



Scavenger Hunt: High School Edition

Hints:

1. If you follow the exhibits in order, it will be easier to find the answers.
2. MYA/mya = millions of years ago.
3. In the questions themselves, you will find more hints as to which exhibits will help you.

Ready—Set—Search!

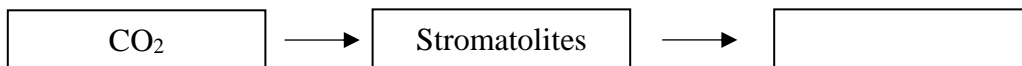
1. Draw and label the four layers of the Earth with thicknesses of each layer.

Word bank: inner core, crust, outer core, mantle

2. When did Earth's magnetic field form and what importance did that have for life on Earth?

Precambrian Era

3. Complete the chart to show why stromatolites were important in the Precambrian.



4. What is the Ediacaran fauna?

Cambrian Period

5. Trilobites were some of the first animals with hard body parts. What is the family of organisms containing modern horseshoe crabs, crayfish and the extinct Trilobite?

Mollusca

6. Find the “heteromorph” ammonites. What do you think might be a possible reason for these odd shapes?

Echinoderms

7. Are Crinoids Plants or animals? _____
8. List 3 modern echinoderms.

Origin of Chordates

9. What body part did the first vertebrates have that no other animal had developed yet?
10. What defense mechanism did early fish develop to protect themselves from the large invertebrate predators? And what did they sacrifice in the process?

Sharks

11. Find the large hybodontiform shark. How do you think this animal got fossilized and what distinct characteristic of sharks might make their fossils hard to preserve and find?

Placoderms

12. Many fish developed during this time. These early fish of the Devonian Period developed some new body parts that allowed them to become better predators. What adaptation would allow them to eat larger and more heavily armored fish prey?

13. Name the three main types of fish on display. (Hint: look for differences in their bones.)

1. _____
2. _____
3. _____

Actinopterygians

14. Name one adaptation that made the Actinopterygians more successful than the Placoderms?

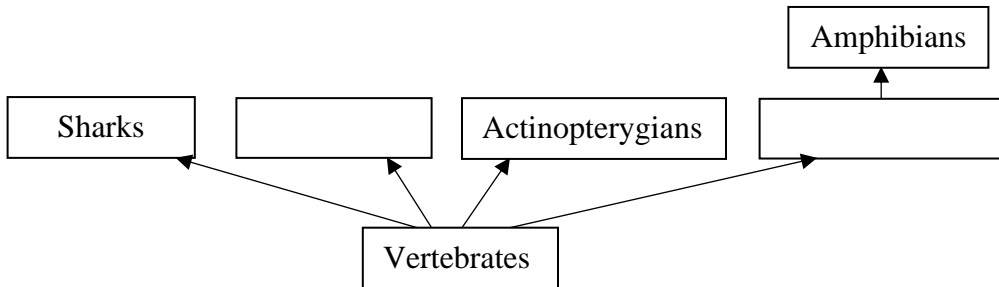
Lobe-finned Fish (Sarcopterygians)

15. Find the Coelacanth, this is a lobe-finned fish that has remained almost exactly the same for the past 70 million years. However, some of the lobe finned fishes kept evolving. Some developed into a entirely new group of animals that were no longer fish. What was the name of this new group of animals?

Was Ichthyostega one of this type of animal? _____

16. This new group of animals could go somewhere that no vertebrates had gone before (Invertebrates and plants had beaten them there though). Where did they go?

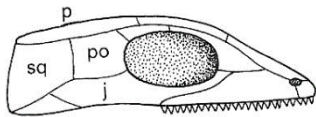
17. Fill in the cladogram below with animals you have previously learned about in the museum.



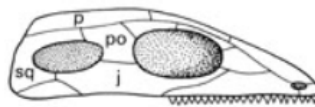
18. Why did some fish in the Carboniferous have fingers? What did they use them for?

Proto-mammals

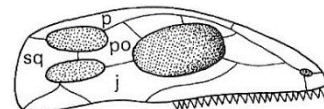
19. Label the 3 skull types below. As you are going through the museum, identify one animal example for each skull type.



Ex: _____



Ex: _____



Ex: _____

The Triassic Transition

20. Find the *Mesosaurus*. Their fossils have been found in both Africa and South America. How could they be found on two continents separated by an ocean?

Pterosaurs

21. Observe the Pterosaurs, (there are many throughout the museum, don't forget to look up!) Are these animals dinosaurs? _____

What makes their wings different from other animals' wings?

Dinosaurs

22. Use the diagram in the Hip Divisions case to determine what group this dinosaur belongs to. Bonus if you can identify the dinosaur by name.



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23. Find the *Archaeopteryx* (Head into the main gallery and turn right).
Do you think it is a **Reptile, Bird, or Dinosaur**? (circle your choice)
List some traits make this animal difficult to place in only one group?
1. _____
 2. _____
 3. _____
 4. _____

24. Find the horseshoe crab trackway. This fossil and the archaeopteryx were both found in the Solnhofen Limestone of Germany. Why do you think all of the Solnhofen fossils are so well preserved? _____
- _____
- _____

25. Find the *Camarasaurus* and the *Supersaurus*. How are they different, and how are they alike? Look at the limb length proportions as well as differences in their skulls.
- _____
- _____

26. Not all animals that lived in the Triassic, Jurassic, and Cretaceous were dinosaurs. Find and name 2 animals in the main hall that were not dinosaurs.

1. _____
2. _____

27. Find the *Stenopterygius*. Why is this marine reptile important? Look closely, do you think this specimen is a male or female? What brought you to that conclusion?
- _____
- _____
- _____

28. Find the *Maiasaura*. This dinosaur's name means "good mother lizard." Why did scientists give it that name? _____
- _____

29. Find two dinosaurs that have neck frills similar to *Triceratops horridus* and name them.

1. _____

2. _____

What do you think they used the neck frills for?

30. Find the *Tyrannosaurus rex* and the *Allosaurus fragilis*. Study their skeletons including the skulls and teeth. Now, describe and compare the two.

	<i>T. rex</i>	<i>A. fragilis</i>
Skull		
Teeth		
Arms		
Body		

31. There are two dinosaurs with bony plates and spiked tails in the museum. (Hint: one is being eaten by the *Allosaurus*, the other is by the *Velociraptors*.) Name them and describe one notable difference between the two species.

32. List one possible use that *Stegosaurus* might have for the plates on its back.

Pathology and Taphonomy

33. Can dinosaurs get hurt? Find one injury/condition that you can see in dinosaurs and modern animals/humans and describe it here.

Mammals

34. Find the food cache.

What animals are preserved here? _____

What are these fossils missing? _____

What animal likely created this cache? _____

Meteors

35. There are several theories as to why the dinosaurs died out. One of those is an asteroid impact. After the asteroid enters the atmosphere, it breaks up into smaller pieces of rock. Some of these smaller pieces land on earth. These are called meteorites. What are the three types of meteorites?

36. When a meteorite enters the Earth's atmosphere, it may produce a colored streak of light. What element is present if the streak of light is Blue-green?

Bonus: We have two *Velociraptors* on display in the museum. Can you tell what Jurassic Park/World got wrong about this animal? What animal did they actually base their model off of?