

**Topic / Skill Outcome:**

- Fishing

**Purpose of Lesson / Objective:**

- Improve student's knowledge and skills in the area of fishing and knowledge and skills in the area of fishing while emphasizing personal safety in and around water

**Materials / Equipment / Environment:**

- Fishing poles with line with a bobber
- A target (Hoola Hoop)
- DNR fishing guides (ok if they are outdated)
- Posters with fish on them
- More advanced classes:
  - Assorted lures and hooks
  - Bobbers
  - Split shot
  - Bait (earthworms, wax worms, bread, corn)
  - Snap swivels

**Group Size:** up to 15

**Time Required:** 60 minutes, flexible

**Lesson Procedure:**

1. Emphasize water safety and what the object of fishing is
2. The object would be to use some sort of bait that would attract fish enough to bite it as food
3. Reel the fish in
4. Arrange the students in groups of two
5. Have the students hold the pole in their hands
6. Then show them how to cast the bait toward fish in the water
7. The pole is moved from behind to a forward and slightly upward motion, letting the button release at the appropriate time
8. You have three options, after you reel in:
  - a. First you could cast out again
  - b. Second re-bait hook
  - c. Third you could change your bait
9. Repeat as time permits
10. If fish is caught unhook and released

### **Carry Over / Related Activities:**

- Talk about the rules and regulations of fishing and water/boat safety
  - Emphasize the safety rules you want to enforce
    - Don't fall in the water
    - Don't hook anyone
    - Look before you cast
    - Bait your own hook
- Discuss water safety from the dock or shoreline
- Wearing an approved life jacket while in a boat

### **Strategies for Participation:**

- Encouragement, high fives and contests for fish caught

### **Student Reaction / Evaluation:**

- Individual fishing log for the size, type and area

### **Lesson Support:**

- It should be noted that each student would have and be at different ability levels. The instructor should adapt each task or lesson to the student's ability and needs. The goal or objective of each fishing lesson should to improve the student's overall knowledge about fishing, water safety, and help gain an appreciation in Physical Education / Recreation & Leisure and everyday activities.

### **Back Ground**

**Fish Anatomy:** Allow the students to name different parts of the fish. As they do, give them details about the part.

**The Lateral Line.** The lateral line is a sense organ that fish use to detect low frequency vibrations in the water. What animals put out vibrations in the water? Does your lure put out vibrations?

**The Eye.** Do fish see color? Yes, fish see all of the same colors that we do. Fish can see 3 time further than we do. If you put on your goggles and went under water and could see one foot how far could a fish see? If you could see 10 feet how far could a fish see?

**The Nares.** The nares is a primitive nose that smells food in the water. When you take you dog out for a walk what does he spend most of his time doing? Does a dog have a better sense of smell than you do? How many times? Up to 1000. A fish has a sense of smell 10 times better than a dog, so how many time is that better that your sense of smell?

The Food Web In the center of the web is a magnified group of plants and animals. Does anyone know what these are called? Do any of you watch Sponge Bob Square Pants? Who is the guy who has one eye and is evil? Captain Plankton. Plankton is the animal that fish eat when they are small and is the most important food for all fish. Next to the plankton you see small fish called minnows. They eat the plankton. Perch eat the minnow and plankton. Walleye eat the perch and minnows and plankton when they are small. And muskies eat anything they want. They are the wolf of the water. Also identify the fish eating birds in the top of the picture. Bald eagle, sea gull, a duck called a merganser, king fisher and blue heron.

The Mouth. A fish uses his mouth to capture prey and to take in water that passes over the gills.

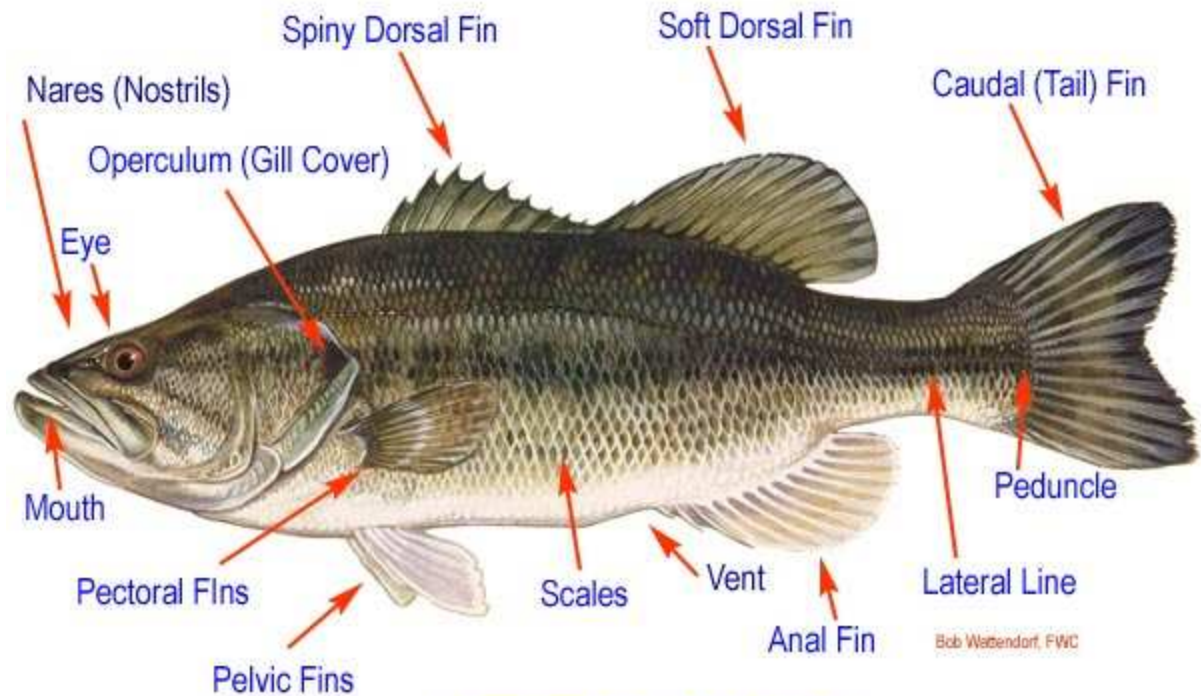
The gill take oxygen out of the water and that is the way fish breath.

Fish also have a great sense of taste. If you had a train car full of water with fish in it and you put in one cup of salt, the fish could taste the salt.

Scales: Scales are use to protect the fish from parasites, fungus and bacteria

Slime: You will notice that some fish such as trout have a lot of slime. What protection does slime give the fish? From bacteria and fungus, which can kill the fish. It is important to get your hands wet when handling fish.

The Caudal Fin. This is the motor that makes the fish go through the water. How fast can fish swim? Fish with square tails may swim up to 5 miles per hour. A general rule is the deeper the V in the tail the faster a fish can swim. How fast can a tuna swim? Up to 50 mph for a short burst.



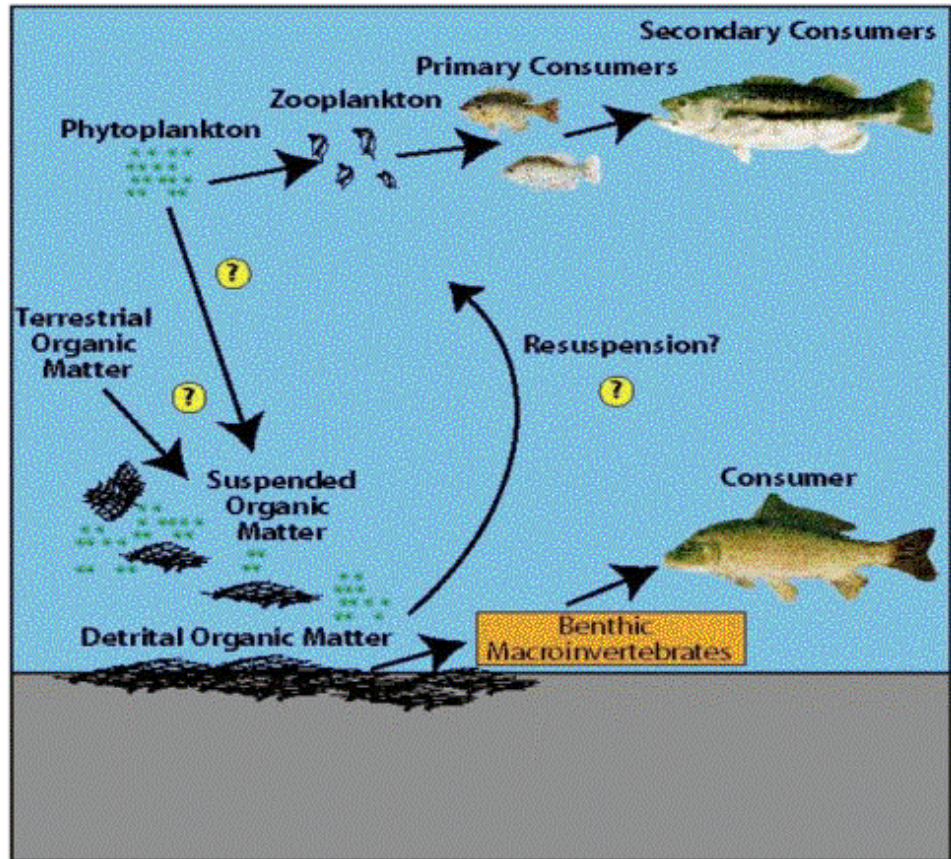
## EXTERNAL ANATOMY

**Aquatic Ecology:** This poster has two main features, a food chain represented on the left and a food web represented on the right.

The Food Chain. Note the magnified circle near the bottom of the poster. There are aquatic insects inside the circle. You can also see them on the aquatic plants. Above the plants are bluegill. Bluegill eat insects. Which fish eats the bluegill? Largemouth Bass. What do we call it when one animal eats another animal that eats another animal? A food chain.

If there were an accident and gas spilled onto the water what would be the first animal to die? Plankton.

What would happen to the rest of the food web? Many of the fish would die and fall to the bottom where they would be eaten by crawdads, catfish and bacteria. After a few years the food web would probably return to normal. What would happen if a fisherman killed every large muskies that he caught? The perch would over populate and eat all of the minnows. Then the perch would die because of starvation. They would fall to the bottom where they would be eaten by catfish, crawdads and bacteria. It is important to release the largest predators to maintain the food web.



**FIGURE 2:** This diagram shows the relations between typical aquatic organisms. The arrows connect the prey (diet) to the predator (consumer). Several different food webs are shown.

**Knot Tying:** Demonstrate how to tie an improved clinch knot using the large black hook. Give each student their own piece of fly line and help them tie the know using the holes in the table. Have them untie the knot and tie the knot again. This station need lots of helpers, so use the parents to help.

<http://www.animatedknots.com/improvedclinch/index.php?LogoImage=LogoGrog.jpg&Website=www.animatedknots.com>

Step1



Thread the fishing line through the eyelet of the hook or lure.  
Double back about 6 inches of line.

Step2



Make five or six twists around the standing line with the tag end. Run the tag end back through the loop closest to the eyelet.

Step 3



Run the tag end through the large loop that was made in Step 2. Grab the tag end and the standing line, and tighten. Use slow, even pressure. Make sure the coils of line sit next to each other, not on top of each other. Trim the tag end close to the knot.

### **How to Handle Fish:**

**Largemouth Bass.** Place your thumb in the fishes mouth and grasp the outer lip with you index finger. The bass will become calm and you can remove the hook.

**Sunfish:** All sunfish have spines on their fins. These can puncture your skin and occasionally break-off under your skin. To avoid being poked, grasp the fish firmly between your thumb and forefinger and roll the spines down against the fish with your palm.

**Catfish.** There are three spines on catfish. One on each pectoral fin and one on the dorsal fin. Place the thumb and forefinger on either side the fish behind the pectoral spines. Catfish have a skin, so keep your hands wet when releasing these fish. The whiskers are an extra set of tastebuds that help them find food. They have another set at the base of their tale.

**Fish Identification:** Have the students identify different fish that they have caught. Point out the different groups. Salmon, catfish, perch and sunfish. Talk about why fish have different shapes and coloration.

**The Ethical Angler:** What are ethics? Rules to live by. Do you have any rule to live by at home? Here are some of the rules fishermen live by.

**Support Conservation Efforts.** What is conservation? It is to use part of the resource and save part of the resource. In our case the resource are fish. We have laws to protect fish by limiting the number of fish we can harvest.

**Practice Catch & Release or Selective Harvest.** In some cases, such as this lake we want to release the large predators, which are largemouth bass. The largemouth eat bluegill and keep the food web in balance. In other cases, such as Mesa Lakes there are too many brook trout. To help bring the food web back in balance we would use Selective Harvest to reduce the number of fish in the lake.

**Don't Pollute.** What would happen if we spilled gas onto the water? Some of the plankton will die and the food web will go out of balance. If you get a tangle of line (birds nest) in your reel what should you do with it? Throw it in the trash. What animals would be harmed if we just throw it on the ground?

**Practice Safe Angling & Boating.** What is the most dangerous aspect of fishing? Hooking someone with your lure when you are casting or hooking yourself when handling a fish. What is the first thing you should do when you get in a boat? Put on your life vest.

**Obey all Rules & Regulations.** The Division of Wildlife has regulations to protect wildlife. You can get a copy of the laws at any Division of Wildlife office or at any sporting goods store. If you break the laws a game warden will give you a ticket and you will have to pay a fine or go to jail if you are doing something really bad.

**Respect Other Anglers Rights.** If you were catching a lot of fish and another fisherman started fishing right next to you how would that make you feel? When your fishing it is OK to talk to other fishermen, but don't fish in the same area. Many people go fishing so they can have peace and quiet and enjoy nature.

**Share Your Fishing Knowledge and Skills With Others.** When you are fishing with your friends and you are catching lots of fish and they're not, give them the information that will help them catch fish. This may be as simple as telling what kind of lure you're using or the presentation or how deep you're fishing.

**Promote Ethical Sportfishing.** When you're fishing with your friends and you see them doing something unethical, show them the proper way to do it. Their bad behavior reflects on your ethics.

# FRESHWATER GAMEFISH OF NEW ENGLAND

