



## LEARNING LABS

### EXPLORING PATHOLOGY: FISH DISSECTION

Through a hands-on dissection, students play the role of Shedd's animal health team in this problem-based learning lab. Students use various pathology procedures to diagnose the health of their specimen. Learn how a necropsy can be a vital tool in caring for an animal collection.

**GRADE LEVEL:** 9-12 | **CAPACITY:** 30 students | **DURATION:** 90 minutes

#### KEY CONCEPTS

Adaptations, physiology, anatomy, pathology, forensics, animal health

#### SKILLS

Scientific investigation and method, collaboration and communication, teamwork, inquiry, qualitative and quantitative data collection

#### NEXT GENERATION SCIENCE STANDARDS

- HS-LS2-8

#### COMMON CORE STANDARDS

- WHST.9-12.7, RST.11-12.7

#### WHAT TO EXPECT FROM THE LEARNING EXPERIENCE

- Students work in small groups using dissection tools to perform a guided fish necropsy
- Students collect data on physical conditions of their fish using microscopes and other laboratory equipment
- Teachers and chaperones may participate
- Students analyze and discuss their data



For more information contact  
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## FURTHER EXPLORATION

### Encyclopedia of Life

<http://www.eol.org/>

### Shedd Educational Adventures Scientific Sketching and Classifying Shedd's Collection

<http://sea.sheddaquarium.org/sea/>

### Discovery Education

#### *The Journey of the Pink Salmon:*

#### *The Price of Life's Renewal*

Salmon and striped bass have similar spawning behaviors.

<http://www.discoveryeducation.com>

### Fish Base

#### Comprehensive fishes database

<http://www.fishbase.org>

## CONNECTIONS TO THE EXHIBITS

The skills used in the lab can be used throughout the aquarium. Here are three examples of activities students can do.

### Wild Reef

Students can choose a fish in the Schooling Fish exhibit and compare it to the fish that they dissected, observing similarities and differences in their characteristics. How are they related? Are they in the same taxonomic family? Are they in the same taxonomic order? How do they compare to other animals in the aquarium?

### Amazon Rising

This exhibit has hundreds of fishes on which to practice critical observation skills. Students can make detailed behavior records for a fish of their choice. Record exactly what the fish is doing at 30-second intervals. Collect at least 10 data points. What can you infer about the animal's health from these observations?

### Caribbean Reef

Use scientific sketching skills on a live animal. Students can sketch a fish and key parts of its habitat. Detailed labels should be included.

## CONNECTIONS TO THE CLASSROOM

- Prepare students for a dissection by exploring the external and internal anatomy of other animals. It's useful to include animals from different orders, such as insects, reptiles, birds, mammals, etc. This does not have to be conducted with specimens; pictures can be a great tool.
- After the field trip, follow up with students by classifying animals based on external and internal anatomy or lead students in a dissection of a different animal. What similarities and differences did the animals have? Use this to emphasize the differences between observation and inference. Explore the idea that what you see and what you know can be two different things.



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