

SCIENCE·3D

CALIFORNIA WHITE SHARK

In this packet, sample student answers are provided in **red** and notes to teachers are in **blue**.







In this **Mission Research**, students will explore life cycles and fossils. First, they will interpret fossils to determine if the organisms they see were terrestrial or aquatic. Then, students will decide if the fossil evidence supports claims that paleontologists have found a *megalodon* nursery. For the life cycle activity, they will draw life cycles of several California animals using evidence from their **Mission Reader**.









Fossils!

Fossils can help us learn about past environments.

- Predict** what environment each fossilized animal lived in based on the other fossil it was found with. Choose **aquatic** (underwater) or **land**.

Your fossil	Fossil it was found with	Environment
		<p>aquatic</p>
		<p>land</p>
		<p>aquatic</p>

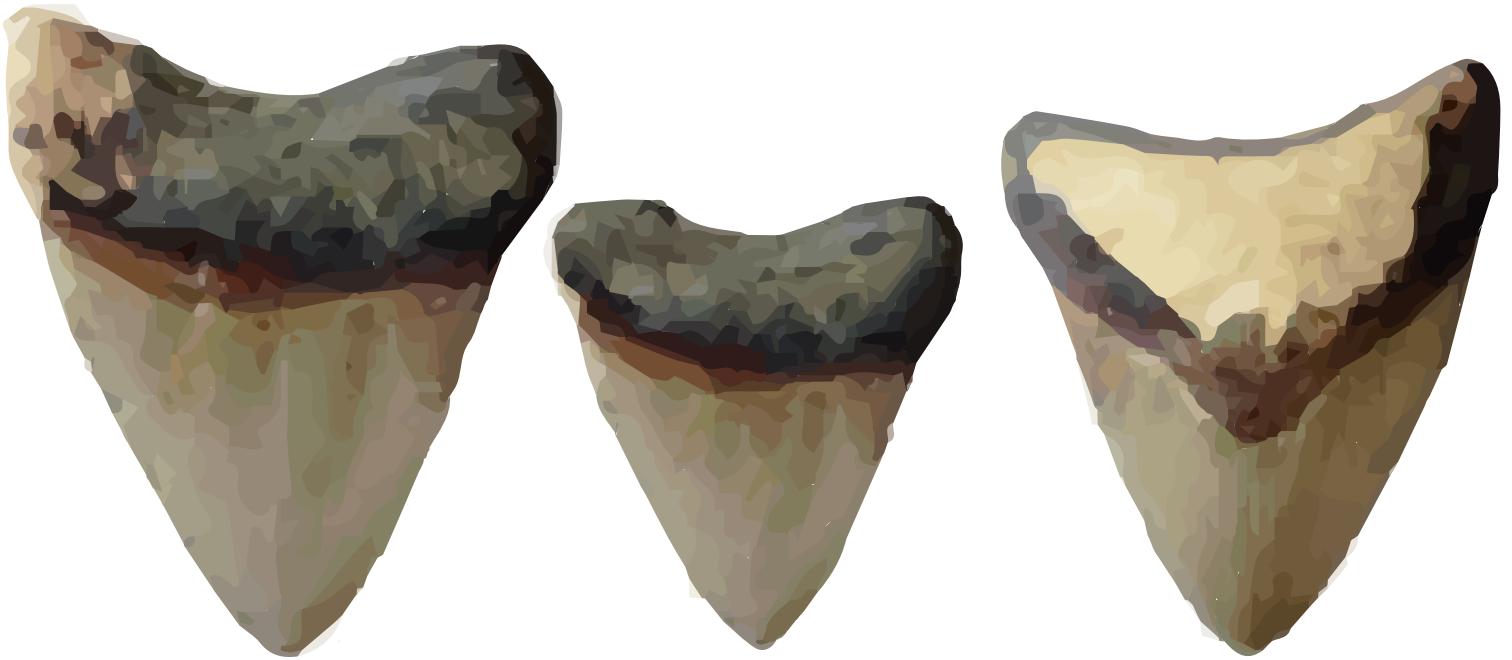
Your fossil	Fossil it was found with	Environment
		<p>land</p>
		<p>land</p>
		<p>aquatic</p>

2. Choose one of the plants or animals from the table in question 1. **Describe** how you decided which environment it lived in.

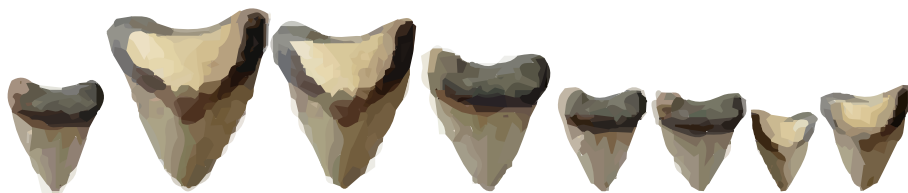
Complete answers should include looking at the kind of organism the fossil was found with and using its features to guess the environment. An example might be: For the last answer I chose aquatic because it looked like the animal had flippers. Also, it was found with a fish.

Fossils can tell us about the life cycles of extinct animals! Did baby *megalodon* sharks live where the adults lived? Did they have nursery areas? Nursery areas are places where baby sharks live away from adult sharks.

These are *megalodon* teeth fossils that scientists found in one place. Look at how big they are!



Here are the sizes of fossil *megalodon* teeth from another place.



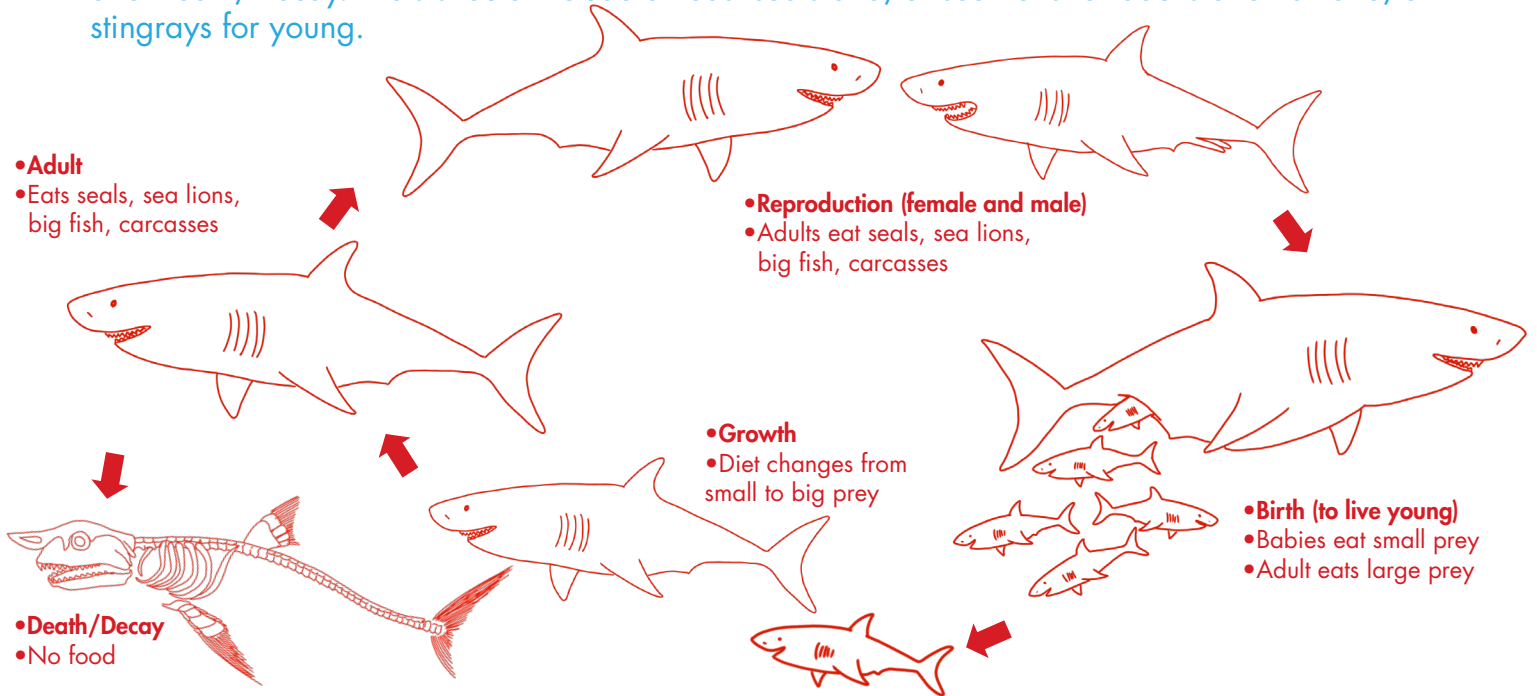
3. Do you think that baby *megalodon* sharks lived in a nursery? Use evidence from the fossil teeth to support your answer.

Yes, I think that the babies lived in a nursery. The large teeth were found in one place and the small teeth were all found in another place. This probably means adults and babies lived in different places.

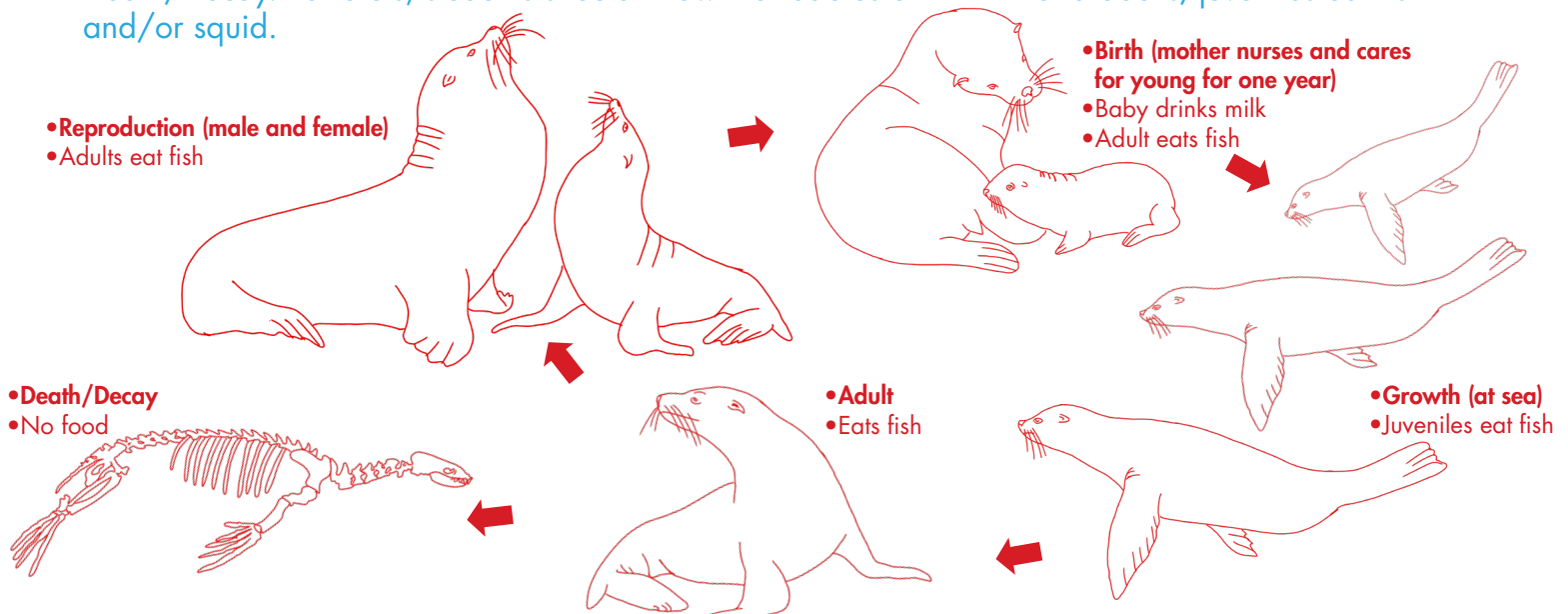
Life Cycles

Note: Life cycles are covered in other missions, but if you would like to explore further or use this mission to cover the standards, you can use the questions below.

4. Use your **Mission Reader** to **draw** a life cycle of a white shark. At each step in the life cycle, **draw** and **label** what the white shark eats. Answers should include at least: Birth, Growth, Reproduction, and Death/Decay. Diets should include at least seals and/or sea lions for adults and fish and/or stingrays for young.



5. Use your **Mission Reader** to **draw** a life cycle of a sea lion. At each step in the life cycle, **draw** and **label** what the sea lion eats. Answers should include at least: Birth, Growth, Reproduction, and Death/Decay. For diets, students should know that babies drink milk and adults/juveniles eat fish and/or squid.



Extend the lesson: Have students compare and contrast the life cycles of sea lions and white sharks. You could also have them research life cycles of kelp or other organisms mentioned in the **Mission Reader**.