



Scavenger Hunt Tour with Answers

1. Let's start at the *Tyrannosaurus rex*. Take a look at its teeth. Do you think *T. rex* was a plant-eater (herbivore) or a meat-eater (carnivore)?

T. rex was a meat-eater (carnivore). Tyrannosaurs, the group *T. rex* belongs to, were likely relatively good parents for dinosaurs, where the adults would have hunted for their offspring. In fact, more and more evidence suggests that some types of tyrannosaurs may have hunted with their family for their whole lives!

2. How many years ago did *T. rex* live?

T. rex lived about 70 million years ago. Remember this number, it will come up again soon!

3. Look up at the two animals next to *T. rex*'s head. Do you think those are flying dinosaurs or other kinds of animals?

These animals were not dinosaurs. In front of *T. rex* is *Pteranodon*, a pterosaur that lived at the same time as the dinosaurs. It flew and it is a reptile, but it is not a dinosaur because it has wings made of skin and a single finger, which dinosaurs do not have. Above the back of *T. rex* is *Mosasaurus* sp. which is not a dinosaur either. Mosasaurs are marine reptiles with flippers, rather than legs like dinosaurs. They also lived in the shallow, warm sea that covered the prairies at the time, whereas no dinosaurs are known to have lived full time in the water. (Mosasaurs also didn't fly, but up high was a good place to display it in the museum!)

4. How do you think *Triceratops* got its name?

Triceratops got its name from the three horns on its head. Those and the large frill at the back of their skulls were probably not often used for defence. They might have been more often used for courtship displays to attract mates, and to intimidate and fight off rivals. The frill may also have been used to help regulate body temperature by pointing it away or towards sunlight, like how elephants can move their ears for the same reason.

5. Did you notice the stone walls and benches in front of the *T. rex* and *Triceratops*? They are made of Tyndall Stone. Can you find and draw five different fossils?

You can see Tyndall Stone all over campus. It is made of sediment from the bottom of a sea that covered much of North America 450 million years ago, a long time before the dinosaurs! In

it are fossils of animals like snails, sponges, corals, and nautiloids. The mottled pattern is due to fossilized burrows probably made by ancient worms or shrimp.

6. How many plates does our *Stegosaurus* have on its back?

There are 21 plates on our *Stegosaurus*. These may have helped it stay cool or warm by pointing them away or toward sunlight. The plates could also have been used in mating displays by flushing them with blood and making any skin colours more vibrant.

7. How many spikes does *Stegosaurus* have on its tail?

There are 4 spikes. These long, sharp spikes at the end of the tail likely were used as a defence against predators and perhaps used to fight rival stegosaurus. It is called a thagomizer, named from a Far Side cartoon!



8. Look at the *Stegosaurus*' teeth. Do you think the *Stegosaurus* was a plant-eater (herbivore) or a meat-eater (carnivore)?

Stegosaurus was a plant-eater (herbivore). It probably ate plants like ferns, mosses, fruits, cycads, conifers, and horsetails. It wouldn't have eaten grasses though, as grasses did not evolve until much later.

9. When did *Stegosaurus* live? How long before *T. rex* is this?

Stegosaurus lived 150 million years ago which is 80 million years before *T. rex*. The period of time that separates *T. rex* from *Stegosaurus* is longer than the period that separates us from *T. rex*!

10. Let's head over to the fish tanks. Can you find a spiky urchin and a soft anemone?

Invertebrates are animals that do not have backbones or vertebrae. At least 97% of all animals on Earth are invertebrates: anemones, urchins, insects, snails, squid, worms, corals, and more.

11. Can you find three fish from a famous movie?

We have Nemo the clownfish, Dory the regal blue tang, and a Bubbles the yellow tang!

12. Take a close look at the black ghost knife fish with the rippling fin. Does it remind you of any other kind of fish?

Electric eels are knife fish. Knife fish have special organs that produce electrical currents used to locate prey, navigate their dark environment, and communicate with each other. Electric eels are the largest of the knife fish, and they can produce electrical currents powerful enough to stun or kill even large animals.

13. Let's go back over to the other live animals. How many frogs can you find?

There are 3 frogs that live here at the museum. They are good at hiding so you might not see them all! They are northern leopard frogs. They can be green or brown and their name comes from their dark leopard-like spots.

14. Ferns are a type of plant with leaves known as fronds. Looking at the ferns in the museum, do you think they produce flowers?

Ferns don't produce flowers. Unlike most modern plants, ferns do not produce seeds or flowers. Instead, they produce spores that they then disperse into the wind. You can often see groups of these spores on the underside of fern leaves, which look like little brown dots.

15. Can you find the *Eryops* skeleton? What group of animals do you think it belongs to?

Eryops is an amphibian. It was one of the largest animals on land at the time it was alive, weighing around 200 pounds. It lived a similar life to a modern crocodile, being a carnivore that would have hunted mostly in the water.

16. Do you see Rocket, our resident snake? Sometimes he hides!

Rocket got his name because he moves fast. He's a subspecies of the common kingsnake, often called Brooks' kingsnake. This kingsnake subspecies can be found in South Florida farmlands, swamps, and everglades, and they are non-venomous and not harmful to humans.

17. Can you find the biggest tree in the museum?

The biggest tree in the museum is a Buddhist pine and it is just to the left of the lovebird enclosure. Conifers like this are very common in Canada, Many conifers have special adaptations to survive and thrive in extreme winters and forest fires.

18. Do you know which plant is bamboo?

The bamboo is just to the right of the waterfall, and you may recognize its thin trunks with distinct sections you often see in furniture and home décor. It looks like a tree but it's actually the largest kind of grass. It's also the fastest growing plant in the world, with some kinds growing as fast as 4cm an hour! Bamboo is a useful building and crafting material around the world and easy and sustainable to grow.

19. How many horse skeletons are in the horse evolution display along the wall? How are they different? Take a look at their sizes, their teeth, and their feet.

There are 5 skeletons. This series shows the evolution of the horse as the cooling climate in North America resulted in a shift from tropical forests to dry open grasslands. Horses adapted by developing larger, harder teeth that could better eat rough grasses and taller, and longer legs with hooved feet to give them a higher viewpoint while also allowing them greater speed to outrun predators in such a wide-open space.

20. What do you think the colourful wall mosaics are showing?

The two on the right show stages of cell division, and the one on the left shows stylized cells. The artist is Roy Kiyooka and you can see more of his biology-themed work upstairs across from the Tim Hortons.

21. Do you have a favourite cactus? What does it look like?

Cacti come in many shapes and sizes. They have thick, waxy skin to help them retain water in dry environments, and many have spines to protect them from the animals that would love to get at the water inside them!

22. Can you guess how degus clean themselves?

Degus take dust baths to keep their fur from getting too oily. They are very social, living in groups within their burrows in the wild. Our resident degus are named Cinnamon and White Stripes.

23. We have some amazing minerals in the hallway past the tall tree! Can you find fulgurite? It's one of the first ones just past the tree. How do you think it might have been made?

Our fulgurite specimen is on the top shelf in the right-most display on the window side of the hallway. This is a locally collected piece of fulgurite and it was created by a lightning bolt

striking sand, superheating the grains and melting them into a piece of glass in the shape of the lightning bolt. In a way, it is “frozen” lightning!

24. What is the mineral that looks like gold cubes called?

This mineral is called pyrite. It often forms with perfect iron and sulphur rich cube crystals. It is also called fool’s gold. Many of our specimens are from Spain and were formed between 80 and 20 million years ago with the Pyrenees mountains.

25. Where do you think meteorites come from?

They come from the asteroid belt between Mars and Jupiter. Most meteorites are fragments left over from collisions that happened when the solar system was forming. Sometimes the collisions shattered entire early planets. We can’t directly study the core of our planet, but meteorites made from the inside of these planets help us understand the inside of Earth and other planets in the solar system today.

26. How often do you think meteorites land in Canada?

Meteorites land in Canada about once every 6 years. Not many meteorites have landed in Saskatchewan, but if you are old enough, you may remember the Buzzard Coulee meteorite which was spotted by hundreds of people all over central western Canada on November 20, 2008. Since then, more than a thousand fragments have been found, a record for Canada.

27. What is your favourite rock or mineral? What do you like about it?

Do you like its colour? Its shape? The way it shines (or not)? What is it called? Where is it from?

28. If you head up to the second-floor hallway, you can learn more about the history of Earth and life on it. How old do you think the oldest rocks on Earth are?

Some rocks are over 4 billion years old, like the Acasta Gneiss on an island 300km north of Yellowknife. In The Oldest Rocks display, you can see several rocks that are over 2 billion years old, like stromatolites. These rocks were formed by the cyanobacteria that are thought to be responsible for creating our oxygen-rich atmosphere through photosynthesis.

29. Can you find some fossilized leaves or plants?

There are some examples in the Green Revolution and Emergence of Modern Flora displays. Did you know that tropical plants grew way up north in the past? The Earth was much warmer then. Forests existed in places like northern Nunavut until around 3 million years ago. They were replaced by tundra when the ice ages began.

30. Can you spot some trilobites? They look a bit like crabs or insects.

There are some examples in the Animals with Skeletons and The Super-continent displays. Trilobites are some of the oldest animals to live on Earth and they became extinct 250 million years ago, a long time before the dinosaurs. Their bodies are divided into three parts from head to tail and in three parts from side-to-side and that's why they are called trilobites.

31. Can you find *Archaeopteryx*? Do you think it is a bird or a dinosaur?

It's in the When Reptiles Ruled display. *Archaeopteryx* is a small dinosaur with feathers and wing like arms. *Archaeopteryx* provides proof that birds are a type of dinosaur as it has traits that resemble both birds and other dinosaur types.

32. There is big tusk in the display at the end of the hallway. What animal did it come from?

The tusk came from a mammoth. Mammoths lived until quite recently and lived all over the prairies in herds like today's modern elephants. They lived so recently that some mammoths were still around after the first pyramids in Egypt were built!

33. If you head back towards the central area of the museum, you will get a good view of the hanging art banners. What animals do you see?

There is a snake (emerald tree boa), a red fox, a fish (a stout bodied perciform fish, maybe a bluegill), a bittern, a sunflower, and a frog (probably a leopard frog).

34. If you were going to add a banner, what animal would you add?

Why did you choose that? Would you draw or paint it? What colours would you use?

35. Look up! How many flying *Rhamphorhynchus* do you see?

There are 5 *Rhamphorhynchus*. These were flying reptiles that lived in North America alongside the dinosaurs and went extinct at the same time. They probably lived like modern albatrosses or other seabirds, hunting fish, and gliding long distances over the ocean.

36. Bonus question: Can you find the museum manager's office? What is the manager's name?

The office is on the main level behind the aquariums. Our manager's name is Erica. Stop and say hi if she is there. We hope you enjoyed your visit!