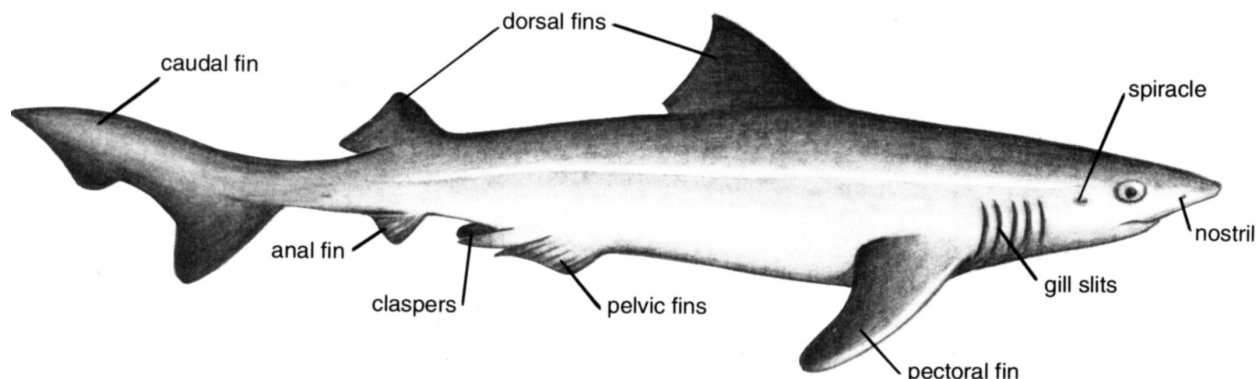


Fins and Functions

A shark's tail is called its *caudal fin*. The caudal fin propels the shark forward. The paired fins toward the front of a shark are its *pectoral fins*. Pectoral fins lift a shark as it swims. The fins on a shark's back are the dorsal fins. Pelvic fins are paired fins underneath the shark, and the *anal fin* is a single small fin near the tail. The dorsal, pelvic, and anal fins all stabilize the shark as it swims.



All fishes including sharks have fins.

Mark the Shark

OBJECTIVES: Given an outline drawing of a shark, the student will be able to identify the fins and the gill slits. They will be able to count the number of fins they can see.

MATERIALS: “Mark the Shark” funsheet (page 4 of this Guide), crayons.

ACTION: Distribute crayons and copies of the “Mark the Shark” funsheet to your students. Then read them the following directions. Give them time to complete each step before you go on to the next.

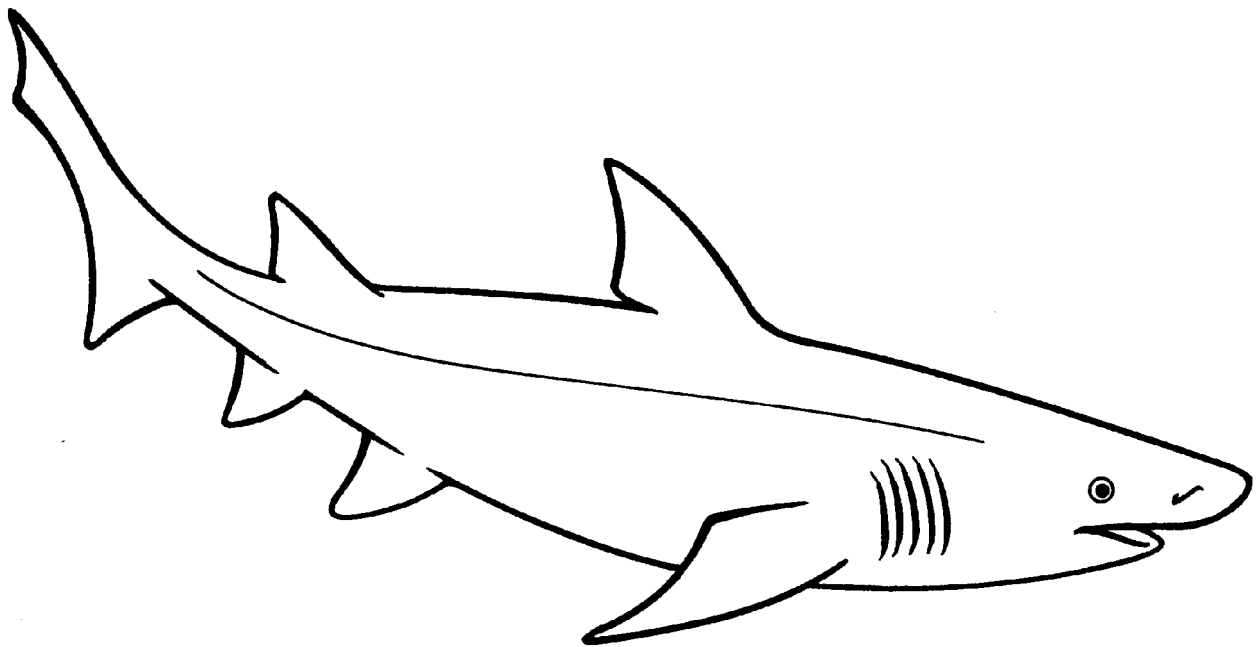
1. Draw a circle around the caudal fin (tail).
2. Draw a triangle on each dorsal fin.
3. Make an arrow pointing to the pectoral fin.
4. Draw a box around the gill slits.
5. Put an X on the pelvic fin.
6. Draw some dots on the anal fin.
7. Count the number of fins you can see on your shark. Write this number on your paper.

DEEPER DEPTHS: Buy a whole fish at a fish market or the seafood section of a supermarket. Allow students (in work groups) to locate each of the fish's fins. Where is the opening to the gills? Save this fish to do the “**Print a Fish**” Activity on page 5 of this Guide.

Mark the Shark

1. Draw a circle around the **caudal fin** (tail).
2. Draw a triangle on each **dorsal fin**.
3. Make an arrow pointing to the **pectoral fin**.
4. Draw a box around the **gill slits**.
5. Put an X on the **pelvic fin**.
6. Draw some dots on the **anal fin**.
7. **Count** the number of fins you can see on your shark.

Write this number on your paper.



Print a fish (You Can Gyotaku, Too!)

OBJECTIVE: Given a fish and printing materials, the student will be able to identify fish body parts and create an impression of a fish.

MATERIALS: one or more fresh or thawed fish

- nontoxic tempera paint
- small and medium fairly stiff brushes
- modeling clay or Play-Doh
- newspaper
- prewashed fabric (a light muslin or other cotton works well), newsprint, or rice paper

ACTION: Sometime in the early 1800s, fish printing, or gyotaku, originated in Japan or China. Fishermen in Japan use fish printing to keep a record of their catches.

Fish printing has been practiced as an art in the U.S. for about 35 years. You can use these same directions to make prints of shell, plants, or other objects.

Follow these directions to make your fish print. You can use a fish for up to ten good prints. Re-ink each time.

1. Wash the fish carefully but thoroughly with soap and water to remove the mucus. Dry the fish. Clip any sharp spines with pliers.
2. Place the fish on several layers of newspaper. Plug the anus of the fish (the opening just in front of the anal fin) with a small piece of paper.
3. Adjust your fish so that it lays the way you want it to look in your fish print. Identify the fins and spread them out into a lifelike position. Support the fins with clay or Play-Doh to hold them in place.
4. Avoiding the eye, apply a thin coat of ink onto the fish. Brush from head to tail. After your fish is covered with ink, brush from tail to head.
5. Place your printing surface (paper or fabric) carefully over your fish. With your fingers, press it firmly over the inked fish. Try not to wrinkle the paper or move it around too much once you have set it in place.
6. Carefully remove your printed fabric or paper. Print your fish a second time right away (without re-inking it) for a better print.
7. On your print, paint in the eye with a small brush or marker.

