plated, and armored dinosaurs were clumsy and slow. They could not outrun their enemies. But who would want to get too close? Not I. And I don't have to worry. Dinosaurs died out 65 million years ago. But I'm glad they left their bones behind. That's how we know so much about them.

his head.