

The need for food is universal among animals. Some animals eat plants, others eat the plant eaters, and are themselves prey for even larger predators, and so on until the top predator, one with no known natural predators as an adult, e.g. large muskellunge. If you trace a single series of links from plant to top predator, you have a food chain. Nature, however, is not so simple, and chains simply illustrate one path that energy can take. Most animals eat, and are eaten by, several different things. If you trace all the links you have a food web. In this activity, however, the focus is on chains, to show as clearly as possible the connections, through food energy, in any community.

This activity also highlights the three major aquatic habitats in Ontario. Representative food chains are provided for large lakes, warmwater streams and ponds, and coldwater streams. These chains are presented visually on Leader Resource Sheets 1-3, and described in some detail below. It is important to emphasize that all chains are dependent on plants, and ultimately the sun, for their food energy.

## LARGE LAKES

Large lakes are generally deep, and have a lower layer that remains cold most of the year. They contain fishes such as lake trout that need cold water. The animals used in the food chain are described briefly below:

**Lake trout:** "Lakers" are the top native predator in deepwater lakes. Once common enough in the Great Lakes to support a commercial fishery, fishing pressure, pollution and parasitism by sea lamprey have reduced populations to a fraction of their former size. Preferring temperatures at or below 10 degrees centigrade, they live only in relatively deep lakes in the south, but in the north they inhabit shallower lakes and rivers. Highly predacious, lakers feed on just about anything that moves, and some things that don't (freshwater sponges). Ciscos (lake herring) appear to be a preferred, native food, but the introduced smelt and alewife are now the most important prey for Great Lakes lake trout populations. Large lake trout have no natural enemies, but their eggs will be eaten by other fishes, and small lake trout will at times be eaten by large ones.

**Cisco:** growing to 20-30 cm, ciscos, or lake herring, are most commonly found in large schools at mid-depth in large lakes. They prefer cooler water and will move deeper during the summer. Once occurring in incredible numbers in the Great Lakes, populations collapsed around mid-century, perhaps due to competition from the introduced alewife and rainbow smelt. Ciscos eat primarily plankton and insect larvae, but large ciscos will eat alewives and other small fishes. In turn, ciscos are food for many larger fishes, including lake and rainbow trout, burbot, yellow perch and walleye.

**Alewife:** are actually a marine fish species that use streams for spawning, and are native to the Atlantic Coastal Drainage. They are now "landlocked", spending all their lives in fresh water - the Great Lakes and many other inland lakes. Exactly how alewives were introduced is a matter of some debate, although they may have entered by way of the Erie canal system in the 1860's. They were abundant in Lake Ontario by the late 1800s, and slowly spread through the upper lakes during the first half of the 1900s. Alewives spend most of their time in open lake waters eating mostly zooplankton, tiny animal "drifters" that move with the lake currents. They are food for many larger fishes, including lake trout, coho salmon, eels and rainbow trout.

**Mysids:** a shrimp-like crustacean, mysids range up to 2.5 cm in length and represent one of the larger plankton organisms in large lakes. They are common in offshore waters, occurring near the bottom during the day and rising into the upper layers at night. They eat algae and other zooplankton, and are in turn eaten by alewives, ciscoes, smelt and other planktivores.

**Copepods:** make up another small (0.8-1.2 mm) crustacean group that contains many carnivores and omnivores. They feed in part on other zooplankton, including water fleas, generally in offshore waters. They are eaten by larger plankton (mostly mysids) and planktivorous fishes.

**Cladocerans:** often termed "water fleas", due to their superficial resemblance to parasitic fleas, these small (0.5-2.00 mm) crustaceans are almost entirely herbivorous, grazing on floating algae. They are eaten by other zooplankton and planktivorous fish.

## COLDWATER STREAMS

Coldwater streams are commonly referred to as "trout" streams, and often include the headwaters (often spring-fed) and upper reaches of river systems. These streams are usually narrow, shaded in part and cool. They contain small waterfalls or rapids where the water splashes around and is oxygenated, as well as pools and deeper channels (runs). The bottom ranges from sandy to larger pebbles and occasional boulders. Fishes here, such as those below, like and need cool water with lots of oxygen.

**Brook trout:** is the native Ontario stream trout species. Brook trout require clear, cool, well-oxygenated water, usually at or below 24 degrees celcius. They are widely distributed where such conditions exist. Averaging 25-30 cm, they are highly prized by anglers. Although fairly small, they are still the top predator in their preferred small-stream habitat, although they are preyed upon by fish-eating birds. Brook trout will themselves eat worms, leeches, aquatic and terrestrial insects, spiders, mollusks, fish, amphibians, mice and shrews.

**Slimy sculpin:** these small (7.6 ca or 3") bottom-dwelling fish prefer deeper lake waters and cooler streams, and their presence is a good indicator that a stream will support brook trout. They are eaten by both lake and brook trout, among others, and

are a favoured baitfish for brook trout. They eat invertebrates off the bottom of their habitat, particularly aquatic insect larvae.

**Caddisfly larva:** are a large group of flying insects closely related to moths and caterpillars. All larval forms are aquatic, and most construct cases or tubes of sand grains or bits of vegetation in which they live. They are found on the bottom in almost any freshwater habitat. Some spin nets to catch and eat floating debris and plankton. Others, such as the giant (2-4 cm) case maker pictured on Teacher Resource Sheet 1, are predacious, and will eat other insect larvae.

**Mayfly nymph:** Mayflies are another large group of flying insects that live and grow as nymphs in a wide range of freshwater habitats. Although most mayflies eat plants and bits of once-living material (detritus), a few, such as the nymph pictured here, will eat other insects. They are often found in swift-running streams, crawling around the rocks or clinging to vegetation.

**Midge larva:** midges are close relatives of sand flies, black flies and mosquitoes. Often seen flying in dense swarms, they do not bite. The larval forms are extremely common in fresh water, with various species inhabiting all aquatic habitats from mountain streams to marine estuary and tidal systems. They even invade sewage lagoons and are important to the lagoons' proper operation. The midge pictured on Teacher Resource Sheet 1 inhabits mostly cold, northern streams and eats both plants and detritus.

## WARMWATER STREAMS AND PONDS

Warmwater streams are the wider, meandering, lower parts of river systems. The bottom is sandy to muddy, and will support aquatic vegetation, particularly along the river margins. Except along margins, they are open to the sun and warmer than trout streams.

**Northern pike:** are the most common top predator in warm-water systems, preferring shallow, heavily vegetated areas of slow rivers and lakes. Growing to well over 1 m and 10 kg, large pike need only fear humans. They will eat whatever vertebrate prey is available. While fishes form a large part of their diet, they will also take amphibians, crayfish, small mammals and birds.

**Largemouth bass:** share the warm, weedy habitats with the northern pike. Although large bass are not uncommon, growing to 3-6 kg, they are still occasional prey for pike. Depending on size, they will eat plankton, fish, crayfish, insects and frogs.

**Pumpkinseed:** These 18-23 cm brightly coloured fish are the common sunfish for most of Canada, living among the submerged weeds and brush of warmer waters. Insects make up a large part of their diet, but they also eat fishes and other vertebrates (e.g.

larval salamanders). Pumpkinseeds are in turn eaten by bass, walleye, yellow perch, northern pike and muskellunge.

**Blacknose shiner:** Widely distributed throughout much of Ontario, blacknose shiners prefer clear, vegetated waters, and are often sold as bait in southern Ontario. Often found in large numbers, they can form an important link between the algae and invertebrates that they eat and the larger fishes of their habitat that consumer them.

**Dragonfly nymph:** large and often brightly coloured, adult dragonflies can be one of the most evident waterside insects. Although nymphs are found in a wide range of aquatic habitats, they are most common in warm, shallow, weedy habitats. The nymph shown on Teacher resource sheet is that of the common green damer, which will actively stalk other aquatic insects, small fishes and tadpoles among the vegetation of lake sand slow streams. They are among the larger invertebrates (3-5 cm) and are eaten mostly by fishes.

**Damselfly nymph:** damselflies are closely related to dragon flies, but generally smaller (2-3 cm) and less robust. As a consequence, they will be eaten by dragon flies as well as fishes, and will stalk slightly smaller prey.

**Midge larva:** the midge shown on T-R sheet 2 is more common in warm-water systems, but performs the same role as that described under cold-water streams.

### Adjusting the chains:

please note that a number of animals in these chains eat not only one level down, but one level (or more) below that. For example, pumpkinseeds eat not only small fishes, but the insects that the small fishes eat as well. You can, then, adjust the chains to match student numbers by removing the "middle" animal, in this case, the blacknose shiner., Other animals that could be removed include:

- (warmwater) damselfly or dragonfly nymph, largemouth bass or pumpkinseed
- (coldwater) slimy sculpin, mayfly nymph, caddisfly larva;
- (deepwater) cisco or alewife, mysid, copepod.

Cutting and pasting can be used to create cards with appropriate predators and prey. In this activity, students will begin to see the connections that exist among the animals in aquatic environments, and how animals relate to each type of environment.

# Live Bait Hunt

**Purpose:** The need for and collection of bait for fishing will create a better understanding of where to find bait, and the habitat needs that are met in those locations.

**Outcomes:** Members will be able to identify several common insects, invertebrates, and small aquatic amphibians used for bait, know their habitats, and be able to store them successfully.

**Concepts:** 1.1, 7.3

**Group Size:** 2 to 30

**Site:** Outdoors (Spring, Summer, or Fall before snow)

**Time:** 40 minutes

**Supplies:** dip nets (see Activity 2.2); storage containers for specimens; bait storage instructions (at end of activity); Water Habitat ID Sheets (see Activity 2.2); current Ontario Fishing Regulations; fishing license or special MNR permit; leech trap (optional); crimper or pliers (optional); minnow trap with name and address label (optional); beef kidneys, fish heads, dog food, bread (optional).

**Advance preparation:** Prior to the program, construct the leech and minnow traps. You can construct a leech trap from a coffee can (see Bait Storage instructions). Crimp the top shut so that the bait doesn't float away. Place the labelled trap in water where currents move gently, so that the smell of the bait can be dispersed. Be sure that sunlight doesn't penetrate the water to your trap, or leeches will abandon it. For best results place it out the night before the event. A minnow trap is made of wire mesh (see bait storage). Labelled minnow traps can be set out a few hours before the program.

Select a nearby area where your group will be able to hunt for insects, invertebrates, frogs, etc. Take time to review the Ontario Fishing Regulations for bait collecting, transportation, and disposal laws. If you have any questions, contact your local Conservation Officer or resource biologist.

**Reference:** Current Ontario Recreational Fishing Regulations Summary.

## A QUICK LOOK:

In this activity, everyone will explore the habitats where one can find potential live bait used for fishing (frogs, worms, crickets, etc.). They will then get a chance to try and catch their own bait to use later on when fishing.

## READY, SET, GO!

Assign 4-5 members to an adult helper or youth leader. Work with your group to minimize your impact on the area by taking only small amount of what you need, and cleaning up the site after the activity. Under the supervision of the adults, let the members collect as many of the different types of bait as the time will allow:

**Earthworms:** Earthworms are usually found from ground level to two feet below the surface. In winter or during hot weather, they will burrow deeper. Search for earthworms in areas moist and rich in organic material. Turning over logs and rocks in wooded areas that feel bumpy underneath (the bumps are hardened castings of worms) should yield these squiggly treasures. Worms also will leave their burrows during heavy rains. During this time, they can be easily collected from sidewalks or roads.

**Insects:** Aquatic insects in their larval or nymph forms generally make excellent bait. Turn over rocks in shallow water to collect caddisfly cases, stonefly nymphs, and other insect larvae. Near shore, gather mud, leaves, and sticks, and sort through the materials to find insects such as dragonfly nymphs. Look for water worms in mud and leaves downstream from fallen trees. Adult crickets and grasshoppers are also excellent baits.

**Frogs:** Frogs prefer marshy areas and edges of streams or creeks. Certain species of frogs prefer to live near plants in deep water. During warm summer days, frogs can be chased and caught by hand or with nets. *Please note that bullfrogs are not legal bait.* Please also review frog issues under *Other Ideas* before catching frogs as bait.

**Leeches:** Ribbon leeches live in lakes and ponds without fish except for a few minnows. They are flat, black to brown invertebrates that have sucking disks at both ends of their bodies. The smaller disk is the mouth and the large disk at the tail is used to cling to objects. Most leeches eat dead material. Leeches can be collected from spring through early summer. They prefer ponds with an abundance of shoreline vegetation, such as cattails. You are less likely to catch leeches in a pond with game fish.

**Minnows:** Minnows are easily trapped in most areas throughout the year. Have members examine the trap you set earlier to see what types have been caught, or let them collect their own using dip nets (Water Habitats Site Study, Activity 2.2).

After collecting, reassemble the group and have them share the types of bait they caught and describe the habitats where they found them.

Use the Bait Storage page to discuss ways to store the various bait. All bait needs to be kept cool and moist in a refrigerator, cooler, or shade. Minnows and leeches also need clean, fresh water (do not use chlorinated water) to survive over long periods of time. While fishing, many anglers store their minnows and leeches in a flow-through

container in a shaded part of the lake or stream. For best survival, it is important to change the water or check the bedding at least once a day.

### **FOR DISCUSSION:**

Q. Why do you find so many insects under rocks?

A. Because dark, moist areas are where many insects prefer cover and can be their habitat.

Q. Could you live in a pond? Would there be enough things to keep you alive?

A. Responses will vary, but probably not. The winter would be too cold, and food sources would be limited.

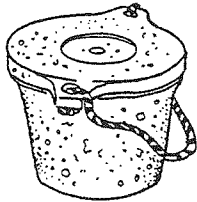
### **OTHER IDEAS:**

- Research and discuss raising bait at home. Show samples of equipment needed. Items like worm food and bedding can be purchased at bait and tackle shops. Raising worms is a positive way to recycle selected food items into compost for your lawns and gardens.
- Scientists have documented a world-wide decline in the populations of frogs and other amphibians. The U.S. government has even created a special task force to investigate the disappearance of frogs. In Ontario one frog, Blanchard's cricket frog, can no longer be found. Deformed frogs have also been found by school groups and others in both Canada and the U.S. Possible causes include the thinning ozone layer, climate change, pollution and disease. Investigate this problem. Are there fewer frogs in your area than there used to be? Decide whether you should still use frogs as bait, or leave them alone until frog populations are in better shape.

### **HANDOUT MASTERS:**

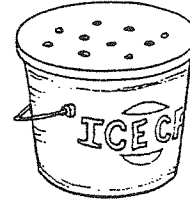
**Resource Sheet 1: Bait Storage**

## BAIT STORAGE



**STYROFOAM PAIL**

**MINNOW PAIL**

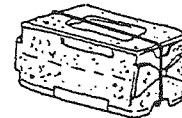


Use fresh (non-chlorinated) water and keep in a cool, shaded spot.  
(Letting water sit overnight will dechlorinate it.)



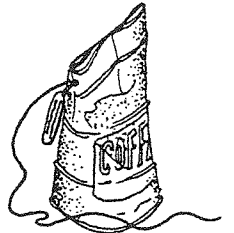
**WORM PAIL**

**WORM  
BAIT BOX**

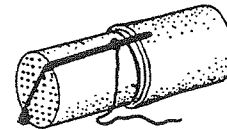


Use moist soil or worm bedding and keep in a cool, shaded spot.

**LEECH  
TRAP**



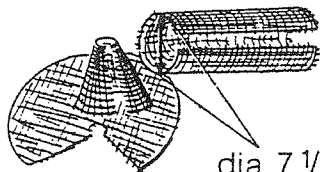
**FLOW-THROUGH  
LEECH CONTAINER**



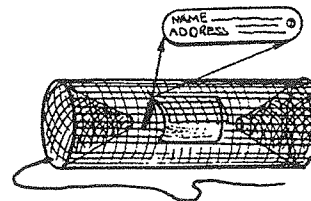
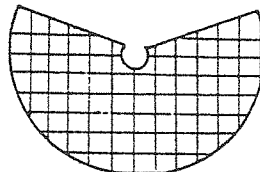
1. Squeeze can shut by bending in the top rim.
2. Bait with fish heads, red meat, or liver.
3. Place in shallow water and tie to a spot on shore or use a marker float.

Place in water and tie to a spot on shore.

## MAKING BAIT TRAPS



dia. 7 1/2"



1. Use a piece of 1/4" inch mesh 25" x 16" to make a cylinder.
2. Fasten ends together by bending cut ends around other edge.
3. Cut a door. Use a piece of wire to hook door shut.
4. Cut out and make two cones using scaled drawing as a guide (1 square = 1 inch).
5. Insert a cone into each end of cylinder and fasten as above.
6. Place a metal tag showing your name and address on the trap.
7. Bait with bread or dog food.
8. Place in shallow water and tie to a spot on shore or use a marker float.



## Pop Can Casting (option)

**Purpose:** To provide each member with the opportunity to create their own simple, inexpensive fishing gear, and practice the basics of casting with that gear.

**Outcomes:** Members will be able to tie a palomar knot, make a fishing rig from a pop can, accurately cast a line, associate these techniques to a fish's habits and habitats, and fish independently in the future.

**Concepts:** 1.1, 7.3, 7.4, 7.7

**Group Size:** 2 to 30

**Site:** Outdoors (large open space) or Indoors (gym)

**Time:** 30 minutes

**Supplies:** Make Your Own Casting Rig directions; Take A Kid Fishing Guides; 1/4" nylon cord or rope (36" or 1 m lengths; 1 per member); small scissors, large binder clips, coffee cups or anything else that can mimic the eye of a fishing hook, one per member; sinkers, bobbers, #6 or #8 hooks, empty pop cans, casting plugs or heavy washers, needlenose pliers, 1-2 fingernail clippers, 1-2 rolls of masking tape, clear container (plastic pail or aquarium) with water, 2-3 spools of monofilament fishing line (6- to 8-lb test), construction paper (optional - to make cover props such as lily pads, stumps, docks, rocks)

**Before the Meeting:** If you don't have casting plugs, make some by taping three large washers together, with the centre one raised a bit so that line can be tied to it. A fair amount of loosely-wound tape will provide a cushioning effect should the "plug" land somewhere it shouldn't.

**Reference:** Take A Kid Fishing Guide

### A QUICK LOOK:

In this activity, the group will learn how to tie a palomar or clinch knot and how to make a pop can rig. They will practice casting using hula hoops with simulated cover. The final step is rigging the pop can with hooks, bobbers, and sinkers in preparation for the fishing trip and learning the "signs" that tell you that you are about to catch a fish.

## READY, SET, GO!

### TYING KNOTS

Begin by teaching the group how to tie a palomar knot (teach the clinch knot if you prefer). This knot is important because it links your hook to the line. Without a sturdy set up, you're likely to lose your fish!

Refer the group to their *Take A Kid Fishing* guides and turn to page 16. Using a pair of scissors or coffee cup, show your group how to make a palomar knot as shown. Now break into groups of 5. Help each person tie a knot to their pair of scissors or other object. Encourage those youth who can tie the knot to help others learn while they are waiting for the next step. Make sure everyone has mastered this knot before going on to make a pop can rig.

Your group is now ready to construct a pop can rig as shown in the *Make Your Own Casting Rig* instructions. These pop can rigs take the place of a rod and reel. Yes, you CAN and WILL catch fish with these reels! Set up the empty pop cans, masking tape, fishing line, clippers, and casting plugs at tables that give everyone enough room to work. Have everyone follow the steps in the instructions. At this time, change step four to attaching only a casting plug or tape-wrapped washers so they can use the pop can rigs for casting practice.

### CASTING FOR COVER

Discuss the importance of casting close to cover. For instance, largemouth bass will wait in the shade of a lily pad for its prey. Our lure imitates prey when we go fishing. If we can fool the bass, then we'll have a bite!

Demonstrate to the group the proper technique for casting a pop can rig (page 2 of the directions). With any group, it's important to emphasize safety when casting. Make sure that everyone is several feet apart from each other. Remind everyone to look around them for people, obstacles, and overhead wires, branches, etc. before casting.

Have each group practice casting to their hula hoops. Start about 10 feet (3 m) from the hoop, and have each person step back three steps and try again after successfully landing their plug in the hoop.

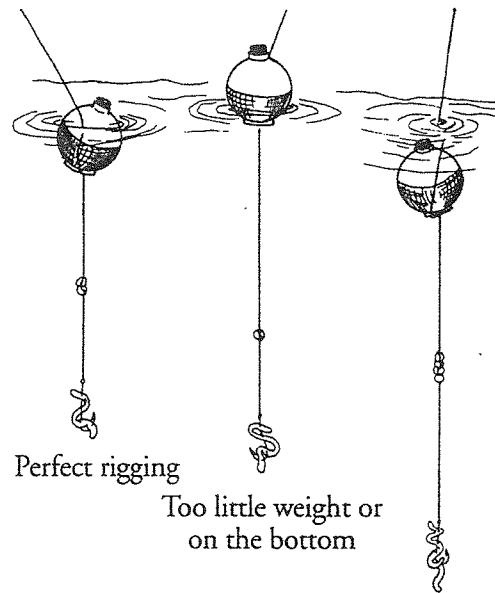
### RIGGING FOR FISHING

Now that everyone is an expert at casting have them return to their work station to rig the pop can for fishing. Remove the casting plug and give everyone a hook, sinker, and bobber. Since this is the first time members will have and use hooks, go over the key points of hook safety:

- hooks are *sharp* – that’s the “point”!
- always hold a hook by the shaft or end, not by the point
- don’t hand hooks to others; place each hook down so they can pick it up
- don’t leave hooks lying around
- don’t leave hooks on rods or cans unless actually fishing
- no horseplay with or around hooks
- if a hook gets stuck in you or your clothes, find a leader – *don’t* try to remove it yourself

Have them follow the directions on page 11 of their guide. (Note: If you plan to practice catch-and-release, the barbs can be bent down. This will make the fishing more challenging, further reduce fish mortality and make things safer.) Help everyone rig their pop cans. As individuals finish rigging, let them test each rig in a plastic or glass container to see if it floats at the correct level.

Review or show the group at this time the "signs" the bobber gives when you are about to catch a fish.



Perfect rigging

Too little weight or on the bottom

Too much weight or you got a fish

### FOR DISCUSSION:

Q. What is the most important step when rigging your fishing rod?

A. The knot.

Q. Where would you cast your line to catch bluegill or crappie?

A. Near shaded cover, such as docks or vegetation.

Q. What does it mean when your bobber is laying on its side in the water?

A. It can mean that you don’t have enough weight on your line, that your bait is sitting on the bottom of the lake, or that you have a fish on the line! A perch or crappie will not necessarily take the bait down with them. Instead, they may stay right where they are and feed, or swim horizontally for awhile.

### OTHER IDEAS:

- To practice casting and to reinforce picking a fishing spot based on habitat, set up a pop can casting course. Place hula hoops or rope loops on the ground for targets. Set up a series of stations in a golf-course form with each station representing the habitat of a different fish. For example, put paper "lily pads" around one hula hoop to represent good largemouth bass habitat. Then let the group "cast for cover" from

about 15 to 20 feet (5 to 6 m) away from the hula hoop. Allow everyone at least three tries at each station before having to move on to the next station. Once a person casts inside the hula hoop they should identify the type of fish they would have caught and move on to the next station of their choice. Watch the group and help as needed.

- Introduce live bait (see Activity 3.2, *Live Bait Hunt*) and test it in the clear containers. Have your group experiment with putting bait on a hook and observing how different bobber and sinker sizes affect the bait. For example, try four split-shot sinkers and a worm versus a bobber, one-split shot sinker, and a worm. Which might be better suited for a catfish lying on the bottom of a swift moving river? Which is better for a bluegill only a few feet under the surface of a lake?

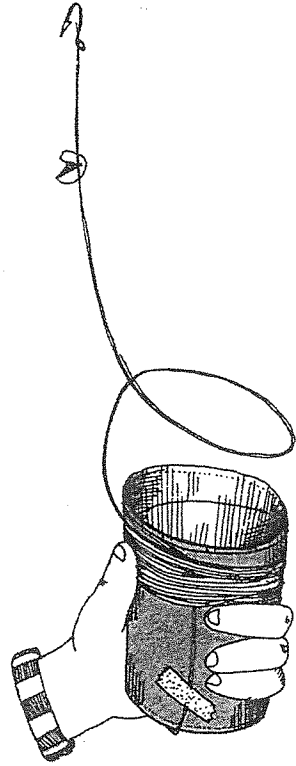
## MAKE YOUR OWN CASTING RIG!

If you don't have any fishing gear, it is still cheap and easy to start fishing and catch fish. In fact, you can be fishing for a lot less than \$5.00! Just follow these easy steps.

**Materials.** Collect scissors, adhesive tape, a tin can (normal soup cans work well), a rubber band, 10 m (30') of 6 lb. (3 kg.) test fishing line, a #10 hook and a small split-shot sinker (a few extra hooks and sinkers are a good idea).

### Making your rig.

1. Make sure the can has no sharp edges by covering the open end with tape.
2. Tape one end of the fishing line to the can near the closed end. Run the line toward the open end, and tape it again part way down the can.
3. Carefully wrap the line around the can toward the open end, trying not to overlap it. Too many overlaps spoil the cast.
4. When all the line is wound, tie the hook to the end and attach the sinker (see your *Take A Kid Fishing* guide, pg. 11 & 16).
5. Slip a rubber band over the hook to hold the line in place.

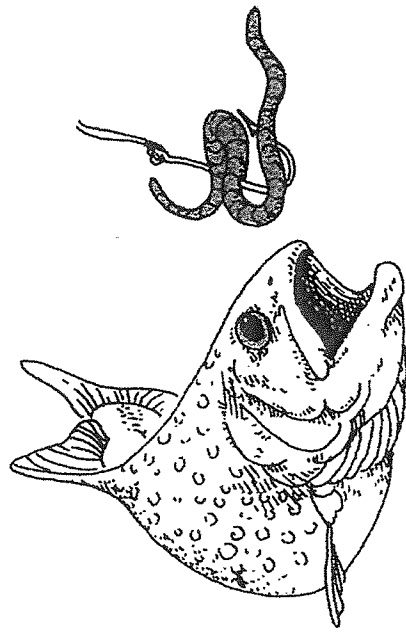


**Trying it out.** You can do this on an actual fishing trip, or practice in your backyard. If it's the back yard, take off the hook and tie on several washers, a nut, or add more sinkers.

1. Take off the rubber band, and hold the end of the line in place with your thumb. Try not to touch the line with the rest of your hand.
2. Swing your arm as if you were throwing a ball under-handed, like a softball pitcher.
3. Let go with your thumb when you would release the ball. Remember to put your thumb back on the line after the cast so extra line doesn't come off and tangle.
4. Try aiming at an aluminum pie plate. They make a satisfying *bang* when hit.
5. Don't forget to rewind the line as you're pulling it in, even if you've got a fish. If you need two hands to pull, give the can to someone else.

**It's a start...** While your rig gets you fishing, there's no doubt that a rod and reel is easier to use and allows you to do more. Look for used gear at yard sales, or save up for something new. Check your *Guide* for tips on what to buy.

**Good luck, and good fishing, from your Ontario Ministry of Natural Resources!**



## Spin-cast Rod and Reel (option)

**Purpose:** To provide each member with the opportunity to examine and rig a basic spin-cast rod & reel, and practice the basics of casting with that gear.

**Outcomes:** Everyone should be able to tie a palomar knot, cast and rig a spin-cast rod and reel, accurately cast a line, associate these techniques to a fish's habits and habitats, and fish independently in the future.

**Concepts:** 1.1, 7.3, 7.4, 7.7

**Group Size:** 2 to 30

**Site:** Outdoors (large open space) or Indoors (gym)

**Time:** 30 minutes

**Supplies:** Take A Kid Fishing Guides; 1/4" nylon cord or rope (36" or 1 m lengths; 1 per member); small scissors, large binder clips, coffee cups or anything else that can mimic the eye of a fishing hook, one per member; sinkers, bobbers, #6 or #8 hooks, spin-cast rods & reels with monofilament line, casting plugs or heavy washers, needlenose pliers, 1-2 fingernail clippers, 1-2 rolls of masking tape, clear container (plastic pail or aquarium) with water, 2-3 spools of monofilament fishing line (6- to 8-lb test), construction paper (optional -- to make cover props such as lily pads, stumps, docks, rocks)

**Before the Meeting:** If you don't have casting plugs, make some by taping three large washers together, with the centre one raised a bit so that line can be tied to it. A fair amount of loosely-wound tape will provide a cushioning effect should the "plug" land somewhere it shouldn't.

**Reference:** Take A Kid Fishing Guide

### A QUICK LOOK:

In this activity, the group will learn how to tie a palomar knot and rig a spin-cast rod and reel. Participants will practice casting using hula hoops or rope loops and simulated cover. The final step is rigging the rod with hooks, bobbers, and sinkers in preparation for the fishing trip and learning the "signs" that tell you that you are about to catch a fish.

## READY, SET, GO!

### TYING KNOTS

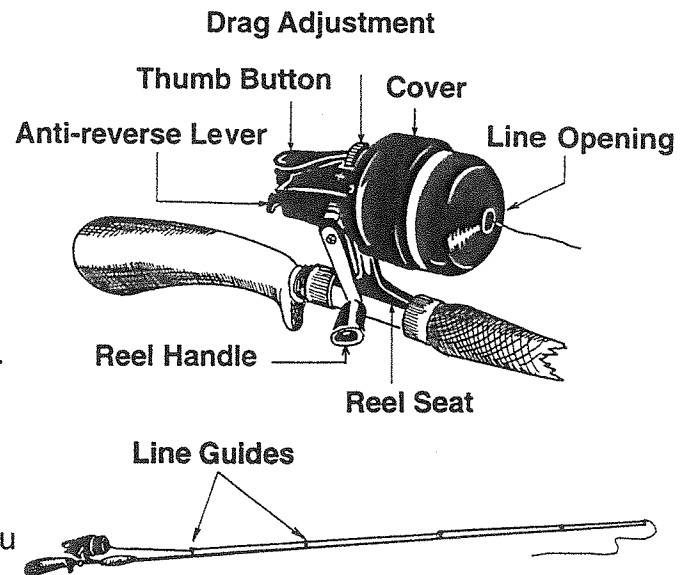
Begin by teaching the group how to tie a palomar knot (teach the clinch knot if you prefer). This knot is important because it links your hook to the line. Without a sturdy set up, you're likely to lose your fish!

Refer the group to their *Take A Kid Fishing* guides and turn to page 16. Using a pair of scissors or coffee cup, show your group how to make a palomar knot as shown. Now break into groups of 5 or 6. Help each person tie a knot to their pair of scissors or other object. Encourage those youth who can tie the knot to help others learn while they are waiting for the next step. Make sure everyone has mastered this knot before going on to rig a spin-cast rod.

### RIGGING

Now show everyone how to rig their rod.

Start by locating the line on the reel (if necessary, take the cover off). The line should come out of the cover at the line opening. Push the thumb button to release the line. Gently pull the line from the reel, threading it through the line guides. Turn the reel handle once to secure the line. Check the drag adjustment on the reel. Tie the line to something sturdy. Move the drag adjustment lever so the line comes out pretty easy. Gradually lift the rod until it bends, tightening the drag adjustment as you increase the tension on the line. Now jerk the rod as if setting the hook. The drag should slip slightly. If it doesn't, loosen the drag until it does. At this time, attach only a casting plug or washers so they can use the rigs for the following casting practice.



### CASTING FOR COVER

Discuss the importance of casting close to cover. For instance, largemouth bass will wait in the shade of a lily pad for its prey. Our lure imitates prey when we go fishing. If we can fool the bass, then we'll have a bite!

Demonstrate to the group the proper technique for casting their spin-cast rigs (page 16/17 of their guides). Make sure the line isn't wrapped around the top of the rod! With

any group, it's important to emphasize safety when casting. Make sure that everyone is several feet apart from each other. Remind everyone to look around them for people, obstacles, and overhead wires, branches, etc. before casting.

Have each group practice casting to their hula hoops. Start about 10 feet (3 m) from the hoop, and have each person step back three steps and try again after successfully landing their plug in the hoop.

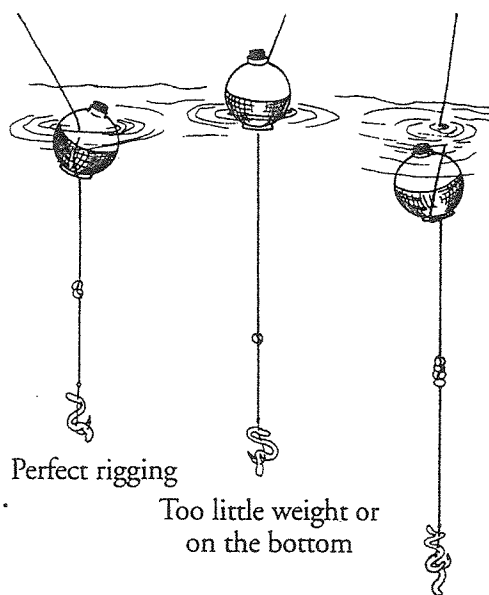
## RIGGING FOR FISHING

Now that everyone is an expert at casting and handling fish, have them return to their work station to rig the spin-cast combo for fishing. Remove the casting plug and give everyone a hook, sinker, and bobber. Since this is the first time members will have and use hooks, go over the key points of hook safety:

- hooks are *sharp* – that's the "point"!
- always hold a hook by the shaft or end, not by the point
- don't hand hooks to others; place each hook down so they can pick it up
- don't leave hooks lying around
- don't leave hooks on rods or cans unless actually fishing
- no horseplay with or around hooks
- if a hook gets stuck in you or your clothes, find a leader – *don't* try to remove it yourself

Have them follow the directions on page 11 of their guide. (Note: If you plan to practice catch-and-release, the barbs can be bent down. This will make the fishing more challenging, further reduce fish mortality and make things safer.) Help everyone rig their pop cans. As individuals finish rigging, let them test each rig in a plastic or glass container to see if it floats at the correct level.

Review or show the group at this time the "signs" the bobber gives when you are about to catch a fish.



## FOR DISCUSSION:

Q. What is the most important step when rigging your fishing rod?

A. The knot.

Q. Where would you cast in a stream to catch rainbow or brook trout?

A. Near shaded cover, such as tree roots, under bank side bushes, or in fast-moving, shallow water.



Q. What does it mean when your bobber goes under the water?

A. It means either that you have a fish, or your split-shot sinkers are too heavy for the bobber you have chosen.

#### **OTHER IDEAS:**

- To practice casting and to reinforce picking a fishing spot based on habitat, set up a pop can casting course. Place hula hoops on the ground for targets. Set up a series of stations in a golf-course form with each station representing the habitat of a different fish. For example, put paper "lily pads" around one hula hoop to represent good largemouth bass habitat. Then let the group "cast for cover" from about 15 to 20 feet away from the hula hoop. Allow everyone at least three tries at each station before having to move on to the next station. Once a person casts inside the hula hoop they should identify the type of fish they would have caught and move on to the next station of their choice. Watch the group and help as needed.
- Introduce live bait (see Live Bait Hunt) and test it in the clear containers. Have your group experiment with putting bait on a hook and observing how different bobber and sinker sizes affect the bait. For example, try four split-shot sinkers and a worm versus a bobber, one-split shot sinker, and a worm. Which might be better suited for a catfish lying on the bottom of a swift moving river? Which is better for a bluegill only a few feet under the surface of a lake?
- Discuss what to look for when selecting fishing equipment. Remember to include cost, quality, styles, and matching it to the fish they are seeking. Emphasize that one doesn't have to have a lot of expensive gear to catch a fish; simple and inexpensive can be just as effective as long as you practice the concepts learned about habitat, fish identification, stewardship, and ethics.

## Try it Out!

**Purpose:** To apply rigging and casting skills to a real fishing experience.

**Outcomes:** Members will be able to identify likely fishing spots, safely cast near cover, describe what happens when a fish takes the bait, and demonstrate general care in handling caught fish.

**Concepts:** 6.3, 6.4, 6.6, 7.4, 7.7

**Group size:** 5 kids per leader is optimum; try to have no more than 6-8 per leader. If there are too many kids per leader or for the area, pair kids up with one rod or can, and have them alternate every 5 minutes. Have each leader and their sub-group fish one general sub-area.

**Site:** Waterside, preferably a location known for active panfish which is relatively shallow and safe.

**Time:** 30 minutes

**Supplies:** Live bait from Activity 3.2, terminal tackle, pop can or spin-cast gear, safety equipment: life jackets for each child, first-aid kit, cellphone, sunscreen, insect repellent, camera.

**Before the Meeting:** Choose your site carefully, based on safety, space, amount of structure, known panfish activity, and ease of access. If it makes sense, use the same area where you did the Habitat Site Study, and review the good places to fish, and why. If it is a new location, ensure that reasonable fishing spots are available for the whole group, and that all spots can be adequately supervised (in visual range) by available supervisors. Review proper release procedures found in your Ontario Recreational Fishing Regulations Summary.

**Reference:** Ontario Recreational Fishing Regulations Summary

### A QUICK LOOK:

By this point, kids should be really eager to fish. This session gives them the opportunity to experience fishing first-hand, perhaps for the first time, but only for a *short* time. It is a chance to try the skills that they have just learned in an environment where action is likely. There is still lots to learn, and they should know that. Get them to focus on what they do, and what happens as a result. The action of a bobber when a fish takes their bait. What happens if they pull on their line as soon as the bobber begins to tremble, if they wait a few seconds, or if they don't pull at all? If they lose a

fish, what was happening at the time? Was their line taught or slack, rod tip up or down? This is a problem-solving exercise – there may be more to learn from losing a fish than from landing one. The hardest thing for you as a leader will be to *not* do or say too much. Try to lead them but not direct them.

Two areas which *will* require direction, however, are safety and ethics/responsibility. Decide if the site, type of group and time of year requires a personal floatation device (pfd). If so, ensure that each member has one and knows how to wear and use it. Review the safe use of hooks, the space needed to cast (particularly if they are in pairs) and the need to always look behind them before casting. Discuss the need to treat their fish, bait, other group members, and other anglers with respect. Within each small group, have a leader properly handle and release the first fish landed, and then guide each member through that process. Have them handle fish with wet hands, keep them in the water as much as possible, and cut away any hooks that are deep-set. Discuss any requests to keep fish – are they big enough? Can someone at home clean and prepare them properly? Would a picture do instead? If fish are to be kept, see Activity 5.2, Resource Sheet 3 (Leader's) for tips on killing and temporary storage.

Remember, this is just an introduction. Leave them wanting more.

### **READY, SET, GO!:**

When you arrive, quickly go over the site with the whole group. Point out any safety concerns and reinforce their responsibilities as ethical anglers. Get them to indicate good potential fishing locations, and why. Remind them that fish can be spooked by motion, shadows, noise or vibration. Indicate that this may be their first try at fishing, that they are here to experiment and learn, and that anglers get good by identifying problems, and solving them.

Divide the group by locations and assign leaders. If they are in pairs, explain the alternate fishing arrangement. Allow anglers, as much as possible, to pick their own fishing spot, within the geographic limits you have established.

If you have collected a variety of live bait, make sure a number of different baits are used to start. Demonstrate the proper way to hook each type of bait (see *Resource Sheet 1*). Reinforce hook safety. If fish seem to be hitting a particular kind of bait, let anglers change to that type if they want.

Before they cast, reinforce the need for space, clearance from overhangs, and checking behind them.

Allow them to fish, and see what happens. Try to reinforce their observations. If they get a nibble, ask, "how did it feel?" Get them to describe the difference between a nibble and an actual strike. Is there a connection, i.e. was there nibbling just before the strike? Comment and encourage, but don't direct.

When the first fish is caught, demonstrate how to handle it properly and with respect. Anglers should then be able to land, remove hooks, and release their fish.

Wrap up at the appointed time, or sooner if action is slow and attention is starting to wander. Have group police the area, leaving it better than they found it.

### **FOR DISCUSSION:**

**Q:** What happened? What did you learn about fishing? What didn't work very well?

**A:** This type of open-ended questioning should allow members to reflect on their experiences, reinforce any discoveries and identify areas for additional learning and practice. Indicate that they will have the opportunity to learn about, and practice, some of the things they were trying out in the next lesson: setting the hook, retrieving the line, and landing the fish.

### **OTHER IDEAS:**

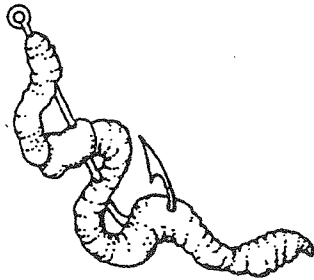
- Have members maintain leftover bait, or collect new bait, for fishing activity in the next lesson.
- Consider dressing and storing some fish for Lesson 5, particularly if badly hooked or bleeding. This will require a cooler with some ice.

### **HANDOUT MASTERS:**

**Resource Sheet 1: Bait Tales.**

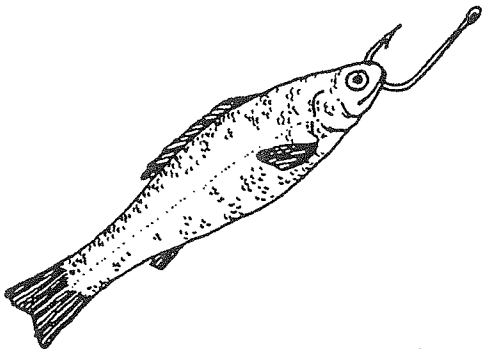
Fish like to eat things that live by or in the water. Fish especially enjoy eating meals that move and wiggle. They also like to see what they're eating, so be sure to keep moss and muck off of bait. To keep your bait alive, be sure to keep it cool and moist.

## You can try:



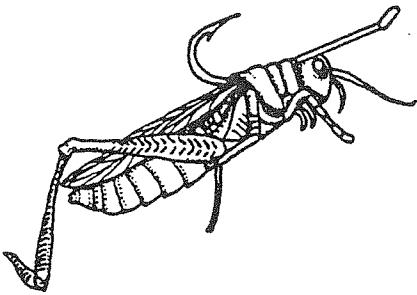
**A worm.** If you offer a fat nightcrawler to a crappie, you're sure to get a bite! You can dig worms in your neighborhood. Look for worms in wet, dark soil, and hook it like this.

**A minnow.** You can scoop these up yourself in a lake, or buy them from a bait store. They should be about 3 inches long. Hook the minnow through the lips.

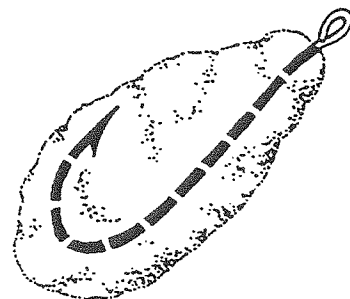
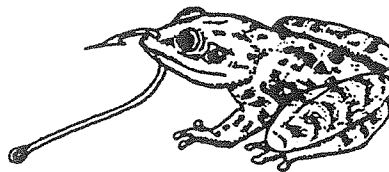
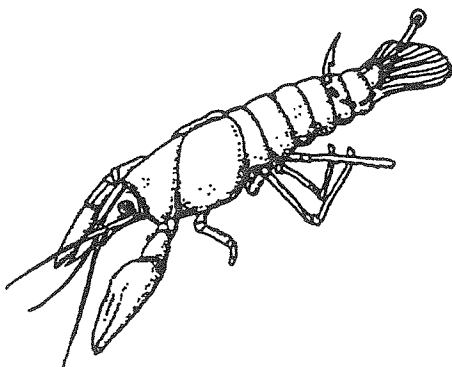


**A grasshopper or cricket.** Slip the hook through the collar that is behind their necks; this will keep them alive.

**Crayfish and small frogs** are good bait to use, too, and they are fun to catch! Crayfish find shelter under rocks in the water. Hold them along the back, so that they don't pinch you, and hook them through the tail. Hook the frogs through the lips.



**A doughball.** Some fish, like carp, are junk food eaters—they search the lake floor for whatever food they can find. Carp eat artificial bait like doughballs. You can make doughballs from flake cereal or bread dampened with water and honey. Press them into tight little balls, and then put the doughballs onto your hook. Be sure to take your bobber off and use a big split-shot sinker to catch a carp!



## MEETING FOUR: HOW WILL I CATCH IT?

*What will the group learn? Members will be able to describe basic lure types and their use; experience methods for hooking, playing and handling fish; apply those methods during a short fishing session; and understand the advantages and disadvantages of both bait and lures.*

### Objectives

1. To increase awareness, understanding and knowledge of fishing lures, including their action and attractiveness to various fish, as well as the costs and benefits of their use, compared to live bait.
2. To develop skills in the actions of fishing: presentation of lures and bait, setting the hook, landing the fish and proper handling of the fish once it is landed.
3. To apply the above skills and understandings to a real fishing experience.

### In a nutshell

<i>Alluring Lures</i>	25 minutes
<i>The Play's the Thing</i>	40 minutes
<i>Try it Out! II</i>	30 minutes
<i>The Great Debate</i>	25 minutes
<b>Total Time:</b>	<b>120 minutes</b>

### Fundamentals, part two

Hopefully, the fishing experience at the end of the last lesson just whetted some appetites, and created a desire to learn more. Members may have found out that it takes more than gear to make a consistently successful angler. Use that motivation as you take the group through both lures and the basics of presentation, hookset, retrieval and fish handling. You can be a bit more directive here since they are learning and applying skills, not discovering that they need them.

Coach and encourage them through their second fishing experience. While fishing, you can use the time to teach how artificial lures mimic parts of the food web. Why would a largemouth bass chase a fluorescent, dancing, spider jig? Why is a rainbow trout lured into eating cheese? Above all, you can leave those you teach with your enthusiasm for the sport or out-of-doors. It will leave a lasting impression.

As you swing into the "debait", remember that fishing is about choices, and about problem-solving. Here is an opportunity to go a bit overboard in exploring and choosing. The trick is to generate enthusiasm for *both* sides in *everyone*.



# Alluring Lures

**Purpose:** This activity will introduce a variety of lure types and explore their action and uses.

**Outcomes:** Members will be able to identify 3-5 major lure types, describe their use and suggest potential target species.

**Concepts:** 6.6, 7.3

**Group size:** 5-30, in subgroups of 5

**Site:** indoor meeting room; outside, waterside or poolside for lure demonstrations

**Time:** 25 minutes

**Supplies:** minimum of one to maximum of six of up to five different types of artificial lures: topwater plugs, spinners/spoons, medium to deepwater plugs, soft plastic (any depth) and jigs; lure catalogs (optional); child's wading pool (optional); Resource Sheet 1.

## A QUICK LOOK:

This activity begins with an examination of artificial lures. You will need a minimum of five lures, one of each kind. In this scenario, small groups of 5 will examine each lure in turn, and attempt as a group to fill in some of the blocks on *Resource Sheet 1*. They will then go on to the next lure. Alternatively, each small group of five could have one example of each lure type, and examine each in turn. If you go with only five lures, you may want to have a few additional lures to show some variety within each type. Alternatively, provide some lure catalogs and point out particular lures. Remember, however, that this is only an introduction – do not overwhelm them with a kazillion lures.

Pose questions to the groups, but avoid telling them directly how the lure acts or is used. Safety is *critical* here, as they will be handling lures with lots of sharp hooks. Consider covering the points with pieces of plastic tubing, small Styrofoam balls or pieces of cork.

Next, if at all possible, demonstrate the action of at least some of the lures in a child's wading pool (stiff-sided, not inflatable!), a swimming pool or at waterside, preferably along a low dock. Emphasize the need to create motion which helps fool the fish – that this is the challenge, and the fun, of fishing with lures. The demonstration should help them fill in more of the sheet. It is not essential that they complete the sheet during this activity – they can take it home and complete it by talking to other anglers, looking at and reading about lures at a tackle shop, or talking to a salesperson there.



## READY, SET, GO!:

Divide the group into subgroups of five, and have each gather around from 1 to 5 lures of different types. Indicate that they are going to discover something about fishing lures by looking at and handling them.

Stress the need for hook safety, and point out the large number of dangling hooks, and hook points, on some of the lures. Establish one firm rule: put each lure *down* before someone else picks it up. There will be no chance that wayward points catch skin in a handoff.

Pass out a copy of *Resource Sheet 1* to each member, and encourage them to jot down some ideas in pencil, in case they want to change them later. They should ask themselves the following questions, among others (you may wish to post these on a board), about each lure:

- What kind of animal does it look like?
- How heavy is it? Do you think it would float, or sink?
- What might happen if you pulled it through the water? Why?
- How could you make it act like the animal it looks like? An *injured* animal?
- Is it soft or hard? Could a fish tell it from something live right away if it bit down?

Demonstrate several lures. Pull each steadily through the water, then vary your presentation and ask what method might look more life-like to a fish. Give each group a chance to add points to their sheet. Indicate that they should complete it before the next session. Suggest that they may get to try out some of these lure presentations during the next activity.

## FOR DISCUSSION:

**Q:** Does the level where the lure is fished tell you something about what it might catch?

**A:** Yes, surface lures would catch surface feeders, such as bass, pike and sunfish, while deeper-running lures might tempt walleye as well. Bottom feeders need bait or lures on the bottom. Some fish will be found at different levels at different times of the day or year, and part of the fun lies in finding them.

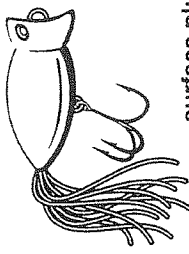
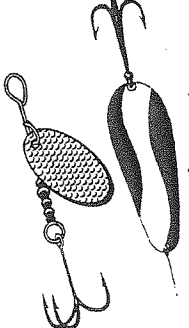

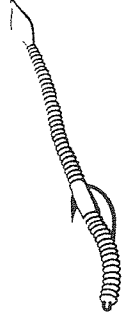
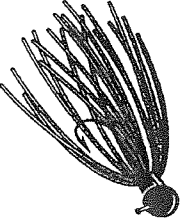
## OTHER IDEAS:

## HANDOUT MASTERS:

**Resource Sheet 1: Alluring Lures**

# RESOURCE SHEET 1

## Alluring Lures

Lure type	Looks like	Area Fished	Presentation	Target Fish
 surface plugs		top middle bottom		
 spinners/spoons		top middle bottom		
 crankbaits		top middle bottom		
 soft plastic		top middle bottom		
 jigs		top middle bottom		

# RESOURCE SHEET 1

## Alluring Lures

Lure type	Looks like	Area Fished	Presentation	Target Fish
surface plugs	frog, insect, baitfish	<u>top</u> middle bottom	Steady to erratic retrieval; pull/stop, pull/stop, especially if shallow-diving.	Bass, larger sunfish, pike, muskie
spinners/spoons	baitfish	top <u>middle</u> bottom	Steady or pull/stop retrieval.	Walleye, smallmouth bass, sunfish, perch, lake trout, salmon
crankbaits	baitfish	top <u>middle</u> bottom	Steady retrieval; or steady to depth, then more erratic or pull/stop.	Walleye, smallmouth bass, pike
soft plastic	varies; could be worms, frogs, crayfish, insects, leeches or indeterminate (twister tails)	<u>top</u> middle <u>bottom</u>	Varies, e.g. slowly along bottom (worm), erratic along surface (frog), but always requires some motion.	Bass, sunfish, perch, pike, muskie.
jigs	baitfish, insects, leeches	top middle <u>bottom</u>	Bounce off bottom by slowly reeling in, then occasionally jerking the rod tip up and slowly dropping it again.	Bass, sunfish, perch, walleye.

# The Play's the Thing

**Purpose:** This dry land simulation will focus on the action of fishing: the presentation of lures and bait, setting the hook, landing the fish and proper handling of the fish once it is landed.

**Outcomes:** Members will be able to properly present at least one lure, and effectively handle a fish from strike to creel.

**Concepts:** 6.4, 7.3, 7.7

**Group Size:** 2 to 30

**Site:** Outdoors (large open space) or Indoors (gym)

**Time:** 40 minutes

**Supplies:** Take A Kid Fishing guides; 4-6 hula hoops, rope loops or simulated cover; pop can or spin-cast rigs<sup>1</sup>, blindfolds, casting plugs or heavy washers, 1-2 rolls of masking tape, construction paper (optional – to make cover props such as lily pads, stumps, docks, rocks)

**Reference:** Take A Kid Fishing guide pg. 23-26

## A QUICK LOOK:

In this activity, the group will simulate fishing in order to learn how to present live bait and artificial lures, set their hook, land their fish and properly care for it.

This activity links directly to both *Alluring Lures*, the activity directly preceding it, and *Try It Out!*, the opportunity the group had to fish at the end of Lesson 3. Here, they can practice the lure presentations that they have just seen. They can also reflect on some of the things that happened while they were fishing (What did the strike feel like? What were they doing when they lost a fish?), practice the proper way to set the hook for lures and live bait, and play their fish.

You will need leaders or volunteers to play the role of fish. They will need to “hit” the casting plug appropriately (nibble, then take for bait; fast strike for lure). The angler will have to react properly (wait a bit for bait or soft plastic; immediate hookset for lure) or the volunteer will release the plug. Practice a bit with your “fish” if they have limited

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<sup>1</sup> Loaner spin-cast rigs may be available from the OFAH Tackle Share<sup>®</sup> program.

fishing experience. Set up 4-6 hoops or rope loops and have groups of anglers cast to each. If you have a large group, pair anglers up on each pole or can.

## **READY, SET, GO!**

Reinforce the importance of casting close to cover. Place hula hoops or rope loops on the ground for targets. Let each small group "cast for cover" from about 15 to 20 feet (5 - 7 m) away.

## **PRESENTING THE LURE AND SETTING THE HOOK**

Anglers will begin by practicing lure presentations. Each must identify the type of lure they are simulating, and reel appropriately. Leaders circulate and help individuals. Make sure everyone has a chance to try at least one lure type.

Stop the groups and indicate that they will now practice setting the hook and retrieving their fish. Demonstrate a proper hard-bodied lure strike, using a volunteer fish. Set the hook quickly, having the "fish" hang on; then show what happens if you delay the set (fish lets go). Demonstrate again, only this time simulate live bait or soft-bodied lures. Stillfish, and have the fish nibble and then take the bait. Show what happens if you set too soon (fish lets go) or wait a bit (fish hangs on).

Hand out blindfolds. Have anglers put them on after they have cast, and indicate "lure" or "bait" to the fish. The fish should hit the line appropriately, and hold on or let go depending on the response from the angler. Try to run the exercise until every angler has a successful set on both "bait" and "lure".

## **LANDING AND HANDLING A FISH**

Demonstrate landing a fish by using volunteers as a bass and an angler. Let the fish "swim" near cover (hula hoops). Using a casting plug, the angler gently casts the plug into the cover. The appropriate fish takes the bait (by holding with their hands). Talk the angler through the landing of this fish. For example, is the fish diving for the bottom? Keep tension on the line, and slowly feed some line to the fish to avoid breaking the line. Is the fish swimming towards you? Reel your line in quickly! Remind the angler to keep the rod tip up (unless they have a can) and let the spring in the rod help to tire the fish. Demonstrate this a few times. Remind the group not to drag the fish across the ground to get it landed.

Using a replica (felt cutout, mount, etc.) or a real fish, show the proper way to hold the fish in order to remove the hook. When handled gently, quickly, and with a few precautions, fish have an excellent chance of surviving if released. Some handling tips can be found both in the Regulations Summary and on page 25 of the Guide. Emphasize that if the fish caught is not going to be used for a meal or the occasional trophy mount, it should be released immediately and unharmed back into the lake to

give you or someone else the opportunity to catch it again. This voluntary recycling of fish helps maintain Ontario's quality fishing.

Give each angler the opportunity to play and land at least one fish.

**FOR DISCUSSION:**

Q. Where would you cast your line to catch bluegill or crappie?

A. Near shaded cover, such as docks or vegetation.

Q. What does it mean when your bobber is laying on its side in the water?

A. It can mean either you don't have enough weight on your line, that your bait is sitting on the bottom of the lake, or that you have a fish on the line! A perch or crappie will not necessarily take the bait down with them. Instead, they may stay right where they are and feed, or swim horizontally for awhile.

Q. How should one handle a fish?

A. Quickly and gently and by keeping them in the water. If the hook is swallowed, don't try to remove it, just cut the line.

**NOTES:**

## Try it Out! II

**Purpose:** To apply casting, hookset, retrieval and fish handling skills to a real fishing experience.

**Outcomes:** Members will be able to identify likely fishing spots, safely cast near cover, set the hook appropriately when a fish takes the bait or lure, play the fish properly and demonstrate general care in handling caught fish.

**Concepts:** 6.3, 6.4, 6.6, 7.3, 7.4, 7.7

**Group size:** 5 kids per leader is optimum; try to have no more than 6-8 per leader. If there are too many kids per leader or for the area, pair kids up with one rod or can, and have them alternate every 5 minutes. Have each leader and their sub-group fish one general sub-area.

**Site:** Waterside, preferably a location known for active panfish which is relatively shallow and safe.

**Time:** 30 minutes

**Supplies:** Live bait, some lures if possible, terminal tackle, pop can or spin-cast gear, safety equipment: life jackets for each child, first-aid kit, cellphone, sunscreen, insect repellent, camera, Ontario Recreational Fishing Regulations Summary.

**Before the Meeting:** Choose your site carefully, based on safety, space, amount of structure, known panfish activity, and ease of access. Use the same area where you did Trying It Out I, or somewhere new. If it is a new location, ensure that reasonable fishing spots are available for the whole group, and that all spots can be adequately supervised (in visual range) by available supervisors. Review proper release procedures found in your Ontario Recreational Fishing Regulations Summary.

### A QUICK LOOK:

This session gives members a chance to apply the skills that they have just learned to real fishing action. Get them to focus on each step, any bait/lure differences they need to keep in mind, and what happens as a result. They will be consolidating skills, and may need some reminders in the middle of the action. Again, try to lead them, but a bit more concrete instruction may help.

Highlight safety and ethics/responsibility. Decide if the site, type of group and time of year requires a personal floatation device (pfd). If so, ensure that each member has



one and knows how to wear and use it. Review the safe use of hooks, the space needed to cast (particularly if they are in pairs) and the need to always look behind them before casting. Discuss the need to treat their fish, bait, other group members, and other anglers with respect. Within each small group, have a leader supervise the proper handling and release of each fish landed. Have them handle fish with wet hands, keep them in the water as much as possible, and cut away any hooks that are deep-set. Discuss any requests to keep fish – are they big enough? Can someone at home clean and prepare them properly? Would a picture do instead? Consider a brief cleaning demonstration if appropriate fish are available. Have ice on-hand for storage.

Remember, this is *still* just an introduction. Leave them wanting more.

### **READY, SET, GO!:**

When you arrive, quickly go over the site with the whole group. Point out or reinforce any safety concerns and review their responsibilities as ethical anglers. If the site is new, get them to indicate good potential fishing locations, and why. Remind them that fish can be spooked by motion, shadows, noise or vibration. Indicate that this is their first opportunity to apply some of the skills they have learned to catching fish. If they get excited and forget something, you will be there to help.

Divide the group by locations and assign leaders. If they are in pairs, remind them of the alternate fishing arrangement. Allow anglers, as much as possible, to pick their own fishing spot, within the geographic limits you have established.

If you have a variety of live bait, review the proper way to hook each type of bait (see *Resource Sheet 1, Try it Out! I*). Reinforce hook safety. If you have some lures, try to get your members to try one for at least a little while. Review and reinforce presentation skills as each lure is used within your small group.

Before they cast, reinforce the need for space, clearance from overhangs, and checking behind them.

Allow them to fish, and see what happens. Try to reinforce and refine their skills.

When fish are caught, anglers should be able to land, remove hooks, and release their fish properly and with respect.

Wrap up at the appointed time, or sooner if action is slow and attention is starting to wander. Have the group police the area, leaving it better than they found it.

### **FOR DISCUSSION:**

**Q:** What happened? What skills were you successful at? What didn't work very well? Were there any surprises?

**A:** This type of open-ended questioning should allow members to reflect on their experiences, reinforce any discoveries and identify areas for additional learning and practice. Indicate that they will have the opportunity for more practice during their fishing trip.

**OTHER IDEAS:**

Consider dressing and storing some fish for Lesson 5, particularly if badly hooked or bleeding. If fish are to be kept, see Activity 5.2, Resource Sheet 3 (Leader's) for tips on killing and temporary storage. This will require a cooler with some ice.

**HANDOUT MASTERS:**

**Resource Sheet 1:** Bait Tales. (from *Try it Out! I*)

**NOTES:**

# The Great Debait

**Purpose:** This activity will use a debate format to compare the use and value of lures and live bait.

**Outcomes:** Members will be able compare the advantages and disadvantages of lures and live bait.

**Concepts:** 3.5, 4.5, 6.2, 6.3, 6.5, 6.6, 7.3

**Group size:** 5-30, in subgroups of 5

**Site:** Indoor meeting room, or outside tables (requires writing surface)

**Time:** 25 minutes

**Supplies:** Ontario Recreational Fishing Regulations Summary, Resource Sheet 1, Take A Kid Fishing Guide.

## A QUICK LOOK:

The key to any debate is to get people going without going too far. Encourage a bit of dramatics and salesmanship, but don't be afraid to step in if things start to get too serious and true feelings begin to show (or get hurt).

At first, it may be difficult for a true beginner group to come up with a lot of ideas. If necessary, do a bit of guiding. Ask them to think about their experiences with live bait and lures, and the potential of the lures they have only seen. Have them consider things like ease of use (especially for new anglers like themselves), cost, convenience, reusability, regulation (see "gear restrictions" section in the *Fishing Summary*), potential for spread of non-native species (see "bait" section in the *Fishing Summary*), possible effects on live release (see "Tips on Live Release" in the *Fishing Summary*), fish 'attractability', impact of gear loss and amount of action required of the angler. Some of these aspects may have positives *and* negatives. See the Leader's Guide to *Resource Sheet 1* for additional ideas. They may also want to look at pp. 12-13 of their *Take A Kid Fishing Guides* for some initial advantages and disadvantages.

After the vote, praise the debaters, but emphasize the importance of individual choice and the benefits of both methods. Make sure they understand the following:

- *Gear restrictions*, particularly *no live bait*, are in place for two possible reasons. First, the fish may be under a lot of angling pressure – more than the fish population can withstand given normal methods. Allowing only lures

may make it harder to catch fish, and so fewer are taken without restricting fishing *per se*. Also, fish that are released may have been less deeply hooked, and so have a better chance of survival (see below). Second, the lake community may be sensitive to “bait bucket introductions”, and could change for the worse if new fish are introduced (see below).

- Depth of hookset is not a big issue if you plan to keep most of your catch. However, if you release a lot of fish, more deeply hooked fish have less chance of survival, defeating the purpose of live release. In this circumstance, consider lures. As well, you can mash or file down the barbs on your hooks, making it easier to remove even some deepset hooks and creating smaller wounds to begin with. It can also be more of a challenge to play and land fish on barbless hooks, and you don't have to worry about barbed hooks imbedded in skin.
- Ontario is blessed with a tremendous aquatic resource – more than a quarter million lakes and countless kilometers of streams. Particularly in the north, we also have lakes which have not been impacted very much by people. These northern lakes are also not very productive – natural fertilizers are at minimum in the lakes and surrounding soil. As a result, there are very simple food webs containing native species only. Introducing a new species of fish can really disturb this simple web, and the balance of life in the lake may be altered for the worse. This may be true even if that new fish is “native” to other lakes in the area. While “bait bucket introductions” are possible, they can be avoided if anglers take care never to dump extra live bait (particularly “minnows”), or the water they came in, into a waterbody that they didn't come from. This should apply to *all purchased bait*.

## READY, SET, GO!

Announce that it is now time for the Great Debait! Anglers have been arguing for years over the virtues of live bait vs. lures, and now it is time to settle it once and for all! Divide the group in half, and have each one come up with all the good things about bait and bad things about lures, or vice versa. Divide the group in half, hand out *Resource Sheet 2*, and encourage them to fill in the two columns on *Resource Sheet 1* that support their side (i.e. advantages of one and disadvantages of the other).

Pick a good speaker from each group, and have them extol the virtues of their chosen method for up to one minute. Each then has one minute to slam the opposition. Encourage them to make their opponents advantages into disadvantages. Members should keep track of good points on their sheets. Step in at the end and indicate that, while most anglers will vary their method depending on the type of fishing or behaviour of the fish, some anglers (e.g. some flyfishers) just won't do anything else. Also, if you get two anglers together, they can usually find *something* to debate about!

## FOR DISCUSSION:

**Q:** Is fishing just about catching fish?

**A:** No – debate should have demonstrated that both methods provide activities that are fun in themselves, stimulating and/or relaxing, and which may or *may not always* lead to the catching of fish.

**Q:** Is there a *better* way to fish?

**A:** No – there are just *different* ways to match different interests, needs and experience levels.

## OTHER IDEAS:

- Instead of a general debate, pull some of the older or more experienced members out of the *Alluring Lures* activity and have them prepare the debate. Stage the debate in front of the rest of the group, and have them vote for lures or bait based on the presentations.
- Before dividing the group for the debate, ask if anyone thinks that they would prefer lures or live bait. If possible, have those people in groups arguing *against* their preference.
- If time is limited, introduce the resource sheet, but have them fill it out before the next meeting.

## HANDOUT MASTERS:

**Resource Sheet 1: The Great Debait**

**NOTES:**

# RESOURCE SHEET 1

## The Great Debate

Lures		Live	
Advantages	Disadvantages	Advantages	Disadvantages



# RESOURCE SHEET 1

## The Great Debate

Lures		Live	
Advantages	Disadvantages	Advantages	Disadvantages
<p>Can be used again. Creating action part of challenge &amp; fun. Mastering hookset part of challenge &amp; fun. Choosing successful lures part of challenge &amp; fun. Fish often not deeply hooked. Must be used in some parts of Ontario. Don't have to worry about having bait stolen. Don't have to worry about rebaiting hook. Making lures can be part of the fun. No chance of spreading introduced species. Can focus on particular species &amp; size. Action may encourage fish to bite that aren't hungry. Never satisfied - always something new to try. Can cover area more quickly.</p>	<p>Costly, especially if lost. Harder for beginners to master presentation. Harder for beginners to master hookset. Some lures may be designed to catch more anglers than fish. Most have no built-in scent - additional cost if added. Always have to be <i>doing</i> something. May be attractive to a narrower range &amp; size of fish. Never satisfied - always something new to try.</p>	<p>Cheap. Easy to use. Finding them can be fun. Natural scent attracts. Natural action if live. Can <i>sometimes</i> be used again. Stillfishing allows you to relax &amp; enjoy surroundings. <i>Only</i> good approach to some fish, e.g. carp, catfish. Attractive to a broad range &amp; size of fish. Doesn't require fancy rods. Can be added to lures if you <i>really</i> want to catch something!</p>	<p>Deep hooksets more likely. Stillfishing is <i>boring!</i> Bait is <i>gucky!</i> Can introduce non-native species. Cannot be used in some parts of Ontario. Bait can be stolen by small fish. Have to rebait hook often. Less problem-solving required - learn less about fish &amp; fishing. Have little to fill tackle box with. Have to find, buy or maintain live bait be-tween trips.</p>

## MEETING FIVE: HOW WILL I TREAT IT?

*What will the group learn? Participants will gain respect for fish “from the inside” by trying on some of the challenges that fish face. They will then learn to physically apply that respect to either keeping or releasing their catch, and understand the factors which go into making that decision. Respect then broadens into ethics as members consider their values and actions as responsible anglers, particularly in relation to the dispersal of introduced invaders.*

### Objectives

1. To create an appreciation of the challenges faced by fish, and respect for the fish that meet those challenges.
2. To apply that respect to decisions around keeping or releasing fish, and to develop enough understanding to make those decisions appropriate ones.
3. To review and participate in methods for both releasing and keeping fish, including skills development in cleaning, filleting and cooking fish.
4. To develop concepts of resource stewardship, and apply those concepts, through members' personal ethics, to a variety of simulated situations.
5. To apply ethics to the problem of introduced species, and how individual anglers can help limit their impact and spread.

### In a nutshell

<i>A Day in the Life...</i>	30 minutes
<i>To Keep or Release?</i>	45 minutes
<i>Management and Ethics</i>	45 minutes
<i>Mussel Mania (optional)</i>	30 minutes
<b>Total Time:</b>	<b>150 minutes</b>

### Introduction

This is the one question that may not spring to mind in the beginning angler. However, it is in some ways the most important question to be asked and answered if the sport, and the resource, is to benefit from the addition of these particular anglers.

This is also perhaps the hardest topic to teach. To work, it must run through the entire Unit, which is why we introduced respect and consideration in the first activity of the first lesson. To work, you as a leader must reflect the actions that you are trying to instill. If these things have not been done until now, it is probably too late – actions indeed speak louder than words. Even if they have, review the ethics discussion under

**Welcome to Take A Kid Fishing!**, and focus on those principles in this meeting.

### **A trout's eye view**

Fish have a tough life. Out of thousands, or millions, of eggs, perhaps only one or two, or at most a handful, will survive to reproduce. And that's under *good* conditions! In addition, fish now have to put up with human impacts on their habitat and fishing pressure. The fish you catch are survivors. Not only from a single hatch, or year class, but as a member of a recognizable group (bony fish) that has a history well over 100 times as long as our own. However, it is hard for us to imagine what they go through, even if we try to put ourselves in their place, as in Activity 5.1. Push your members a bit. Get them to see beyond the physical challenges of the activities, and feel what it would be like to have to live in that way. It is a start towards care and respect.

### **Fisheries management and you**

Why manage our environment? Isn't it enough to just let our ponds, streams, or lakes take care of themselves? After all, government regulations and conservation groups weren't in existence hundreds of years ago, and our waters didn't dry up. Our bass and trout did not die. In fact, the environment seemed to get along just fine without us.

People pressures and demands on the environment have created a need to manage our resources. Imagine a lake without fish for eager anglers, an urban area without a wetland, or land so over paved that it can no longer soak up the rains.

There are a lot of players in the pool. Natural resource agencies, conservation groups, legislators, and others get involved in managing our waters. You may have noticed that we don't say a lot here about formal management: surveys and data collection, fish population manipulations (stocking, restrictions on fishing), habitat protection and enhancement, research and education done by resource agencies such as the Ontario Ministry of Natural Resources and their partners. That will come in later Units. Here, the emphasis is on the role of individual anglers – their potential impacts and what they can do to mitigate those impacts and leave the resource even better than they found it. Links are made where appropriate, mostly through regulation.

There are, and will be, however, lots of personal decisions to be made, even within the bounds of law and regulations. And for the most part, no one will be looking over their shoulders as they make them. Here, members have the opportunity to discuss decisions and “try on” ethics in a supportive environment. Don't be afraid to reflect your own judgments and principles, but be ready to accept their ideas and reasons. Just be sure that they understand the consequences of their actions to themselves and to the environment.

The payoff is resources that are truly renewable. As our population continues to grow, it will become more and more important for all of us to practice and live by the principles of stewardship, wise use, and sustainability. Our waters are counting on us.

## "A Day in the Life..."<sup>1</sup>

**Purpose:** Through active simulations and role play, members will come to appreciate the challenges faced by fish, and come to respect the fish they catch for meeting those challenges.

**Outcomes:** Through first-hand involvement, members will gain some feeling for the difficulties faced by migrating (Part A) or spawning (Part B) fish, be able to list at least two human impacts that threaten these activities, and explain how each can be eliminated or avoided.

**Concepts:** 1.1, 1.6, 4.4, 5.3, 6.1, 7.5

**Group size:** 6 - 30

**Site:** Field or large indoor space.

**Time:** 30 minutes

### **Supplies:**

Part A – School playing field; 2 skipping ropes; 8 sponge or "nerf" balls; 1 plastic pail (5L); 10 hula hoops or rope loops; 2 rolled up newspapers or tubes from rolls of wrapping paper; piece of string (300 m); 2 large envelopes; 4 pylons; 2 small boxes (about 40 cm x 30 cm x 15 cm); 7 pieces of string (2 cm each); Teacher Resource Sheets 1, 2 and 3; flagging tape (optional).

Part B – at least 25 to 30 pebbles per bass nest; 6 - 8 foam or paper balls.

### **Before the Meeting:**

Part A –

1. Make six "Spawn" cards, and one copy of each of "Happy Birthday" and "Congratulations" cards for each fish. (Number of fish equals number of students minus 10).
2. Prepare two large envelopes, marked "Happy Birthday" and "Congratulations".
3. Set up the playing field (approximately 50 m x 50 m) according to Teacher Resource Sheet 2. You may use flagging tape to outline the water's edge to avoid confusion.

Part B – In an open field or large indoor space, place pebbles in small, piles, leaving about 3 - 4 metres between piles. Cluster the piles rather than stringing them out.

<sup>1</sup> Adapted with permission from "Hooks and Ladders". Project WILD Activity Guide, Ottawa, Ontario: Canadian Wildlife Federation, 1990.

## **A QUICK LOOK:**

It is a big step from becoming aware of something and understanding it, to generating the internal motivation necessary to act on that understanding because you *want* to, not just because you *have* to. This lesson deals with the actions anglers take to treat their fish, and their aquatic resources, with respect. Basically, you are trying to create a caring attitude, not a casual one, or one resigned to “following the rules” only because they might get caught and fined. In this activity, members see the world through a fish’s eyes, learn some of the challenges that fish must overcome just to make it to the end of their fishing line, and in the end, leave with a greater respect for fish.

In Part A, students actively involve themselves in the spawning migration of rainbow trout (or any other fish that migrates to specific spawning habitat, e.g. salmon, walleye) by taking on the roles of predators, anglers, hazards and the trout struggling to reach their spawning grounds and return to their deep-water homes. As described, this obstacle course requires 9 - 10 members or leaders to function, plus at least one leader to make sure all goes smoothly, and at least 6 - 8 fish. If you have lower numbers, consider taking out portions and omitting some roles, e.g. egg predators in Area E, since egg predation is also covered in Part B. If you have limited fish numbers to start and no one finishes, discuss the problems of trying to rebuild stocks that have gotten extremely low in number.

In Part B, some members take on the role of male bass guarding their eggs from predators (other members). In addition to introducing this interesting and somewhat unique behaviour, members will be able to observe (and help create!) the effect angling has on nesting bass. Try to ensure that as many members as possible get to see life from the bass’s point of view.

## **READY, SET, GO!:**

### **Part A –**

Discuss with members the life cycle of the rainbow trout. Explain their task as rainbow trout - to go upstream, lay their eggs and return downstream to the safety of the lake. Discuss obstacles, hazards and stream improvement activities. Assign roles to students: some will be hazards (two anglers, four shallow rapids and four predators) and the remainder will be fish.

Take students out to the playing area and explain the game rules on Teacher Resource Sheet 2.

Area A: Two members are anglers in boats on the lake. They are avid anglers and can move around the lake but they must keep dry by keeping one foot in a box at all times while they try to tag the trout. The trout must mature in the lake before entering the stream. They start on a line between Areas A and B, and must go back and forth across the lake two times and pick up one “Happy Birthday” card

the first time and then one "Congratulations" card on the second crossing. Cards are to be given to the leader, and placed in the appropriate envelope after each crossing. If fish are tagged by the anglers, they must start over. Each successful fish is given ten spawn cards by the leader. Each card represents 10,000 eggs. Upon completion of these tasks they may then enter the stream!

Area B: Four members in the stream represent shallow rapids that fish must try to get through. Each pair has a skipping rope, and pairs are about 4 m apart. Fish try to run through both turning ropes. The ropes may be altered a little in speed, but should not be turned overly fast. If fish are hit by a rope, they cannot survive. They must go to the fish ladder in Area D. If they survive, they continue upstream to Area C.

Area C: Two members are predators. They each have two sponge balls, which they throw at fish swimming through the area. If fish are hit by a ball below the waist, they cannot survive and must go to the fish ladder. If they survive, they continue upstream. The predators must stand still.

A Safety Zone is marked by pylons, where fish can relax before going over the ladder.

Area D: This is a steep waterfall where the fish that couldn't survive make a fish ladder by squatting down one in front of the other about 0.75 m apart; the surviving fish must leap-frog over them. Successful fish advance to the spawning ground.

Area E: Each successful fish drops their cards one at a time in the spawning ground, being sure to spread them out. They then start their journey downstream. Meanwhile, at the spawning ground, there are two predators that could destroy the eggs. They enter the spawning grounds, take one spawn card and return it to the pail located 5 m away from the spawning ground. They must walk. They repeat this, collecting as many cards as possible, but only one at a time. They continue until all but the last two trout reach the deep water.

Area F: This is an area of habitat obstructions reflecting the need for a stream improvement project to clear up the log jams, broken glass and garbage in the stream. If the fish step in a hoop, they will die from contaminants. If they touch a string, they will be injured by the debris or logs. Two of the four rope turners act as Conservation Officers, sending out fish that touch an obstacle. If caught, fish go to Area H as anglers.

Area G: This is an open area that has been cleared as an improvement project by a local community group. The two anglers from Area A act as birds of prey (herons, osprey). They must stand still, and try to hit fish gently below the waist with their rolled up newspapers. If hit, fish go to Area H as anglers.

Area H: The fish are now ready to enter the lake and seek protection in the deep water, but in the shallow water of the lake there are more anglers wading (the other two rope-turners from Area B), whom they must swim around. These anglers do not walk around, but can reach for the fish. Any fish who are caught become anglers. Fish from the ladder also became anglers in the lake when all fish have passed through the ladder.

Have students play the game. To start, have the hazards place themselves in the appropriate areas. When everyone is in position, the trout begin their journey. When game is complete, have students sit down and report on their experiences.

Collect data. Determine how many fish survived and how many reached the spawning grounds. Calculate the number of eggs deposited. See how many spawn cards were removed from the spawning grounds.

Play the game again and change the roles of the students. Compare the results of the two games.

### **Part B –**

Lead the group over to the bass “spawning grounds”. Show them the egg piles and choose one member in six (start with those who were *not* fish in Part A) to be male bass. Each male bass must guard “his” eggs from predation (the other students).

Indicate that everyone else is a predator (crayfish, dragonfly and diving beetle larva, golden shiners and various sunfish). Their job is to dart in and grab **one** egg at a time, which they must bring over to an “eaten” pile by your feet. They then go back for more eggs. Each bass tries to tag the predators, who must then drop any egg, retreat, and start again.

Run the game for a while. If your bass are good, they will only lose a few eggs. Stop the action, and explain that you (or another leader) is an angler. Using Styrofoam balls or balled-up paper, the angler tries to hit the bass. If the bass is hit, “he” must run over to, and around, the “eaten” pile of eggs before returning to his nest, simulating the time any caught bass is away from his nest, even if he is quickly and properly released. Observe what happens when the bass is away from “his” nest.

Continue until time is up or everyone has a chance to be a bass.

## FOR DISCUSSION:

### Part A –

**Q:** How did you feel as a fish? Do you think life as a fish would be easy? (applies to Part B as well)

**A:** Answers will vary. The important thing is to get them thinking and remembering from the fish's perspective, and with some sympathy.

### Part B –

**Q:** Largemouth bass lay up to 100,000 eggs (4400 to 15,400 per kg. of female). Why do they need so many?

**A:** So that some can survive predation when they are very small.

**Q:** Nesting male bass are very aggressive and easy to catch, attacking lures even when they are not hungry. Is it a good idea to fish for them at this time, even if you are going to release them?

**A:** No. Even if they are gone for only a short while, the eggs or very young fish are left defenseless in the face of hungry predators. That is why bass season starts **after** spawning season is over. In fact, it is illegal to fish for bass out of season, even if you release every one. If you start catching bass at this time of year, stop fishing, or move somewhere else. Sometimes, if spring is very late or cold, males will still be on the nest on opening day. While it is legal to catch these bass, *you* will have to decide if it is ethical.

## HANDOUT MASTERS:

Leader's Resource Sheet: "A Day in the life..."