

# WHITE SHARK



**Scientific Name:** *Carcharodon carcharias*

**Classification:**  
**Phylum Chordata**  
**Subphylum Vertebrata**  
**Class Chondrichthyes**  
**Subclass Elasmobranchii**

**Size:** Length to about 19.5 ft (6 M);  
 at birth about 5 ft (1.5 M)

**Life Span:** 40 to 70 years

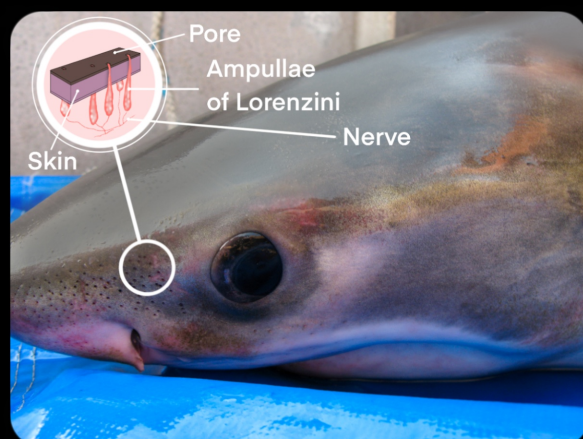
**Range:** Circumglobal, common from  
 Alaska to central Baja  
 California, Mexico

**Conservation  
 Status:** Vulnerable

**Education Programs  
 2023-2024**

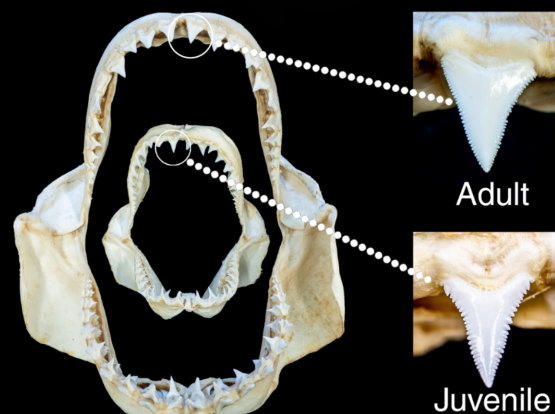


## Sensory



Elasmobranchs have special sensory organs, called Ampullae of Lorenzini, concentrated along the head and snout. These electroreceptors form a network of jelly-filled tubes and are used to detect electric fields in the water, muscle contractions of their prey, temperature, salinity, and the earth's magnetic fields for migration.

## Feeding



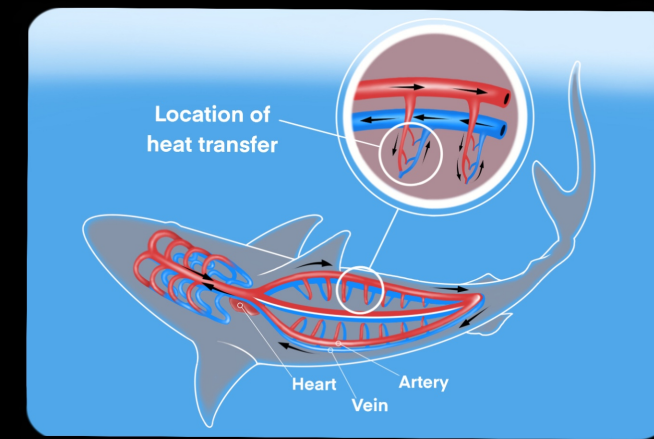
Juvenile white sharks feed on bottom-dwelling fishes, such as stingrays and flatfishes. When they grow to ~10 feet, they shift their diet to marine mammals, such as sea lions. This dietary shift is reflected in teeth shape and size, with the teeth broadening and becoming more serrated as they get older.

## Camouflage



Many sharks use countershading as a way to camouflage. The dark coloration on the dorsal (top) side allows the shark to blend in with the dark, deep water when viewed from above. The light coloration on the ventral (bottom) side blends in with the sunlight when viewed from below.

## Endothermy

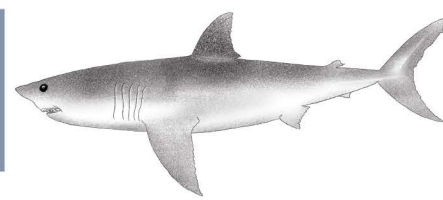


White sharks are specifically adapted to generate heat during swimming. Heat is transferred to the internal organs through a network of blood vessels called the rete mirabile. This ability for countercurrent heat exchange enables these endothermic sharks to maintain a higher body temperature than their surrounding environment.

**Cabrillo Marine Aquarium • San Pedro**







## Education Programs 2023- 2024

For complete details, please visit [www.cabrillomarineaquarium.org/education/programs-school](http://www.cabrillomarineaquarium.org/education/programs-school)

### Tours

**Guided Tours** — Docent-led tours focusing on southern California marine life.

**Details:** June-March, Tuesday-Friday, 10am. 90-minute program. Fee: Free.\*

**Self-Guided Aquarium Visits** — Explore the Aquarium on your own; reservations required.

**Details:** Year-round, Tuesday-Friday, 1-5pm; Saturday and Sunday, 11am-5pm. Fee: Free.\*

### Outdoor Programs

**Spring Outdoor Classroom** — Docent-led program on the beach at the Cabrillo Coastal Park.

**Details:** March-April (PreK-K), April-early June (K-5), Tuesday-Friday, 10am. 90-minute program. No limit of students per program; no more than 1 adult per 5 students. Fee: Free.\*

**Explore the Shore** — Learn by doing! Challenge your students to explore science concepts using the tools of a naturalist.

Students engage in hands-on investigation of local habitats and marine organisms in our Coastal Park. Learn about life along the shore and our role in conservation.

**Details:** October-June, Fridays, 10am. 90-minute program. Limit 60 students per program; no more than 1 adult per 5 students.

Fee: Free.\*

**Key to the Sea** — This outdoor beach-based program encourages students to learn about watershed stewardship, coastal ecology and how we are all connected to the ocean. Teachers are required to attend a Key to the Sea workshop prior to their field trip. For more information visit: [www.healthebay.org/key2sea/](http://www.healthebay.org/key2sea/)

**Details:** October-June, Fridays, 10am. 90-minute program. Limit 60 students per program; no more than 1 adult per 5 students. Fee: Free.\*

### Sea Search

**Marine Biology Workshops** provide hands-on laboratory and field experiences that focus on a wide range of marine biology topics. In the laboratory, activities include the use of microscopes and observation of live marine animals and other specimens. Using scientific field tools, students will explore the flora and fauna of the natural habitats in the tidepools, salt marsh or sandy beach adjacent to the Aquarium. Human Impacts and Conservation issues are incorporated in all classes.

**Details:** October-June, Tuesday, Wednesday, and Friday, 9am or 10am. Three-hour program. Limit 50 students per program. Fee: \$350 for up to 35 students, \$10 for each additional student.

### Ocean Outreach

**Bringing the Ocean to You!** Students will be amazed and engaged through the use of hands-on discovery, specimen investigation and student involvement. We can even bring live marine animals to your school. All of our topics are tailored to grade and age level and designed to spark your students' curiosity and appreciation for the ocean!

**Details:** Year-round, Tuesday-Friday, 9am-4pm. One-hour session with a maximum of four sessions per site, per day. Limit 30 students per session. Fee: \$170 for first session, \$70 for each additional session. After-school sessions (after 2:30pm), \$230 for first session, \$90 for second session.

### Whale Watching

**Take your students to sea** to experience whales, dolphins and sea lions in their natural habitat while enjoying a fun boat trip with an experienced guide. Our nutrient-rich waters may provide opportunities to see migrating gray whales, as well as humpback whales, fin whales, bottlenose dolphins, common dolphins, California sea lions, sea birds, and other marine life. Cabrillo Whalewatch volunteer naturalists can provide a live or virtual pre-trip classroom presentation to prepare your students for all that may be seen during the at-sea tour.

**Details:** Year-round, two- to three-hour boat trips departing from various landings. Live or virtual presentation by an experienced naturalist prior to your trip. Call 310-548-7770 to book this program.

**Virtual Visits available on request**

## Learn About Marine Science with Wet Hands and Sandy Feet!

**Cabrillo Marine Aquarium** is dedicated to promoting appreciation, knowledge, and conservation of the rich marine life of Southern California.

Through our many live and interpretive exhibits, seawater laboratories and surrounding seashore habitats, your students have the opportunity to explore the wonders of our neighboring ocean.

Located on the beach in San Pedro, our beautiful Cabrillo Coastal Park includes grassy picnic areas, tidepools, a salt marsh, sandy beaches and a fishing pier, all joined by accessible trails for you and your class to enjoy.

Our programs are LAUSD Board of Education approved and are aligned with the Next Generation Science Standards.

### Program Reservations

To make reservations for our programs, please visit our website, [www.cabrillomarineaquarium.org](http://www.cabrillomarineaquarium.org), click on **Education**, then **School Programs**.

For more information call 310-548-7562, Monday - Friday from 9am to 5pm.

**\*CMA wants a clean LA!** Your students can help us with this goal through in-class activities or service-learning projects in support of our free programs. Information will be provided upon registration.

	PreK min. age 4 yrs.	K	1st	2nd	3rd	4th	5th	6th	7th	8th	High School	Adults	Availability	Duration	Cost
<b>Aquarium Programs</b>															
<b>Tours — Discover the Aquarium</b>															
Guided Tours		•	•	•	•	•	•	•	•	•	•	•	Jul-Mar	90 min.	Free*
Self-Guided Aquarium Visits	•	•	•	•	•	•	•	•	•	•	•	•	Year-round	90 min.	Free*
<b>Outdoor Programs — Hands-on learning &amp; coastal experience</b>															
Spring Outdoor Classroom	•	•	•	•	•	•	•	•	•	•	•	•	Mar-Jun	90 min.	Free*
Explore the Shore		•	•	•	•	•	•	•	•	•	•	•	Oct-Jun	90 min.	Free*
Key to the Sea			•	•	•	•	•	•	•	•	•	•	Oct-Jun	90 min.	Free*
<b>Sea Search — Marine biology workshops</b>															
What Lives on the Sandy Beach		•	•	•	•	•	•	•	•	•	•	•	Oct-Jun	3 hrs.	Fee-based
Life on the Rocky Shores		•	•	•	•	•	•	•	•	•	•	•	Oct-Jun	3 hrs.	Fee-based
Salt Marsh and Plankton					•	•	•	•	•	•	•	•	Oct-Jun	3 hrs.	Fee-based
Habitat Comparison		•	•	•	•	•	•	•	•	•	•	•	Oct-Jun	3 hrs.	Fee-based
Ichthyology						•	•	•	•	•	•	•	Oct-Jun	3 hrs.	Fee-based
<b>Ocean Outreach — Bringing the ocean to you</b>															
Adventures of C-Weed the Snail	•												Jun-Feb	50 min.	Fee-based
At Home in the Sea		•	•										Year-round	1 hr.	Fee-based
Treasures in the Tidepools			•	•	•	•	•	•	•	•			Year-round	1 hr.	Fee-based
Greatest Fish Story Ever Told		•	•	•	•	•	•	•	•	•			Year-round	1 hr.	Fee-based
Thar She Blows! Whale of a Lesson				•	•	•	•	•	•	•			Year-round	1 hr.	Fee-based
Shark! It's OK to Go in the Water					•	•	•	•	•	•			Year-round	1 hr.	Fee-based
What is Plankton Anyway?					•	•	•	•	•	•			Year-round	1 hr.	Fee-based
Squid Dissection					•	•	•	•	•	•	•		Year-round	1 hr.	Fee-based
Fish Dissection					•	•	•	•	•	•	•		Year-round	1 hr.	Fee-based
Fish Printing					•	•	•	•	•	•			Year-round	1 hr.	Fee-based
<b>Whale Watching — See whales and dolphins in the wild</b>															
Boat Trip	•	•	•	•	•	•	•	•	•	•	•	•	Year-round	2-3 hrs.	Fee-based
Presentations: Live or Virtual	•	•	•	•	•	•	•	•	•	•	•	•	Year-round	Up to 1 hr.	Free

## Workshops, Service-Learning and Community Service

We offer Educator Workshops throughout the year. Opportunities are also available to help students fulfill academic service hour requirements.

**Schedule your program today as spaces are limited!**

**Please visit our website for details or call 310-548-7562.**

**Cabrillo Marine Aquarium** is a trusted resource that inspires exploration, respect and conservation of Southern California marine life.



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