Wyoming Dinosaur Center

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. Name 2 scientists who helped develop the theory of plate tectonics and briefly define their contributions.

   _____

   _____

   _____

   _____

Precambrian Era

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

Bacteria + Algae	→	Stromatolites	→	

Cambrian Period

4. 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

5. Find the "heteromorph" ammonites. What do you think might be a possible reason for these odd shapes?

_____
_____
_____

Plants

6. When did Algae first appear?_____
   When did Trees first appear?_____
   When did Flowering Plants first appear?_____
   When did grass first appear?_____
7. Are Crinoids Plants or animals?_____

Origin of Chordates

8. What body part did the first vertebrates have that no other animal had developed yet?

_____

9. What defense mechanism did early fish develop to protect themselves from the large invertebrate predators? And what did they sacrifice in the process?

_____
_____

Sharks

10. Look at the fossilized "white" shark. How did this animal get fossilized and what distinct characteristic of sharks might make their fossils hard to preserve and find?

_____
_____

Placoderms

11. 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?

_____

12. Name the three main types of fish on display. (Hint: look for differences in their bones.)
    1. _____
    2. _____
    3. _____

Actinopterygians

13. Name one adaptation made the Actinopterygians more successful than the placoderms?

_____

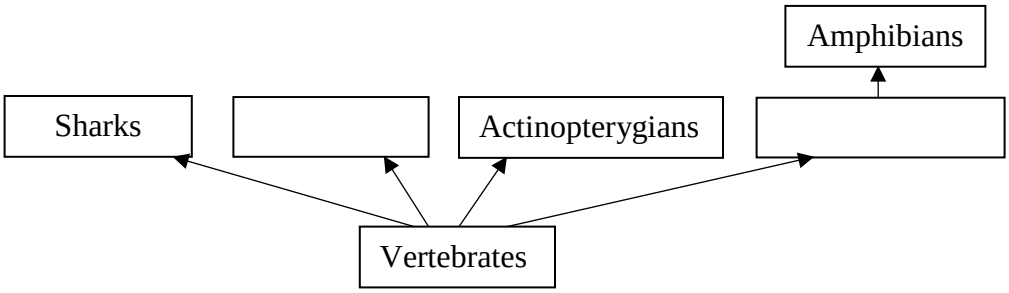
Sarcopterygians

14. 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?_____
15. 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?

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



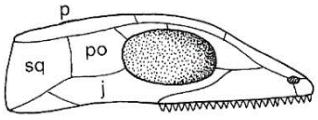
17. Why did some fish in the Carboniferous have fingers? What did they use them for?

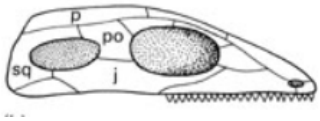
    _____

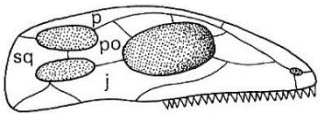
    _____

Proto-mammals

18. 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

19. Find the *Mesosaurus*. This little reptile lived exclusively in fresh water. Their fossils have been found in both Africa and South America. How could they be found on two continents separated by an ocean?_____

    _____

    _____

Pterosaurs

20. 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

21. Find the *Archaeopteryx* (Head into the main gallery and turn right).
    Do you think it is a Reptile, Bird, or Dinosaur? (circle all that apply)
    List some traits make this animal difficult to place in only one group?
    1. _____
    2. _____
    3. _____
    4. _____
22. 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?_____
    _____
    _____
23. Find the Camarasaurus and the Supersaurus. How are they different, and how are they alike? Look at the orientation of limbs and length.
    _____
    _____
24. 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. _____
25. 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?
    _____
    _____
    _____
26. Find the *Maiasaura*. This dinosaurs name means "good mother lizard." Why did scientists give it that name?_____
    _____
27. 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?
    _____

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

	T. rex	*A. fragilis*
Skull		
Teeth		
Arms		
Body		

29. 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.

_____

_____

30. List one possible uses, Stegosaurus might have for the plates on its back.

_____

Pathology and Taphonomy

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

_____

_____

Mammals

32. Find the food cache.
    What animals are preserved here?_____
    How many?_____
    What are these fossils missing?_____
    What animal likely created this cache?_____

Meteors

33. 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?
    1. _____
    2. _____
    3. _____
34. 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?