

SHARK JAWS AND TEETH

ENGAGE & EXPLORE (Teacher guide)

Each group of students should have 1-2 jaws to explore. Either pose all questions for all groups to explore or give each group a focus question to explore and develop a hypothesis for, then share with the class after. See pg. 2 for student handout with questions.

Below are talking points and general answers to guide the students towards during a discussion.

→ Why don't sharks just have bony jaws?

Shark jaws are meant to move, and be flexible, just like a saw! Since sharks have no arms, this sawing motion allows them to break their food up into smaller bites. (Like we use a fork and knife!)

→ How long does it take for a shark to replace a lost tooth?

Unlike our mouths, sharks have rows and rows of teeth fully developed and ready to be used when they are called upon (they can be replaced in as little as 1 day!)

→ How do sharks actually lose teeth?

Unlike in the demo, sharks don't typically lose teeth simply by shaking their heads. However, due to their 'sawing' technique when eating, shark teeth often times will remain stuck in prey, or even fall out during the meal! (that is why you can find shark teeth on the beach!) You may see where the jaw is 'missing' a tooth to be replaced

→ Do shark teeth 'wear out'?

Yes! As you can see in our class set of jaws, shark teeth that are exposed out front are much duller than those that are yet to be used.

→ If sharks change their prey as they get older (fish → marine mammals), do their teeth change as well?

They do! Over time, shark teeth in the back of the jaws, will fully replace teeth up front. These teeth slowly but surely are wider and larger as the shark grows. Sharks that prey on fishes & stingrays (juveniles) tend to have more pointy teeth than their adult brethren, whose teeth are broader and more serrated.

→ If shark jaws are flexible, why do the jaws in the class set seem so rigid?

Shark jaws will 'dry out' once removed from a dead shark. Typically, shark jaws that you see (at a gift shop, or here in class) are manually spread out as they dry so that they don't close shut.

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Based on your observation skills using the shark jaws you are investigating, propose an explanation, including evidence, for the following questions;

→ Do shark teeth wear out with use?

→ Are their teeth permanent?

→ Do shark teeth change over time as the shark grows and ages?

→ How could the shark jaw move, what types of motion could it use?
(Hint: look for multiple joints)