

Wild Reef

3–5 TEACHER'S GUIDE



Grade: 3–5

Objectives:

Observe different fishes to determine if there are any patterns in the structures they have.

Support an explanation of how fishes are classified based on their structures.

Timing: 30 minutes at Shedd Aquarium

Materials: Printed activity sheet for each student

Additional resources

<https://www.sheddaquarium.org/blog/2018/january/Night-Diving-for-Coral-Colonies-with-SCORE/>

Introduction

Coral reefs are oases of life in the vast open ocean. They provide habitats to many types of organisms and are considered the most biodiverse ecosystems in the world. Many different animals call them home, including, many species of fishes. A lot of people do not know that sharks are fishes! They have many differences to the bony fishes, like salmon and groupers, but they also have similarities. Students will be asked to make observations and determine what structural patterns exist among different fishes. They will then use this evidence to determine if sharks are fishes or not.

Working toward these Next Generation Science Standards

3-5LS1.A Structure and function: Organisms have both internal and external macroscopic structures that allow for growth, survival, behavior and reproduction.

CCC Patterns: Patterns can be used as evidence to support an explanation.

SEP Asking questions and defining problems: Use evidence (e.g., measurements, observations, patterns) to construct or support an explanation or design a solution to a problem.

Background information

Fishes as a group are classified by specific physical traits. All fishes have backbones, fins and scales. In addition, they live in water. For this activity, students will observe the fins, scales and habitats of several species, including sharks. The main difference between sharks and bony fishes is that sharks have a skeletal system made of cartilage.

Lesson Outline

Know before you go

- Scientists use patterns to classify objects and organisms. They look for things that the objects or organisms have in common. If they have more in common, they are more likely to be related.
- Coral reefs are complex underwater ecosystems that include many different plants and animals.



Explore at Shedd!

Andrea is studying coral reefs and the organisms that call them home. She is trying to group different organisms together based on body parts that they have. She is most excited about all the fishes she has discovered, but she is not sure if sharks are fishes or not. She needs your help! Use the Wild Reef exhibit to answer the questions below. Your goal is to collect enough evidence to help Andrea decide if sharks are fishes or not.

- Read the information and use the Wild Reef exhibit to complete the table and reflection questions.
- The reflection questions help students put it all together. We recommend that students share their thoughts with a partner or small group.

Optional classroom debrief questions

- What are the main traits all fishes have?
- Did you determine if any other traits can be used to classify fishes?

Optional extension activities

- Students try to determine patterns in how mammals are classified. They can then compare these characteristics to fishes.

Notes/considerations

Differentiation

- Students observe two fishes.