

GREAT OCEAN VOYAGE: SHARKS & RAYS

Grades

4-6

Objective

This reading activity will introduce students to sharks and rays and give them the opportunity to summarize main points, record questions they want to investigate, and develop related vocabulary.

Materials

- *Sharks and Rays* from Britannica Kids
- Graphic Organizer



Britannica Kids

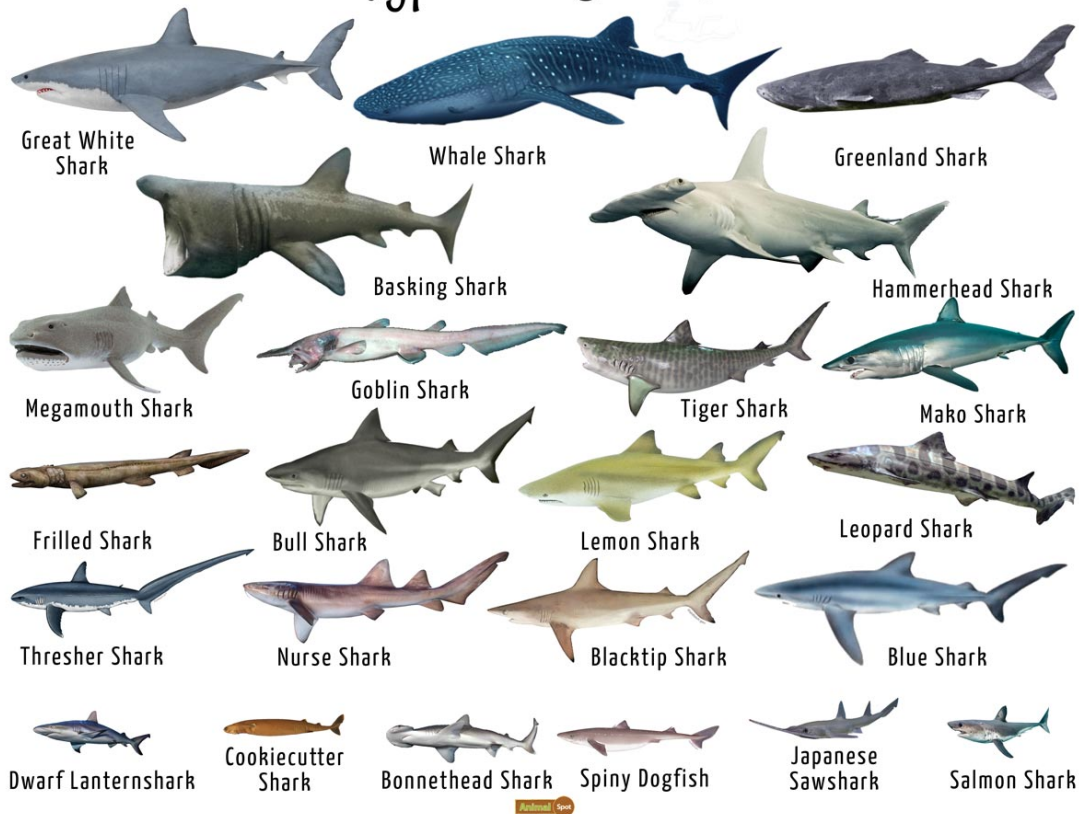
Sources: <https://kids.britannica.com/kids/article/shark/353766> and
<https://kids.britannica.com/kids/article/ray/390089>

Retrieved 03.03.22

SHARKS

Sharks are fast-swimming fishes that have a skeleton made of cartilage instead of bone. (Cartilage is an elastic tissue that is created before bone begins to form. Human noses are made of cartilage) They are related to rays. Sharks are among the oldest animals on Earth. The first sharks lived more than 300 million years ago. Today there are more than 300 species, or types, of shark.

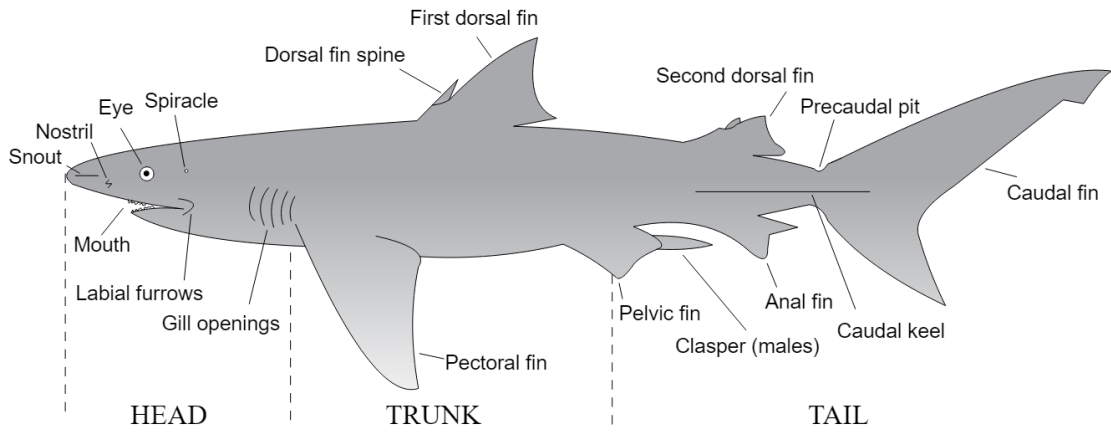
Types of Sharks



PHYSICAL FEATURES

The whale shark is the largest living fish. It can reach about 50 feet (15 meters) long and weigh nearly 20 tons. The smallest shark is the dwarf lantern shark, which is only about 7.5 inches (19 centimeters) long.

Most sharks have a pointed snout that extends forward over the mouth. However, hammerhead sharks have a wide, flat head. A shark's teeth are sharp and triangular and grow throughout its life. Only a few species, including the white shark, the tiger shark, and mako sharks, have very large teeth. Sharks have a muscular, upturned tail and pointed fins.



Sharks normally have tough, gray skin with toothlike scales. They also may be cream, yellow, brown, bronze, blue, or nearly black in color. They often are patterned with spots, bands, or marbling.

WHERE SHARKS LIVE

Most sharks live in oceans in the mild or warm parts of Earth. But the Greenland shark lives in the cold Arctic waters. Sand sharks spend most of their time at the bottom of shallow water. The Portuguese shark lives in the deepest parts of the ocean.



BEHAVIOR

Sharks use their sharp sense of smell to find food. They may eat plankton, shellfish, sea turtles, fishes, seals, porpoises, squid, or whales. Sharks circle their prey and frequently approach from below. When excited by the smell of blood, sharks may have a "feeding frenzy." This means that they attack any object within reach and feed rapidly.

Sharks swim constantly to keep from sinking. They are known for their speed in the water. Most species can swim 20–30 miles (32–48 kilometers) per hour. But the speed of mako sharks has been recorded at more than 60 miles (97 kilometers) per hour.

Most sharks live by themselves. But a few, such as the spiny dogfish shark, form schools, or groups.

BABIES

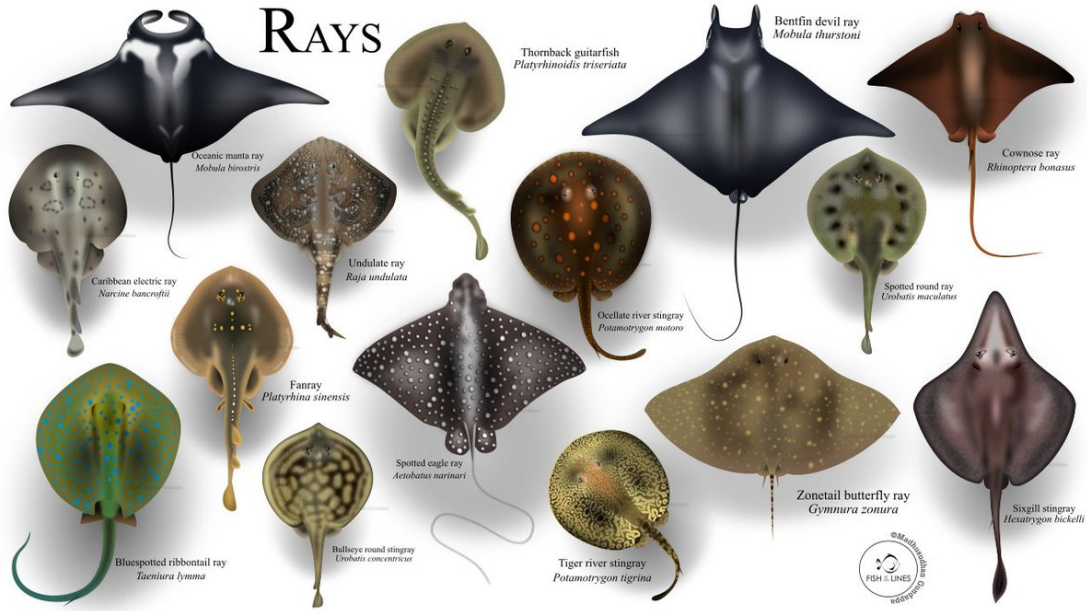
Sharks reproduce in one of three ways. In some types the female gives birth to live young. In other types the young hatch from eggs inside the female's body and then are born. In still other types the female lays rectangular, leathery eggs that become attached to rocks or seaweed. The young hatch days or weeks later. Female sharks may have from two to about 20 young at a time.



A baby Sarawak shellshark inside its egg case. Photo by Cheng-Chang Lee

SHARKS AND HUMANS

People eat the meat of some sharks, including thresher and mako sharks. Only some species—including the white shark and the tiger shark—are considered dangerous to humans. When these sharks are hungry, disturbed, or defending their territory, they may attack humans. Even the movement and noises of swimmers can cause some sharks to attack. However, shark attacks are rare.



RAYs

A ray is a fish with a flattened body and large, winglike fins. Rays belong to the same large group of fishes as sharks. Both rays and sharks have skeletons made up of cartilage (elastic tissue) instead of bone. Rays are found in all oceans of the world.

There are more than 300 different species, or types, of ray. These can be divided into several groups: skates, electric rays, sawfishes, and stingrays.

Rays vary in size. The little, or hedgehog, skate is less than 20 inches (50 centimeters) long. The Atlantic manta, or giant devil ray, has a wingspan of up to 23 feet (7 meters).

Most rays have rough skin. It may be a solid color or patterned. Electric rays, however, have smooth skin. They also have electric organs near the head. These give powerful electric shocks to enemies or prey. A ray's tail is slender and sometimes long and whiplike. Stingrays have a poisonous spine on the tail. They use it for defense. Sawfishes have a long snout shaped like a saw. They use it mainly for hunting.

Rays often lie partly buried in sand or mud on the ocean floor. They feed on small fish and such crustaceans as crabs and shrimp. When prey gets close, rays quickly lunge out of the sand and snatch it up.

The females of most species give birth to live young. However, skates lay eggs.

Name _____

Taking Notes

Directions: Use this organizer to take notes on the essay.

list of key words

words I need to define

summary of main points

interesting facts

questions I have