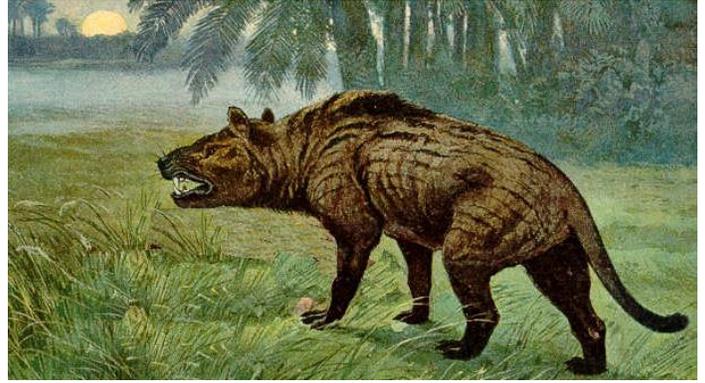


Ancient Life Matching Game

You spent all day yesterday using a brand-new time machine to study prehistoric organisms which are plants, animals, or single-celled life forms that are now extinct. You went to bed dreaming of these creatures when you woke up to some strange noises. Oh no! You left your time machine on and now your room is full of prehistoric organisms! How are you going to figure out what time period each of these creatures belong in so that you can get them home safely? Luckily, you have your geologic time scale ready! Read about each prehistoric creature and use clues in your geologic time scale to match the creature to its home time period.

Hyaenodon



This mammal was one of the most successful carnivores of its time as different species have been found across North America, Europe, Asia, and Africa, and came in different shapes and sizes. Despite its name, it is not related to hyenas or any modern carnivore. Modern mammalian carnivores have one pair of teeth that act like scissors to get teeth. Hyaenodon had 3 pairs packed in a big skull for its body size and were very large, with long slender legs. There is evidence that it ate various hoofed animals and may have even fought other carnivores!

Placoderms



Placoderms are a group of prehistoric fish that had bony plates along their head and neck. These bony plates acted like a knight's armor, protecting the fish's head and neck area. Not only were the plates useful shields, they also helped the fish eat. Placoderms didn't have teeth, but since they were the first fish with jaws, they were able to open their mouths like we do. As their mouths opened and closed, the bony plates along their mouths would rub against each other and sharpen and were then able to function like teeth.

Plesiadapis



One of the earliest ancestors to primates, although it kind of looks like a squirrel crossed with a lemur. However, this animal thrived in the forests, originating in North America and eventually ending up in Europe. It climbed trees with its short, robust limbs ending in curved claws and a long tail to help it grip on to trunks and branches.

Trilobite



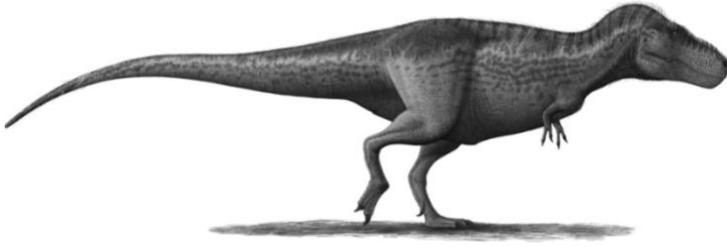
This is an arthropod that lived in the ocean. Trilobites are the first animals to have eyes; however, they weren't soft like ours but actually had hard lenses made of calcite. Since their eyes were made out of a mineral, they preserved in the fossil record.

Nautiloid



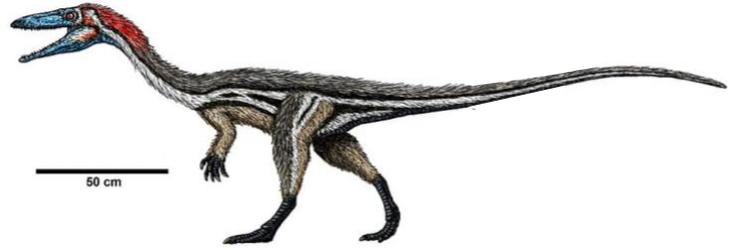
This aquatic hunter had a long straight shell and tentacles. Their shells had multiple chambers that aided in buoyancy and they shot water out of an internal funnel to move. Their tentacle helped them hunt by being able to grab their food. Nautiloids are some of the earliest cephalopods.

Tyrannosaurus



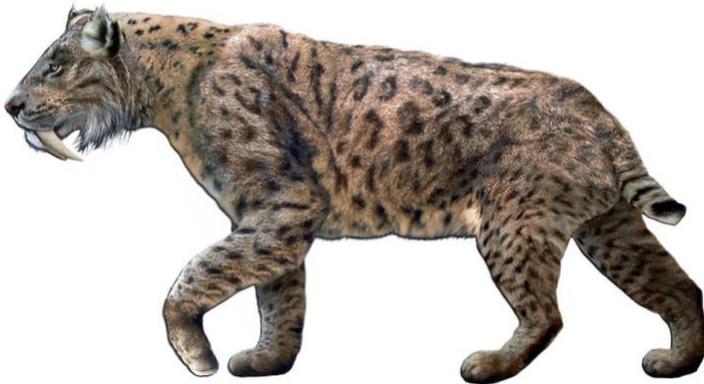
The “tyrant lizard.” One of the last of the non-avian dinosaurs. Its ancestors originated in Asia and eventually came to North America. Tyrannosaurus lived in what is now Montana, the Dakotas, Wyoming, and Canada. It had tiny arms with two fingers, but that did not matter when it had a large mouth to grab things and a bit that could crush bone!

Coelophysis



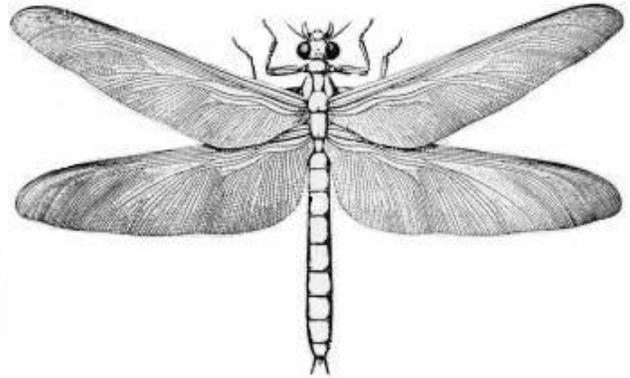
Coelophysis is one of the earliest dinosaurs. They were predators that were small, lean, and walked on 2 legs. In New Mexico, in a town called Ghost Ranch, a large flock of them were discovered and likely were buried in a flash flood millions of years ago.

Smilodon



This cool cat is commonly called a saber-toothed tiger, but they aren't closely related to modern tigers or lions. They were much larger than modern tigers and lions, weighing up to 620 pounds! Their upper canine teeth so sharp and long that the canine teeth stayed outside of their mouths and extended past their jaws. Their teeth were a great tool to hunt the large herbivores that lived among them.

Meganeura



This is an insect that is very similar to a dragonfly except it was giant and had a wingspan of over 3 feet! Meganeura lived with other giant insects but why were the insects so much bigger than they are today? Insects breathe oxygen like we do, and scientists discovered that when an insect's environment has more oxygen, they are able to get bigger. That means Meganeura lived in a time period with a lot of oxygen.

Proconsul



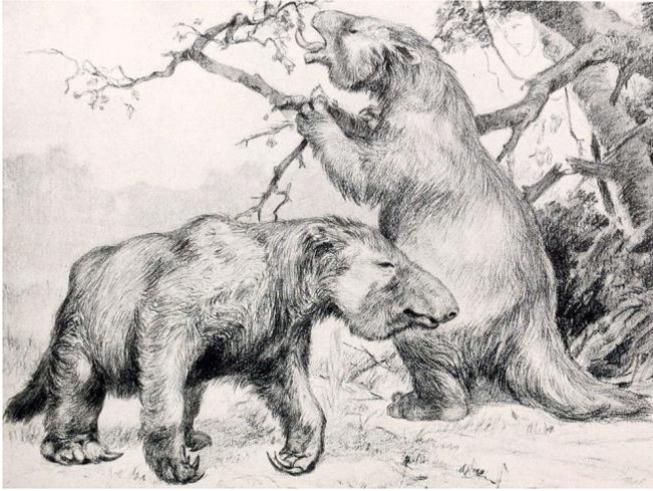
Proconsul is a primate with monkey and ape traits. They moved like monkeys by running on tree branches but like apes, they didn't have a tail. Proconsul had a brain larger than monkeys, which is an ape trait. Because of the mix of monkey and ape traits, scientists debate which group Proconsul should belong to; however, they do agree that Proconsul was present around the same time that apes first appeared.

Dimetrodon



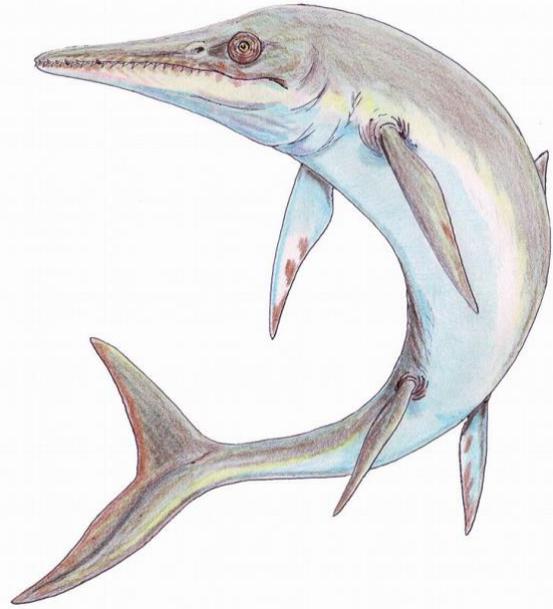
Dimetrodon was a large 4-legged predator with a sail along its back. Paleontologist aren't sure what the sail was for, some say it was used to control the Dimetrodon's body temperature and others say it was used to attract mates (like peacocks do.) While it may look like a dinosaur, Dimetrodons were around before the dinosaurs and are actually more closely related to mammals than dinosaurs.

Megatherium



Megatherium's closest modern relatives are the slow, tree dwelling 3 toed sloths, but don't let that confuse you! This ground sloth grew up to 20 feet long and weighed up to 4 tons! Megatheriums were some of the largest mammals ever. Even though they look a bit scary with their large claws and teeth, they are actually herbivores (plant eaters.) They had narrow mouths and strong lip muscles which allowed them to find fruit in fields and grab blades of grass.

Ichthyosaur



This marine reptile looked remarkably like a fish or a dolphin. It swam in the sea eating fish and shelled squids called ammonites and belemnites. Its body was built for swimming quickly in the water. It could even dive into deep waters and was able to see in there with its large eyes.

Ambulocetus



Meaning "walking whale," Ambulocetus is an ancestor to whales and dolphins. With marine reptiles out of the water, that leaves room for mammals to go swimming. Originating in what is today Pakistan, Ambulocetus would go into rivers and lakes and live very similar to a crocodile, eating fish and ambushing prey that got close. Like modern whales, it likely swam moving its body up and down. Ambulocetus shows the land origin of whales and over time, its descendants would get larger, its front feet would become flippers, its back feet would disappear, and its tail would have a fluke.

Tiktaalik



Do you think Tiktaalik looks like any modern animal? This animal is unique because it has some fish traits and some reptile traits. Tiktaalik is a lobe-finned fish, which is a group of fish with fleshy fins that are attached by a bone. Tiktaalik's fins were more evolved than other lobe-finned fish because it had arm and wrist bones like a crocodile which allowed it to prop itself out of water. They shared other traits with crocodiles like a flat head with eyes on the top and a moveable neck.

