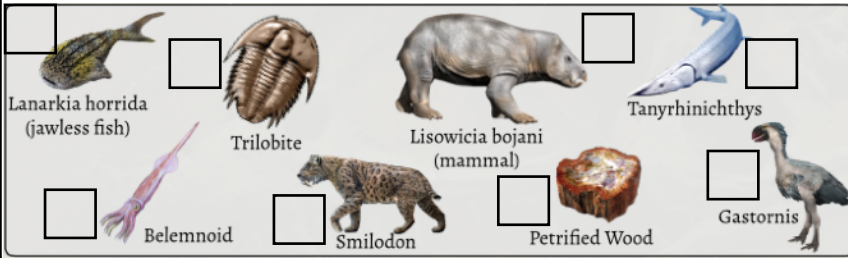


Fossil Lab - the Vertebrates

Station 1: The Vertebrates

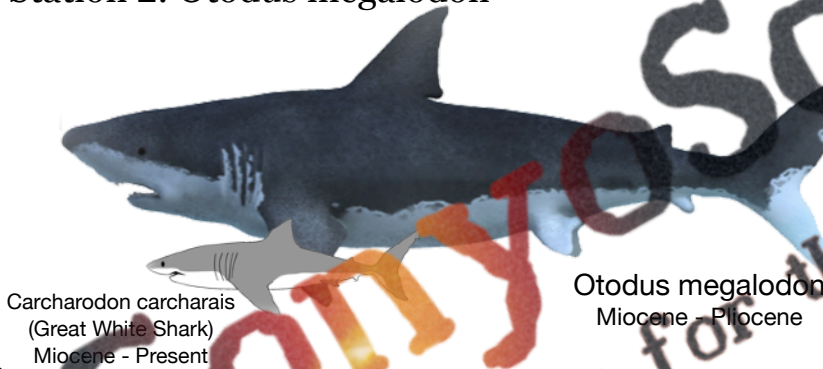
1. Vertebrates are animals _____ a backbone.
with / without
2. Put an X in the boxes next to each animal that is a vertebrate.



3. Match these Vertebrate traits:

- | | |
|---|--------------|
| <input type="checkbox"/> Dinosaurs | A. Mammal |
| <input type="checkbox"/> Produce milk | B. Reptile |
| <input type="checkbox"/> Warm blooded with feathers and toothless beak. | C. Bird |
| <input type="checkbox"/> Can live on land but require a moist environment to survive. | D. Amphibian |
| <input type="checkbox"/> Placoderms | E. Fish |

Station 2: Otodus megalodon



4. Which of these are true of Otodus megalodon? Put an x in the box of each true statement.

- Megalodon was larger than a modern blue whale.
- At one point in time, Megalodon and the Great White shark swam the oceans at the same time.
- Megalodon grew as many as 40,000 teeth in its lifetime.
- Complete fossilized skeletons of Megalodon have been found off the coast of Australia.

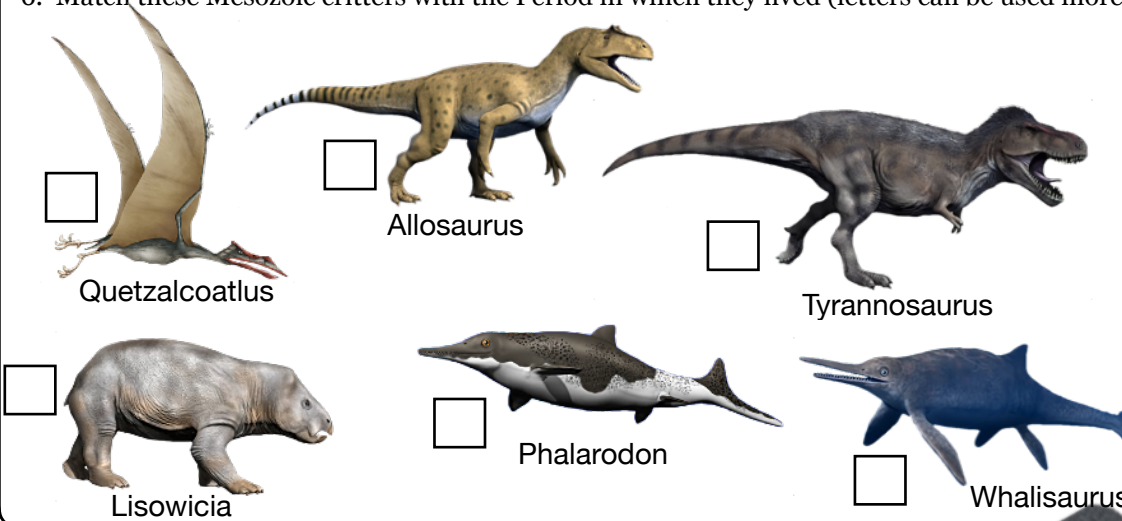
Station 3: Paleozoic Era

5. Match the event with the specific Period in the Paleozoic era (put the correct letter in the box)

- | | |
|---|-------------------------|
| <input type="checkbox"/> 488 - 444 million years ago | A. Cambrian Period |
| <input type="checkbox"/> The Cambrian Explosion | B. Ordovician Period |
| <input type="checkbox"/> Much of the coal and oil on Earth formed at this time. | C. Silurian Period |
| <input type="checkbox"/> The most severe mass extinction of plants and animals in Earth's history (The Great Dying) | D. Devonian Period |
| <input type="checkbox"/> Jawless fish became widespread and the first land animals emerged | E. Carboniferous Period |
| <input type="checkbox"/> Age of Fishes | F. Permian Period |

Station 4: Mesozoic Era

6. Match these Mesozoic critters with the Period in which they lived (letters can be used more than once):



A. Cretaceous Period

B. Jurassic Period

C. Triassic Period

Station 5: Cenozoic Era

7. Match these Cenozoic critters with the Period in which they lived (letters can be used more than once):



A. Quaternary Period

B. Neogene Period

C. Paleogene Period

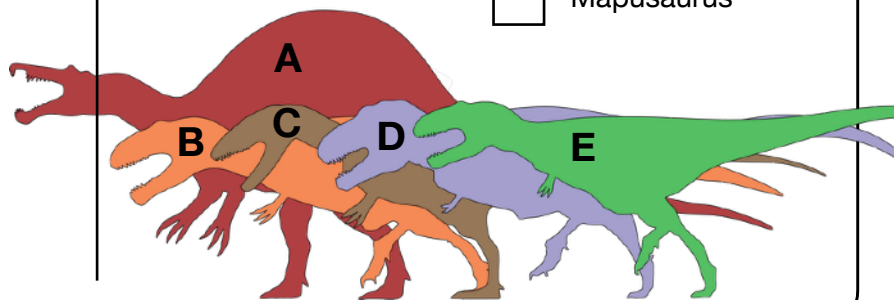
Station 6: Spinosaurus

8. Which of these are true of Spinosaurus? Put an X in the box for each correct answer (there is more than one correct answer).

- Spinosaurus was one of the largest meat-eating dinosaurs yet discovered.
- Spinosaurus and Tyrannosaurus rex lived at the same time in history.
- Pressure sensors on its snout allowed Spinosaurus to locate prey without seeing it.
- Onchoprestis was an 8 meter long swordfish and a favorite snack of Spinosaurus.
- Spinosaurus was almost twice as big as Tyrannosaurus rex.

9. Identify these theropod dinosaurs. Place the correct letter for each name.

- Giganotosaurus
- Spinosaurus
- Carcharodontosaurus
- Tyrannosaurus
- Mapusaurus



Station 7: Brontosaurus is Back!

10. Which head belongs to the real Brontosaurus? Put an X in the correct box.



Station 8: Devonian Fishes

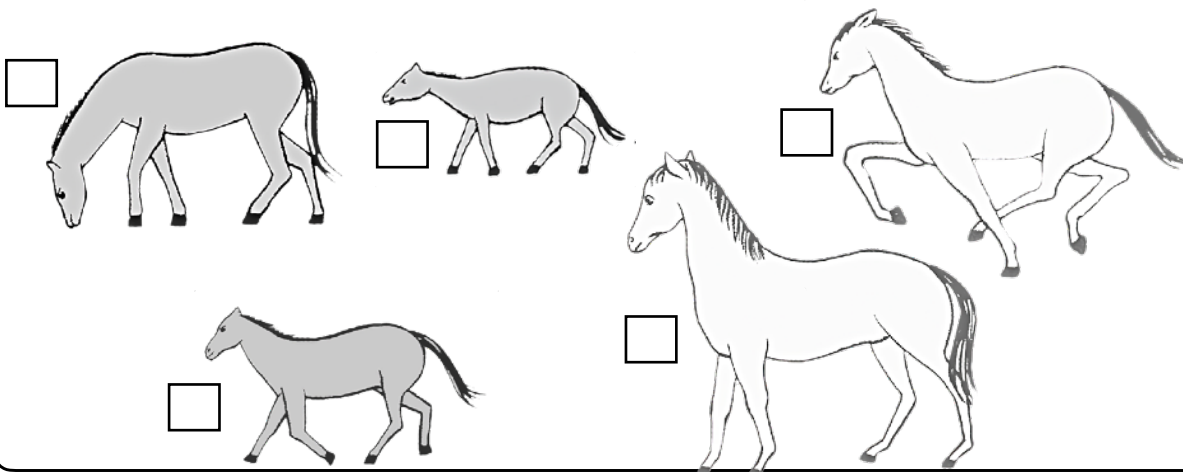
11. Identify these early fish from their fossil remains. Put the correct letter in the box.



- A. Strunius
- B. Glyptolepis
- C. Dunkleosteus
- D. Eusthenopteron

Station 9: Ancient Horses

12. Identify these ancient horses. Put the correct letter in the box.

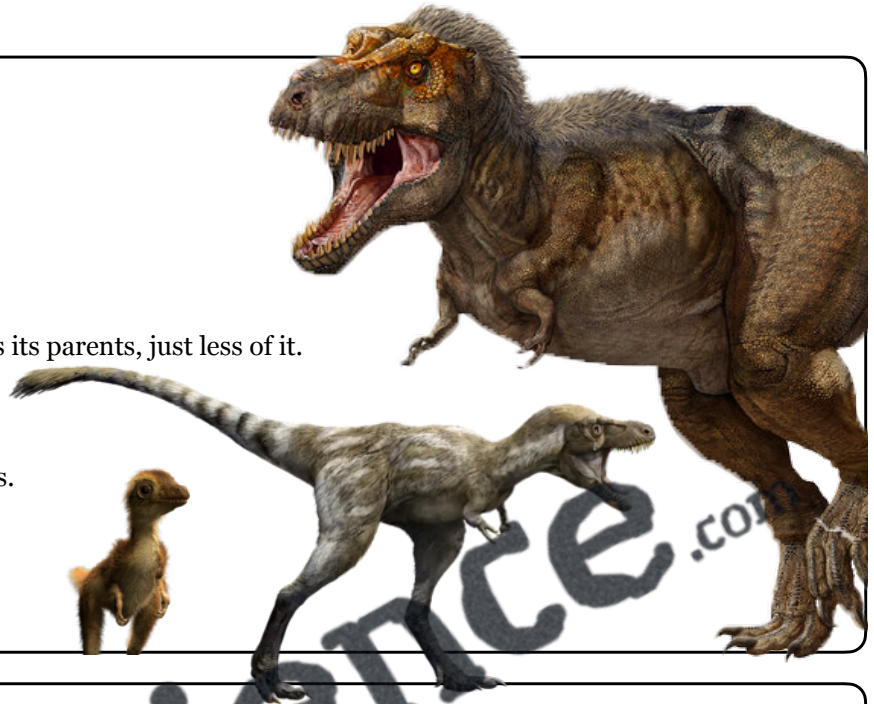


- A. Merychippus
- B. Equus
- C. Eohippus
- D. Meshippus
- E. Pliohippus

Station 10: Tyrannosaurus rex

True or False

- 13. A baby T rex was covered in feathers.
- 14. A juvenile T rex probably ate the same things as its parents, just less of it.
- 15. An adult T rex would have lost **all** of its feathers.
- 16. The **average** T rex probably lived 13 - 18 years.



Station 11: Argentinosaurus

17. Which professor is the correct size?

- Professor A
- Professor B
- Professor C
- Professor D
- Professor E

Station 11: Argentinosaurus (One of the largest dinosaurs yet discovered)

How would a human size up to these prehistoric beasts?

Which professor is the right size?

Submit

Skip this question

WATCH THE VIDEO FOR A HINT ...

Drag the correct-sized professor here:

Station 12: Dinosaur Discovery

True or False

- 18. Most dinosaur skeletons in museums are made from incomplete skeletons. It is rare to find a complete dinosaur skeleton.
- 19. T Rex was compared to a modern chicken to determine how its bones were connected.
- 20. Missing pieces of a dinosaur skeleton are copied from other dinosaur skeletons.

21. Which dinosaur left these fossilized bones for humans to find. Put an X in the correct box.

Station 13: Surviving the Arctic

Match these with the correct Arctic Dinosaur



Dinosaur A



Dinosaur B



Dinosaur C

- 22. Edmontosaurus
- 23. Troodon
- 24. Nanuqsaurus
- 25. Related to T rex only much smaller.
- 26. Twice as big as southern members of the same species.

Station 14: Triceratops vs Torosaurus

36. Write in the names of these two dinosaurs.



_____ name



_____ name

- 27. According to Horner and Scanella, Triceratops was a younger (less mature) Torosaurus.
- 28. According to Longrich and Field, Triceratops and Torosaurus were two distinct dinosaurs.
- 29. If it is decided that Triceratops and Torosaurus were the same dinosaur, the name *Torosaurus* would be used for both (the name *Triceratops* would no longer be used).
- 30. The main difference between Triceratops and Torosaurus is the size and shape of their skulls.

Station 15: Terror Birds

True or False

- 31. Terror Birds migrated to North America from Europe.
- 32. Terror Birds vanished from North America when the continent entered an ice age 2 to 3 million years ago.
- 33. Some species of Terror Birds were as much as 10 feet tall!
- 34. When Terror Birds came to North America, they quickly hunted the Saber-Toothed Cat to extinction.

Put an X in box next to each skull that belongs to a Terror Bird

35.



36.



37.



38.



Station 16: Spinosaurus; River Monster

True or False

- 39. Spinosaurus had long hind legs that would be useful when swimming.
- 40. Spinosaurus had crocodile-like teeth for grasping fish.
- 41. Spinosaurus had a long, flat tail that was well adapted for swimming.

42. Which of these images best represents the most modern version of what Spinosaurus looked like? Put an X in the box by the correct image.



Station 17: American Mastodon

Matching:

- 43. American Mastodon
- 44. Woolly Mammoth
- 45. Had cone-shaped teeth for eating twigs, leaves, and plants.
- 46. Lived in large herds in wooded forests.
- 47. Mammut americanum



Station 18: Dinosaur 101

True or False:

- 48. There may have been as many as 1,000 different species of dinosaurs throughout Earth's history.
- 49. Dinosaur species were separated when Pangaea split up resulting in the development of a variety of new species.
- 50. Dinosaur populations were on the decline even before the massive asteroid impact 66 million years ago.
- 51. Small theropod dinosaurs may have survived the mass extinction to eventually evolve into modern day birds.



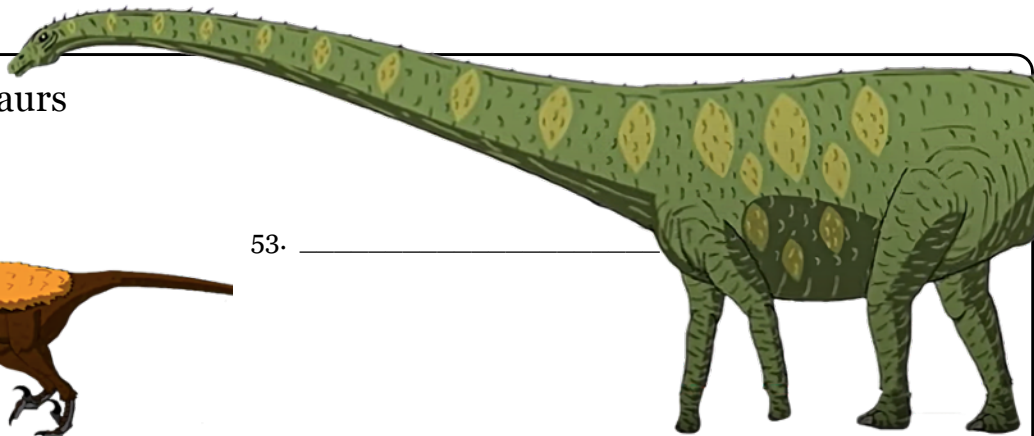
Station 19: March of the Dinosaurs

Identify these dinosaurs:

52. _____



53. _____



54. _____



55. _____

Station 20: March of the Prehistoric Beasts

Identify these prehistoric beasts:

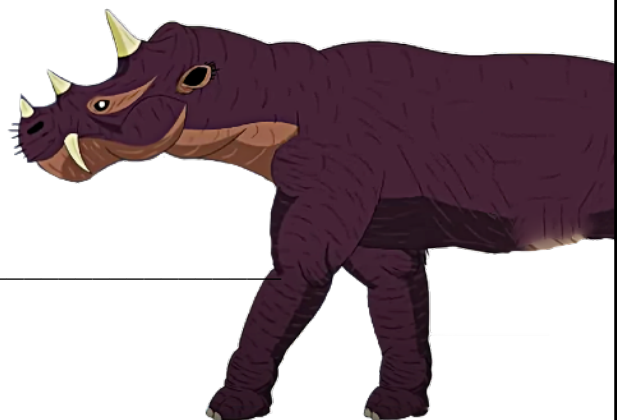
56. _____



57. _____



58. _____



59. _____

Geologic Time Scale

Eon	Era	Period	Epoch	MYA	
Phanerozoic	Cenozoic	Quaternary	Holocene	Present	
			Pleistocene	.01	
		Tertiary	Neogene	Pliocene	2.6
				Miocene	5.3
			Paleogene	Oligocene	23
				Eocene	33.9
				Paleocene	55.8
					65.5
		Mesozoic	Cretaceous	145.5	
			Jurassic	199.6	
	Triassic		251		
	Paleozoic	Permian	299		
		Pennsylvanian	318		
		Mississippian	359		
		Devonian	416		
		Silurian	444		
		Ordovician	488		
	Precambrian	Proterozoic			542
		Archean			2500
Hadean			4000		
				4600	