



SHARKS

Class: ELASMOBRANCHII

Grades: See suggested age/grade level activities below (PreK -12)

Objectives:

- Students will understand shark classification
- Students will label various parts of the shark's anatomy.
- Students will develop an appreciation for the role of sharks as apex predators in our ecosystem.
- Students will respect and practice conservation efforts in relation to shark populations throughout the world.

Description:

Sharks belong to the class elasmobranchii. This class of animals is identified as having a skeleton made of cartilage rather than bone. Sharks have ruled the seas as apex predators for over 400 million years. There are well over 440 species of sharks, ranging from the six inch dwarf lantern shark to the whale shark which can reach lengths of over 50 feet. Sharks inhabit every one of the world's oceans. Rays and skates also have skeletons made of cartilage and are closely related to sharks.

Sharks have highly developed sensory organs and are territorial by nature. Reported shark attacks are often exaggerated and sometimes fail to take into account the shark's instinct to protect itself and defend its surroundings.

Grades Pre K – 3 Classroom Lesson:

Have students become familiar with the vocabulary associated with sharks, marine life and oceans.

Suggested activities:

Memory Match Games

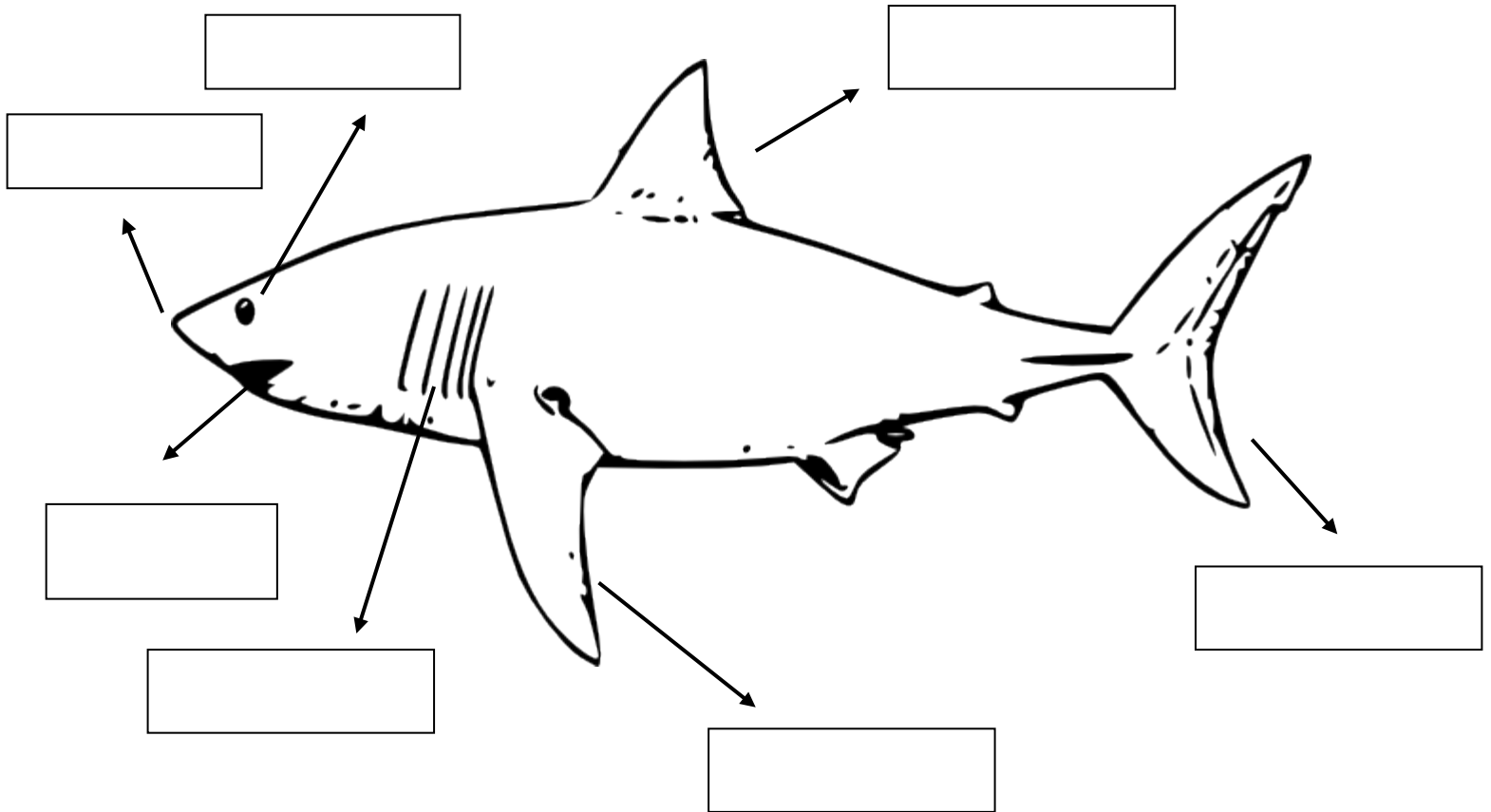
Label each fin on the shark template

Create a collage using old magazines

Design a classroom mural

VOCABULARY: Shark, Fin, Ocean, Teeth, Senses, Sight/Vision, Taste, Touch, Smell, Hearing, Vibration, Prey, Snout, Jaw, Gills,

WORD BANK: Pectoral Fin-Eye-Mouth-Snout-Gills-Caudal Fin-Dorsal Fin



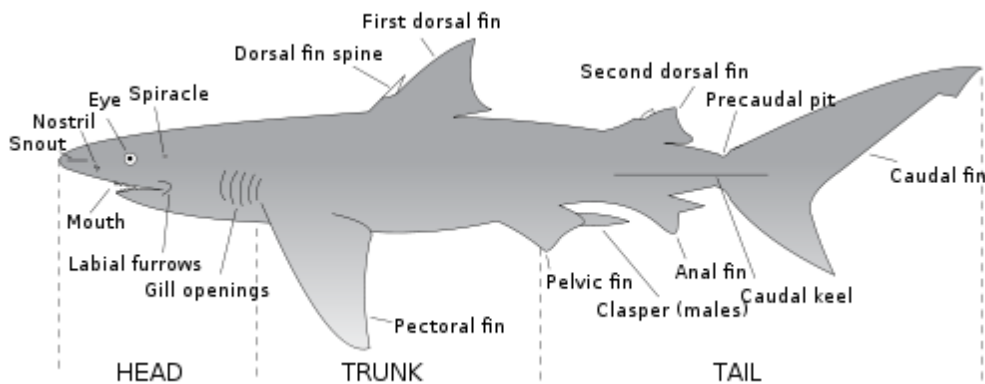
Grades 4-8 Classroom Lesson:

Have students understand the importance of the ecosystem.
Require students to label a map of the earth detailing oceans, hemispheres and continents.

Allow students to research the oceans and name at least one shark species that inhabits or travels through each.



Grades 9-12 Classroom Lesson:



1. Label and describe the purpose of the shark's fins.
2. Explain the advantages to the shark in regard to having a skeleton comprised of cartilage,
3. At what point during a shark's life span are they able to reproduce?
4. Gestation development varies throughout species. What is the gestational time frame for a great White Shark?
5. Sharks have highly developed senses, explain the function of the lateral line AND the ampullae of Lorenzini.

Long Island Aquarium Experience:

*Observe the sharks that inhabit the Long Island Aquarium in the **Lost City of Atlantis Shark tank**, as well as the **Ray Bay**, and **The Lagoon**.

Identify the species of each shark you observe.

Identify which sharks are male and which are female.

Detail specific behaviors, coloring, swim patterns.

Observe the shape of the caudal fin for each species of shark.
Describe the different shapes and determine the function of each.

Observe the rays in The Ray Bay. What similarities exist between sharks and rays?

Discuss shark reproduction: At what age do sharks reproduce?

What is the gestation period for sharks?

Do sharks lay eggs? Give live birth?

What species of shark do you think can be found in the waters surrounding Long Island/New York?