

TEACHER GUIDE: GRADES 6-8

THANK YOU FOR CHOOSING BIRCH AQUARIUM FOR YOUR FIELD TRIP!

We hope these resources will help you and your students make the most of your time at the aquarium. Each activity sheet aligns with a different exhibit in the aquarium, and all the answers can be found within that exhibit. You can find the answer key and more exhibit information below.

TIPS & TRICKS

- Print these activity sheets for your students before you arrive. They are not available for printing or pick up at the aquarium.
- Bring your own clipboards and writing instruments for each student. Exhibit windows cannot be used as writing surfaces.
- Give a copy of this guide to each chaperone so that they can best support their group of students.

There is no activity sheet for Tide Pool Plaza, as your students can touch local animals here! Be sure to put away all materials that could fall into the open water. Follow directions of aquarium staff and volunteers at all times.

QUESTIONS YOU CAN ASK YOUR STUDENTS:

- Have you ever seen this animal before?
- What body parts help it survive in our local environment?
- What do you think the animal will feel like?
What does it actually feel like?

HAVE YOU BEEN ON YOUR FREE PRE-VISIT YET?

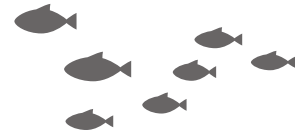
Teachers receive a **FREE** pre-visit prior to your program to help you in the planning process.

Call (858) 534-7336 to make a reservation in advance.

BIRCH
AQUARIUM

UC San Diego
SCRIPPS INSTITUTION OF OCEANOGRAPHY

EXHIBIT INFORMATION



SHELIA MARIE DAVIS GALLERIA

- Don't forget to look up when you walk through the aquarium doors!
- Check out life size models of local shark species.

HALL OF FISHES: PACIFIC NORTHWEST & CALIFORNIA COAST

- The Hall of Fishes exhibit follows the California Current down the West Coast.
- Ask students what similarities and differences they notice between the animals as they work their way down the coast.

KELP FOREST

- Our Kelp Forest Exhibit holds 70,000 gallons of water!
- Fresh seawater for our exhibits is pumped up the hill from La Jolla Shores thanks to equipment on Scripps Pier.

HALL OF FISHES: MEXICO & TROPICAL REEFS

- Our Loggerhead Sea Turtle was rescued near a power plant in New Jersey. She has paralysis in her back flippers, meaning they cannot move.
- Scientists 3-D printed a brace to fill a gap in her shell to keep her healthy as she grows!

EXPEDITION AT SEA: R/V SALLY RIDE

- Visit the interactive displays to see what the inside and outside of a research vessel really look like and hear from scientists and crew members!

SHARK SHORES

- Sharks don't actually want to bite humans. Shark bites are really shark accidents- a lot of sharks like to eat seals and sea lions.
- In the water, where it can be hard to see, sharks can get confused and think humans are seals or sea lions. There are also many species of sharks, and they all eat a variety of things.
- The biggest shark on the planet, the whale shark, actually eats tiny plankton!

SEADRAGONS & SEAHORSES

- Some relatives of seahorses and seadragons are seamoths, cornetfishes, trumpetfishes, pipefishes, shrimpfishes, and snipefishes. Some of these relatives can also be found in the exhibit!

BEYSTER FAMILY LITTLE BLUE PENGUINS

- Little Blue Penguins are native to Southern Australia, New Zealand, and Tasmania.
- Their climate is actually very similar to our own here in San Diego!
- There is always an education naturalist in the Research Station who can answer any questions you or your students may have.

ANSWER KEY

HALL OF FISHES: PACIFIC NORTHWEST & CALIFORNIA COAST

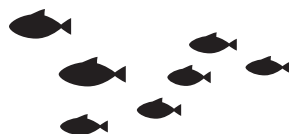
- Northwest Coast: Sunflower Star, Giant Pacific Octopus, Bat Star, Pacific Spiny Lumpsucker
- San Diego Bay: California Spiny Lobster, Bat Star
- Southern California Rocky Reef: Garibaldi, California Spiny Lobster, California Moray Eel

KELP FOREST

- Food webs should be drawn with the arrow pointing where the flow of energy is going.
- Decomposers connect all the animals to the producers, as dead animals are broken down into nutrients that the producers use.
- As temperatures warm, some animals may shift their range north if the water becomes too hot for their prey or for themselves. Some species may adapt to warmer water over time and others may not survive.

HEALTHY VS. BLEACHED REEF

- Algae in the bleached reef was expelled due to warmer water temperatures.
- Coral is left unhealthy and may eventually die.
- This also impacts all the species that depend on the coral as their habitat or food source.



EXPEDITION AT SEA: R/V SALLY RIDE

All answers can be found
on exhibit signage.

SHARK SHORES

- Seal and sea lion populations would increase because there is no predator to keep their populations in check.
- Fish populations would then decrease as a result of more seals and sea lions needing to eat.
- Removing sharks upsets the natural balance of the ecosystem.

SEADRAGONS & SEAHORSES

- Seahorses have a PREHENSILE tail, which is adapted to grasp and hold onto objects, similar to a monkey!

BEYSTER FAMILY LITTLE BLUE PENGUINS

There are many different behaviors penguins may do that relate to their life cycle. For example, students may observe a penguin holding pieces of plants in their beaks, which they use to build their nest. Encourage students to think about the why behind each behavior.

What are the ways that a warming planet affects penguins?

1. Fewer fish to eat
2. Flooding of nesting areas
3. Decreased odds of breeding

