



Grades 11-12
Shark Lesson Plans

I. Lesson (Before Visit)

Objectives:

1. Students will be able to identify shark anatomy.
2. Students will learn about shark senses.
3. Students will learn about the differences between sand tiger sharks and nurse sharks.

A. Pre-assessment discussion:

1. What fishes do you think are the top predators?
2. Why do you think they are at the top of the food chain?
3. Which species of sharks are you familiar with? Which species do you suppose are the most common ones found at Aquariums?
4. What can you tell me about sharks' senses?

B. Discuss predator design.

1. Fusiform body - streamlined
2. Countershading - dark back, light underside makes it difficult for prey to see sharks approaching
3. Teeth - in rows, worn or lost teeth are continually replaced
4. Senses (sight, smell, hearing, ability to sense vibrations and low frequency.)

C. Shark Anatomy-Discuss function of each anatomical part

1. Liver - as much as 75% of body weight - creates neutral buoyancy
2. Eyes - 7x as powerful as the human eye, can see in color
3. Ampullae of Lorenzini - jelly filled pores about the snout that react to temperature and pressure changes - can detect weak electrical charges produced by prey
4. Teeth
5. Pectoral Fins - used for steering, provide lift
6. Pelvic Fin - provide stability and steering
7. Anal Fin - acts as a stabilizer to prevent rolling
8. Caudal Fin - tail fin, used for propulsion
9. First and Second Dorsal Fins - for stabilization, keep sharks from rolling from side to side
10. Gills - respiratory organs that extract oxygen from water
11. Claspers - male sexual organs

D. Differences of sand tiger and nurse sharks

1. Where found

2. Body design

II. During visit to Aquarium

- A. Observe the two species of sharks in the Lost City of Atlantis Shark Exhibit.
- B. Participate in a scavenger hunt to find other species of sharks in the Aquarium. Each student will pick a shark to sketch and label its anatomy. Meet back as a group in the birthday party room to discuss findings.
- C. Talk about what the body design tells you about each shark.
- D. Attend a shark feed (generally scheduled for Monday, Thursday and Saturday afternoons at 4:20 pm).

III. After visit

- A. Do a research project on your favorite shark found in the Aquarium.
- B. Research one of the "man-eating" sharks.