

Hall of Vertebrate Origins

Solve the Mystery!

When you wander the Hall of Vertebrate Origins and other fossil halls on the 4th floor, you'll notice something unusual...

The animals displayed next to each other didn't always live during the same time period or in the same place. Sometimes they even lived millions of years apart or thousands of miles away!

So why are these animals displayed next to each other in this hall? Use the worksheets to help you solve this mystery!

PART 1: Collect Clues!

Visit three Zones in the hall to collect clues. You can visit them in any order.

ZONE A: sharks, armored fishes, ray-finned fishes

ZONE B: frogs, salamanders

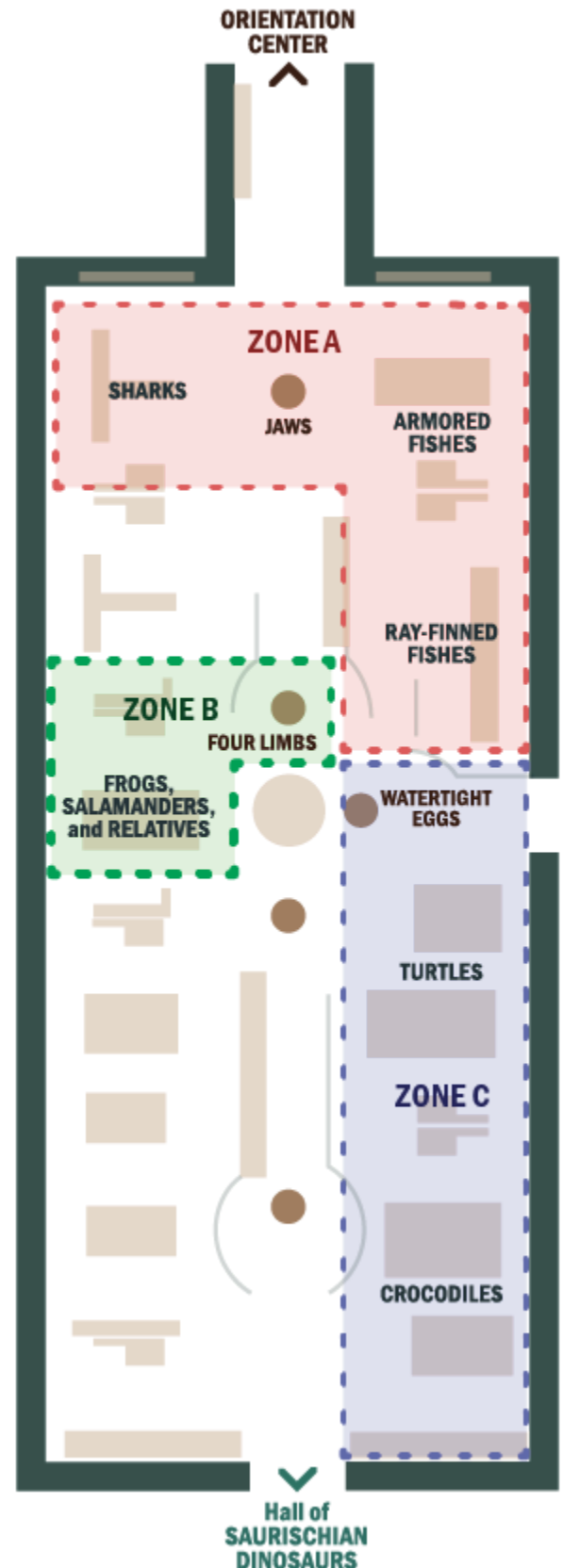
ZONE C: turtles, crocodiles

PART 2: Analyze the Clues

Analyze the clues you collected using a diagram called a cladogram.

PART 3: Collect More Clues & Solve the Mystery

Go to the Orientation Center.



PART 1

Collect Clues!

ZONE A	ZONE B	ZONE C
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**In each Zone, find the tall, skinny pillar in the middle of the hallway. Explore it and nearby panels.
How does each trait help animals eat, move, and reproduce? Write them below:**

Trait: JAWS	Trait: FOUR LIMBS	Trait: WATERTIGHT EGGS ("Watertight eggs" are eggs that keep the moisture in—not out!)
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Pick an animal in each Zone to explore further:

Sketch an animal in Zone A:	Sketch an animal in Zone B:	Sketch an animal in Zone C:
Name:	Name:	Name:
How many years ago did it live?	How many years ago did it live?	How many years ago did it live?
Where was the fossil found?	Where was the fossil found?	Where was the fossil found?

Check (✓) the traits that you think each animal has. (If you need a hint, check the map!)

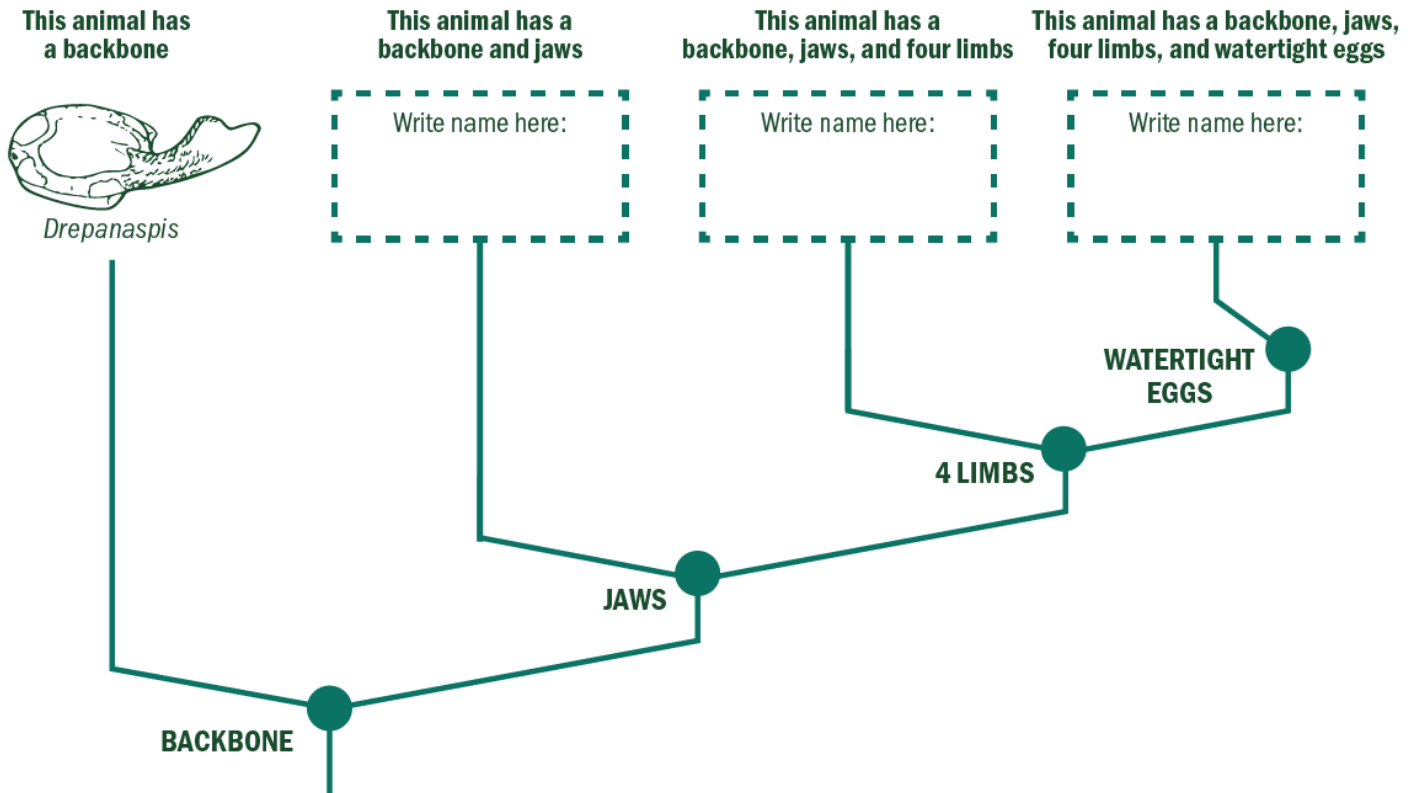
backbone	jaws	four limbs	watertight egg	backbone	jaws	four limbs	watertight egg	backbone	jaws	four limbs	watertight egg

PART 2 Analyze the Clues!

The diagram below is called a cladogram. Scientists use it to show evolutionary relationships.

Examine the clues you collected. Where do the three animals you observed fit in this cladogram?

Write their names in the dotted boxes. Then **share** what you did with a partner and **compare** your clues and analysis.

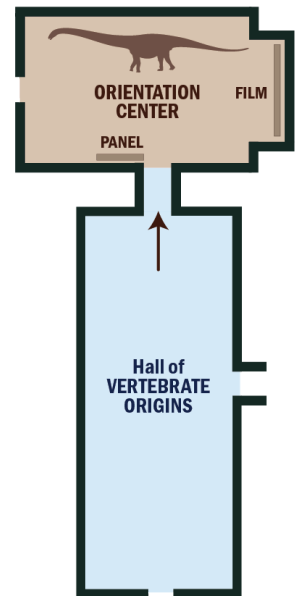


PART 3 Collect More Clues & Solve the Mystery

Go into the Orientation Center to collect more clues (large dark room with the titanosaur):

Watch the 12-minute film and **read** the panel on the left side.

It's time to solve the mystery! Based on the clues you collected, why do you think the Museum organized the Hall of Vertebrate Origins and other fossil halls on the 4th floor in this way? **Explain** the reasoning in your own words:



EXPLORE MORE!

Visit the **Hall of Primitive Mammals** and the **Milstein Hall of Advanced Mammals** on the 4th floor to observe more animals and discover how scientists organized them.