

SeaKeepers K-12 Curriculum
Shark Conservation
Part 1



SeaKeepers K-12 Curriculum

Lesson 8: Shark Conservation



Grade Level: 4th

Estimated Time: 45 min

Lesson Overview:

Sharks play a vital role in ocean ecosystems. From their anatomy to their ecology, this two-part lesson plan is designed to demonstrate why we need sharks in our oceans, and inspire fascination of this dynamic group of fish.

Did you know that 50% of shark species are 3ft or less in length? While not all sharks fall into the category of 'top predator,' each species plays a vital role in its' ecosystem by removing sick fish, sequestering carbon, and regulating the food chain. Without sharks in the mix, ecosystems can fall out of balance and even collapse. Considering that humans remove between 78 - 100 million sharks from the ocean each year, we should be greatly concerned for the wellbeing of sharks.

Often times, sharks are portrayed as the villain of the ocean instead of being recognized for their ecological importance and interesting biology. Through this set of lesson plans, students will not only learn about how sharks regulate their ecosystems, but also the features that make them unique and cool.

Part one of this lesson plan series focuses on what makes a shark a shark, and gives students an opportunity to see how different species of shark have different body plans.

Lesson Breakdown:

- Presentation about topic (PDF [here](#), 15 minutes)
- Art Project (25 minutes)
- Discussion (5-10 minutes)

*Email Programming@Seakeeper.org for powerpoint file

Educational Standards Addressed:

- 4-LS1: Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.
- 4-LS1-2: Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the senses in different ways.

Anticipated learning objectives:

- Understand how humans can impact marine ecosystems by changing shark populations
- Understand the body layout of sharks, as well as the purpose of each body part
- Compare and contrast how different external features can influence ecology

This lesson plan was developed by undergraduate students from Shoals Marine Laboratory studying shark biology: JC Dombrowski, Aiden Lane, Corinne Richard

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Preparation & Materials

A powerpoint presentation is included for the lesson [here](#), but feel free to use other materials you have to explain these concepts. For the activity, students will need:

- Paper/pencils
- Scissors
- Crayons or colored pencils
- Reference photos of a blue shark, a thresher shark, a sawfish, and a sandbar shark

Activity instructions for teachers:

1. Following the presentation explaining what a shark is and the general anatomy, provide each student with either a blank piece of paper or an outline of a shark (provided) depending on their comfort level.
2. Provide a drawing or projection of a shark on the board for all students to see, with all major anatomy features labeled.
3. Allow students to pick what shark they want to draw, using the descriptions provided below, as well as any photos you can provide:
 - Blue shark: blue color, pointy snout, long pectoral fins
 - Thresher shark: very long top of tail, blue/brown color, big eyes
 - Sawfish: 'saw' at the front of the face, large pectoral fins
 - Sandbar shark: brown color, tall dorsal fin
 - If students already know of a type of shark they love, let them use that!
4. Tell the students they must label the following features: dorsal fins (2), pectoral fins (2), pelvic fins (2), tail, snout, eye, gills (5).
5. When students finish their drawings, have them cut out their shark and place it on the wall to create a 'shiver' of sharks.

Discussion:

- Ask the students to identify what features are different between the different species of shark. Why might they be different?
- Ask why having different styles of fins, or different colors, or different sized eyes might be a good thing? How these different features might change where a shark lives?

Tips:

The goal of this lesson series is to cover a range of topics relating to sharks, so ideally this lesson would be paired with Shark Conservation: Part 2 and organized into a shark-themed half day.

If you'd like to provide feedback on this lesson plan, click [here](#)! We'll use your comments to improve existing and future SeaKeepers lessons.

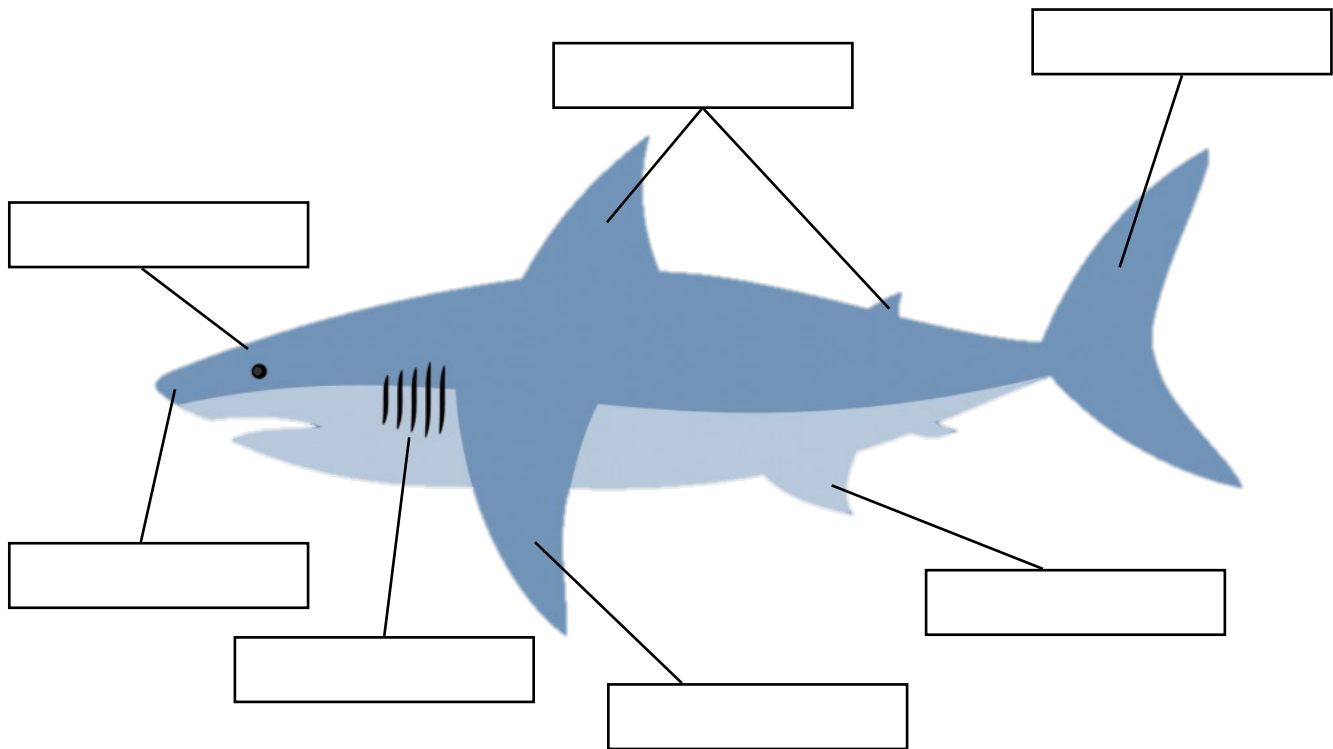
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Anatomy Worksheet

Label the different parts of a shark, using the words below!



Eye

snout

gills

dorsal fins

tail

pectoral fin

pelvic fin