



## Let's Go Fish

**Objectives:** Participants will identify fish based on physical characteristics. Participants will learn about fisheries management: size regulations, bag limits, and reasons for each.

**Time needed:** 5-10 minutes

**Target age:** 2-10

**Materials needed:** - assortment (varying species and sizes) of laminated paper fish with Velcro on mouths

- fish picture key with size limits and bag limits
- fishing pole with Velcro "hook"
- yard stick
- cooler

**Description:** This activity has the flexibility to offer something for the very young participant with the option of expanding upon it for older students. This is a base level description of the activity, for young participants or for a limited time frame. For older students with more time, some of the extensions should be utilized. Participants will use the fishing pole to catch a fish. Then they will match their fish to a fish on the key. Young students might need prompting to use shape of body and fins, color (this should include a short discussion of the limitations of using color to identify animals), and other physical characteristics to identify the fish. Once the fish has been identified, participants should determine the legal size and measure the fish with a yard stick. For young students, this might be done using a comparison to paper fish that are printed at the legal size. If the fish is not legal size, it should be "thrown back." If it is legal size, it can be thrown back or tossed in the cooler. As participants catch multiple fish, they should check bag limits for each species and take care not to exceed them. This should be accompanied by a discussion of the purpose of and need for fishing regulations, including fishing pressure, life cycles and life expectancies for different species.

### **Extensions:**

Discussion might include

- form and function of fins, mouths, and body shapes.
- methods of data collection and the role of scientific data in fishing regulations.
- the benefits of fishing regulations to society.
- the historical use of fishing regulations by different societies.
- habitat use by different fish
- artificial structures
- habitat restoration

## **Standards:**

### **National Science Education Standards:**

*Unifying Concepts and Processes* – Change, constancy, and measurement

#### K-4

*Life Science* – Characteristics of organisms; Life cycles of organisms

*Science in Personal and Social Perspectives* – Characteristics and changes in populations; Types of resources;

Science and technology in local challenges

### **Ocean Literacy: Essential Principles and Fundamental Concepts:**

1. *The Earth has one big ocean with many features.* – h. Although the ocean is large, it is finite and resources are limited.
6. *The ocean and humans are inextricably interconnected.* – b. From the ocean we get foods . . . ; e. Humans affect the ocean in a variety of ways. Laws, regulations and resource management affect what is taken out and put into the ocean. . . . In addition, humans have removed most of the large vertebrates from the ocean.; g. Everyone is responsible for caring for the ocean. The ocean sustains life on Earth and humans must live in ways that sustain the ocean. Individual and collective actions are needed to effectively manage ocean resources for all.
7. *The ocean is largely unexplored.* – c. Over the last 40 years, the use of ocean resources has increased significantly; therefore, the future sustainability of ocean resources depends on our understanding of those resources and their potential and limitations.

### **Extensions Standards:**

#### **NSES:**

*Unifying Concepts and Processes* – Evidence, models, and explanation; Form and function

#### K-4

*Science as Inquiry* – Understandings about scientific inquiry

*Life Science* – Organisms and environments

*Science and Technology* – Understandings about science and technology

*Science in Personal and Social Perspectives* – Changes in environments

*History and Nature of Science* – Science as a human endeavor

#### **Ocean Literacy:**

5. *The ocean supports a great diversity of life and ecosystems.* – f. Ocean habitats are defined by environmental factors. Due to interactions of abiotic factors such as salinity, temperature, oxygen, pH, light, nutrients, pressure, substrate and circulation, ocean life is not evenly distributed temporally or spatially, i.e., it is “patchy”. Some regions of the ocean support more diverse and abundant life than anywhere on Earth, while much of the ocean is considered a desert.
7. *The ocean is largely unexplored.* – b. Understanding the ocean is more than a matter of curiosity. Exploration, inquiry and study are required to better understand ocean systems and processes; d. New technologies, sensors and tools are expanding our ability to explore the ocean. Ocean scientists are relying more and more on satellites, drifters, buoys, subsea observations and unmanned submersibles.