A Shark's Tale

3rd Grade Program

Description: Students will become shark experts on local species and may even get to meet a shark up close! This interactive lab teaches students about the many adaptations these top predators have to survive.

Objectives:

- Students will be able to describe how the shape of a sharks' tooth is specialized to catch their prey.
- Students will be able to explain what elements of a shark's body shape increase or decrease their speed.
- Students will be able to collect data from a given experimental procedure, and interpret that data to determine the result of the experiment.
- Students will be able to define a shark's needs (food, protection, etc.) and describe how a shark is adapted to meet those needs.

Biofacts & Adaptations Station:

Students are Ichthyologists today! Special scientists that study fish (this includes sharks and sting rays). Sharks evolved over 400 million years ago and have many adaptations that have helped them survive this long! Ask students what they think sharks need every day to survive (food, habitat, protection, to move, to breathe, reproduce and sense their environment). Let students explore the different biofacts to learn more about these basic needs for survival.

Teaching Points:

· **Sensory organs**: excellent hearing, nose can sense direction of smell, lateral lines on sides of body to sense vibrations in water, ampullae of lorenzini to sense heartbeat of animals
· **Protection**: dermal denticles (teeth-like scales)
· **Reproduction**: three strategies (viviparous: live birth, ovoviparous: eggs hatch inside mother, Oviparous: lay eggs
· **Eating**: 5+ rows of teeth, can move top and bottom jaws, can lose 30,000 teeth throughout lifetime

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Shark Ethogram Station:

Scientists use **ethograms** to understand animal behavior better. As ichthyologists today (fish scientists), students will observe a shark or ray in the large habitat and track their behavior over 5 minutes. Ask students to think of some common behaviors they think sharks and stingrays perform (eating, resting, swimming, social behavior, etc.).

Students should find a spot to sit around the large habitat in the Shark and Ray area and watch one animal for 5 minutes. Every 30 seconds, they will tally the behavior that animal is doing on their ethogram. If they notice a behavior not listed on the ethogram, they can add a new column for it!

After the first ethogram, students can find a new animal to watch for 5 minutes. They can watch an individual of the same species or a different species. Students can then take time at the end of this ethogram to talk with each other about what they observed.

Talking Points:

· What behavior did you notice the most of?
· What behavior did you notice the least of?
· Why do you think sharks and rays behaviors differ (or don't)?