



# Teachable Moments: *Los Angeles Under-*

## Location

*Los Angeles Underwater: The Prehistoric Sea Beneath Us* Exhibit, Ground Level

## Exhibit Vocabulary

- Asphalt
- Climate Change
- Diatom
- Extant
- Extinct
- Evolve
- Fossil
- Fossil Fuel
- Habitat
- Permineralize
- Plankton
- Pseudofossil
- Tectonic Shift
- Tectonic Plates

### Section 1 | YOU MAKE A DISCOVERY

#### Highlight Pieces: Coursen’s Strange Seal, *Atopotarus courseni*

What would your first step be if you discovered this fossil in your backyard? What would you do? Who would you call?

**Extension:** *What do you notice about the Coursen's Seal that tells you this is a special discovery?*

### Section 2 | TIMESCALE: WAS LOS ANGELES ALWAYS ABOVE SEA LEVEL?

#### Highlight Piece: Infographic, L.A.’s Changing Coastline

Ask your students to consider how a region can become submerged by the ocean?

**Extension:** *Think about what the Los Angeles landscape looks like today, what kind of physical or geologic processes might result in drastic changes in the environment?*

### Section 3 | WHAT ARE FOSSILS?

Ask your students to consider: What is a fossil? Discuss with your students the different types of materials that can fossilize.

**Extension:** *Have your students discuss the process of fossilization. How do fossils form? What does it mean for something to permineralize?*

### Section 4 | WHY DO WE FIND FOSSILS OF SEA LIFE ON LAND?

What do you notice about this ancient ammonoid that makes scientists think it’s related to the squid and octopuses we see in our oceans today?

**Extension:** *How might scientists use fossils to make connections to extant or living organisms?*

### Section 5 | FOSSILS TEACH US ABOUT THE OCEAN

Ask your students to think back to the changing coastline of Los Angeles (Section 2) and recall how geologic processes like climate change and the shifting of tectonic plates can change environments over time.

What fossil clues might scientists look to determine what major changes may have happened in an area long ago?





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### Section 6 | OUR PREHISTORIC OCEAN LEFT A LEGACY OF FOSSIL FUELS

Your students might have seen asphalt before, perhaps washed up at the beach or at the La Brea Tar Pits. See if you and your students can spot some of these active oil wells on your way back to school today!

### Section 7 | THE LIFE IN L.A.'s OCEAN HAS CHANGED OVER TIME

Ask your students to share some of their observations about the specimens on display from this time period, and reflect on what life might have been like for these animals.

**Extension:** Have your students discuss what may have caused some of these animals to go extinct and why some are extant or still alive today.

### Section 8 | L.A.'s PREHISTORIC OCEAN HAD MANY HABITATS

What fossil evidence might tell us that there were different habitats in LA's Miocene sea?

**Extension:** Ask your students to consider these animal's adaptations. What might they tell you about the environment that these animals lived in?

### Section 9 | FOSSILS OF SEA LIFE ARE FOUND ACROSS LOS ANGELES

#### Highlight Piece: Interactive Map

Find the nearest excavation site to your neighborhood - what might that tell you about the fossils you might find in your neighborhood?

[fossilmap.nhm.org](http://fossilmap.nhm.org)

### Section 10 | LINCOLN HEIGHTS WHALE

#### Highlight Piece: Lincoln Heights Whale, *Mixocetus elysius*

"I have visited the museum on many occasions and I knew I had something," - F.W. Maley, local plumber who discovered the fossil whale skull

Remind your students that anyone can make a discovery! Read about fossil discoveries made by local Angelenos and check out [Nhmlac.org/your-fossil-discovery](http://Nhmlac.org/your-fossil-discovery) to learn if you've found a fossil.\*

*\*Star on map*

### Bonus Section | SWIMMING SHADOW WALL

Invite your students to view the swimming shadow wall. What do they notice? Explore any new questions that have arisen for your students after diving into L.A.'s Miocene sea.