



Junior Angler

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Program Purpose: Learn basic fishing techniques, understand fish habitat and how to find them, and apply this knowledge to an actual fishing experience. Based on Wisconsin DNR Junior Angler lesson plans; pictures courtesy of the Wisconsin DNR

Length of Program: 2 hours

Ideal Age: 1st – 9th grade, 6 – 13 year olds

Maximum Number of Participants: 15 participants

Objectives:

After participating in this lesson, participants will be able to:

- List two elements of good fish habitat.
- Cast safely and accurately.
- List two threats to fish populations.
- Tie one fishing knot.

Materials: see Appendix A

Teacher Preparation: Gather and prepare desired teaching materials from the Animal Signs Program Inventory. Obtain relevant Animal Tracking books for reference. If using clipboards, be sure to prepare enough recording materials for the class. If using iPads, be sure all the iPads are charged, and have the desired apps.

Background Information (embedded into the lesson activities).

Introduction:

Introduce yourself and the title of the class. Explain to the class that today they will be learning about fish and how to catch them.

Program Activities:

1. Hooray for Habitat (15 minutes)

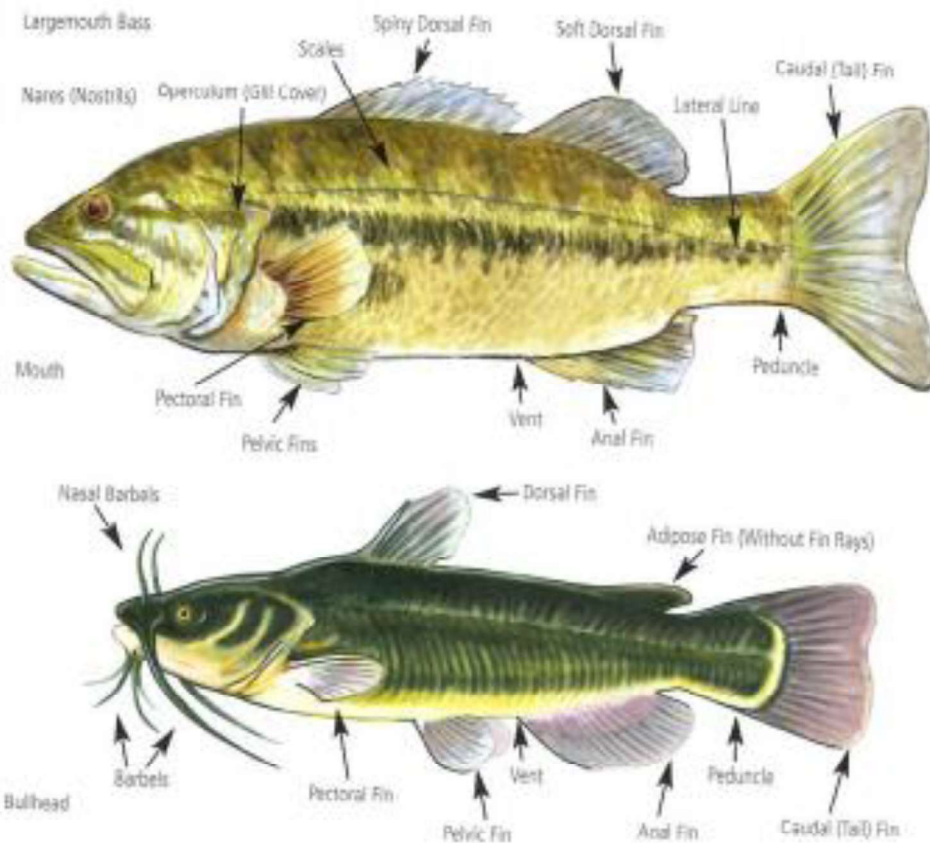
Ask the participants what they think fish need to survive, writing down their ideas on the white board. List the four requirements fish need to survive: Food, Water, Shelter, and Space. Take several minutes to explain or describe each what goes in each category. For example, water must be well-oxygenated and at the correct temperature. Different fish tolerate different temperatures. After your discussion have volunteers draw parts of what makes good habitat on the board. **Question:** How does all of this help you catch fish? [Transition] You can explain that fish habitat is not the same for each fish. Each fish is specialized to succeed in its own environment. It has adaptations. What is an adaptation?

2. Fish Inside...and Out (25 minutes)

Ask anglers what makes a fish a fish and list or draw them on the board. For each thing listed, name and ask why it is useful for. For example, the adipose dorsal, pelvic, and anal fins help balance the fish and keep it upright. Go through each of the adaptations below. **Question:** How does this help you catch fish?

- Fins: Dorsal, pelvic, and anal help keep upright in water; Pectorals help aim or position itself and act as breaks; Caudal (tail) fin is for propulsion; adipose fin
- Shape: streamlined to allow for easier movement in water; flatter to hide in weeds
- Color: camouflage; signal mating; dark on top, light on the bottom (countershading)

- Gills: Shift out dissolved oxygen from water
- Eyes: Fish can move their eyes in opposite directions; some fish like trout have great eyesight, while catfish do not
- Smell: All fish have nostrils, and good sense of smell. Excellent in fish who don't see well.
- Hearing: Fish have inner ears. Some fish use these ears for hearing, and other just for balance
- Lateral Line: This organ senses pressure changes and vibrating sound caused by things like movement
- Taste: Fish have taste buds in their mouths and outside their bodies. Catfish and bullheads have taste buds on their barbells.
- Protective Coverings: either scales, skin, or boney plates. A coat of slime to help with disease prevention



3. Tie a Knot – It's Easy (20 minutes)

Now that we know some stuff about fish, let's learn some things about how to tie a fishing knot. We use special knots in fishing so they don't weaken the line. Weakened line leads to lost fish. We will learn how to tie a Palomar knot. Show kids how to tie the knot on the rope and shower curtain holder. Let them practice. Then it will be time to hit the water and fish.

The **Palomar Knot** is a strong and reliable way of tying a hook to a line. It can be tied in the dark of night, if you practice.



4. Let's Go Fishin' – (60 minutes)

Move outside to grab the fishing gear. Make sure everyone is wearing a personal flotation device (PFD). Hold a pole and explain the parts and tackle (Description of Upham gear is below). For a spincasting reel or closed reel, when you let go of the button (bail) the line will go free. To tighten it, turn the reel until you hear a clicking noise. The bail is then closed and you can reel in. Demonstrate this by just letting the tackle drop to the ground. To cast, you put the reel next to your ear with the pole at about 2 o'clock and move it to 10 o'clock. Release the button as you do this (at about 12 o'clock). Be aware of what is around you when casting. If you are close to someone, tell them you are about to cast. We are using bobbers, so when your bobber goes under the water, you must set the hook. To set the hook, you jerk the tip of your pole in an upwards motion using just your wrists, not your full arms. Keep the tip of your pole up as you reel in to keep tension on the hook, and the hook in the fished mouth. Now, remember what we learned and how that can you catch fish. Let's hit the water.

Allow kids to fish and help them hook up bait. Below are tips on how to read the water, present bait, rig the terminal tackle, and handle fish correctly. You can talk these procedures through one-on-one as you do them for kids.

Upham Gear: spincasting reels, splitshot sinkers, baitholder hooks size 5. Parts of the poles: eyes, hook holder, handle, bail

Tips:

In general, fish will not hold up in fast current of the river. They will stay in shelter behind structure and deep pools where current is not as prevalent. Bait presentation matters. When hooking a worm, try to leave a small tail that can move around. If hooking a minnow, hook directly below the spine in the middle of the back (bobber fishing) or through the mouth and out directly behind the head (jigging and drop-shot-rigs). Depending on the season and time of day fish will hold at different depths. Be aware that the river in this area is not that deep at approximately 6-8 ft deep maximum. As a general rule of thumb, early in the morning and earlier in the summer, shallower is good. Mid-day go deeper. Night can be shallower or deep depending on species. Go deep in late summer and fall.

Rigging Terminal Tackle:

Bobber- sets the depth of the bait and shows strikes. Both hooks on round bobbers need to be on the line. **DO NOT SLIDE THE BOBBER ON THE LINE TO CHANGE DEPTH.** This damages the line. To change depth, unhook and re-hook the bobber at the desired depth. Stick bobbers only have one hook. If a stick bobber does not stand upright in the water, it is rigged too deep for the water it is in or there is not enough weight on the line.

Sinker – also called a weight, is responsible for sinking the bait. In general, sinkers should be placed 6 inches above the hook. **DO NOT SLIDE SINKERS ON LINE.** This damages the line. To remove a split shot sinker use pliers on the wings to open. Use pliers to close. **DO NOT USE YOUR TEETH.** Most other sinkers, you must cut the line.

Hook – Holds the bait, hooks the fish. Tie this to the end of the line, leave a small tag of line when tying hooks. Always wet the line before you pull the knot tight. **DO NOT CUT THE LINE WITH YOUR TEETH.**

Proper Fish Handling:

Keep the fish out of the water as little as possible. Wet your hands before you touch the fish to protect the fish's outer slime coating. When holding fish, keep them as horizontal as possible. Use needle-nose pliers to remove hook. To remove hook, apply slight pressure downward and pull straight out in the direction in went in. Place the fish gently back into the water. Make sure the fish has fully recovered before you let go. If the fish is struggling (often happens with larger fish), hold the fish upright in the water by grabbing its caudal fin positioning it so it faces the current. Gently move the fish forwards and backwards so oxygen is being rushed over his gills. When the fish is strong enough to swim on its own, release it. If the fish has swallowed the hook, cut the line and let it go. This fish will most likely die. If it is big enough or applicable, it is better to kill the fish by clubbing the head, put it on ice and prepare it for dinner.

In order to hold panfish (except crappies), grab them by their bodies. Slide your pinky, ring, middle and forefinger over the back, gently folding down the spines of the dorsal fin. Use your thumb underneath the belly to fold down the pelvic fins.

In order to hold bass and crappies, place your thumb in the open mouth and grab onto the lower jaw. Quickly remove hook, then grab the tail of the fish with your opposite hand so the fish is horizontal.

To hold fish with large teeth or tough mouths such as walleye, northern pike, muskellunge, sauger, salmon, large trout, catfish, and bullheads, slide your thumb up under the gill covering beneath the gill bone, and place it on the inside of the fish's mouth. Slide your thumb up until you hit the lower jaw bone. Your thumb should not be in a place that would damage the gills. Make sure it is between the gill bone and the jaw. Remove the hook with pliers. Use your opposite hand to grab the caudal fin to keep the fish horizontal. Release it.

Appendix A: Material List

Classroom Materials:

- Curtain rings for all
- 2 foot long pieces of cords for all
- White board
- Several dry-erase markers
- Dry erase erasers

Field materials:

- Fishing pole with reel and terminal tackle (set-up) for all
 - Includes hooks, sinkers, bobbers, bait
- Needle-nose pliers
- Net
- Personal Flotation Device (PFD)

Appendix B: Standards Alignment

Wisconsin Academic Standards

Science:

- F.4.1, 8.1, 8.2, 8.7

Art:

- H.4.1, 4.4, 8.4

Environmental Education:

- B.4.4, 4.5, 4.6, 8.8,
D.*8.6

Physical Education:

- B.4.1, 8.3