

4-H

Natural Resource

Club



Sportfishing

SPORTFISHING

The Level 1 Sportfishing manual, *Take the Bait*, is intended for youth in grades 3-5. This manual introduces some basic sportfishing concepts and terminology through four chapters: Angling Skills; Tackle Skills; Aquatic Ecology, and People and Fish. The Level 2 & 3 Sportfishing manuals have similar topics with the addition of Tackle Crafting.

Indiana 4-H Sportfishing manuals

(Order from Purdue's *The Education Store*, www.the-education-store.com)

- Take the Bait, BU-07598
- Reel in the Fun, BU-07599
- Cast Into the Future, BU-07600
- Sportfishing Helper's Guide, BU-07601

Activities

The following activities were selected from the Indiana 4-H Sportfishing Level I manual to introduce fish and fishing to your 4-H Natural Resources club. This manual was written using the *Experiential Learning* model. We recommend that you allow youth to do the activity (experience) as suggested in the manual, giving help as needed. Be sure to discuss the *Sharing Fish Tales* section (share, apply, and generalize). The *Fishing Deeper* section has suggestions for helping youth learn more. Answers are given in the Sportfishing Helper's Guide.

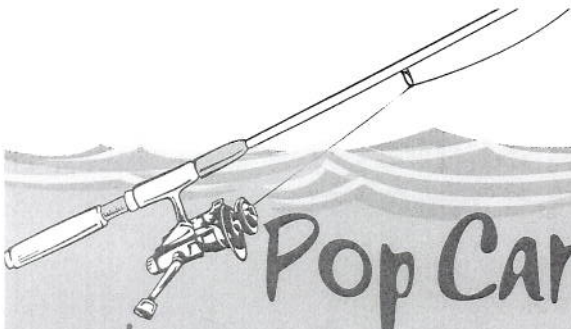
Pages	Activity Suggestions	Materials Needed	Time (min.)
Pop Can Casting			
10-11	Youth learn how to make and cast a pop can fishing rig. The "plastic casting plug" is also called the weight and can be made of anything that can be tied to the fishing line (e.g., cat toy, washer) and won't hurt the floor.	Pop can, fishing line, casting weight, tape, bucket, and score sheet	20-30
Tackling Tackle			
16-17	Youth learn about different types of tackle by matching pictures to their name and description.	Copy of page 16 for each youth	15
Fishy Baits			
24-25	Youth brainstorm to list different types of fish bait (natural, prepared, and artificial flies). If youth in your group have not fished before this activity will probably be more successful with the help of a local fisherman and/or bait examples.	Copy of page 24 for each 4-H member or a flip chart for responses.	20
Which Fish Is It?			
28-29	Youth complete a crossword puzzle to help them identify different fish. The fish species listed on page 29 can be used if youth need assistance (either post or make copies for each youth).	Copies of page 28 for each youth.	15

Invited Speakers Suggestions

There may be local people who enjoy fishing and introducing youth to this sport but they may be difficult to find. We recommend that you ask around.

Resources

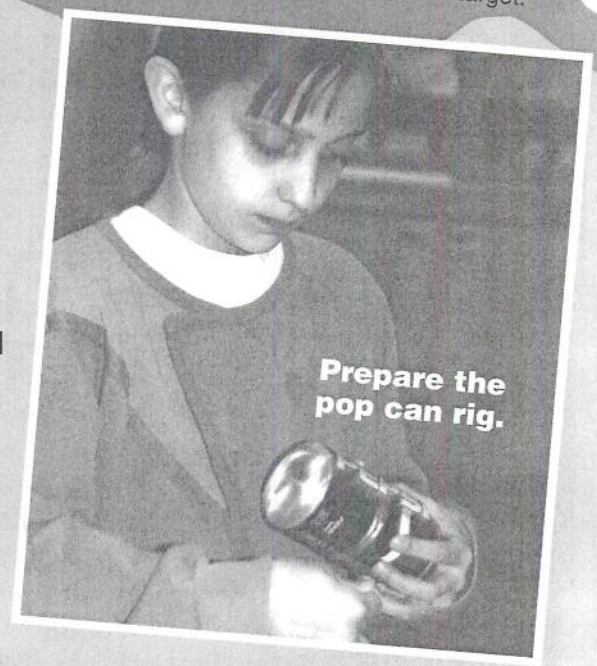
- Indiana 4-H Sportfishing webpage: [www.four-h.purdue.edu/natural_resources/.click on Sportfishing](http://www.four-h.purdue.edu/natural_resources/.click_on_Sportfishing)
- IDNR Education Programs (GoFish IN), <http://www.in.gov/dnr/fishwild/7545.htm>



Pop Can Casting

Fishing Project Skill: Casting a lure
Life Skill: Problem solving
Success Indicator: Builds a pop can rig and casts accurately to a target.

What do you think when you hear the word rig? Someone might think of an eighteen-wheeler going down the freeway. A fisherman would think of something very different. Fishing "rigs" usually consist of a rod, reel, line and bait such as a worm, lure or fly. There are several types of fishing rigs: bait casting rigs, spin casting rigs, salt-water rigs and fly fishing rigs. In this activity you will have fun building a "pop can rig" and learning to cast it to any spot you select. You can't catch fish unless you can accurately place the worm, lure or fly where the fish can get to it easily. This activity will not only help you cast accurately but will also help you become a better problem solver.



Tackle Box

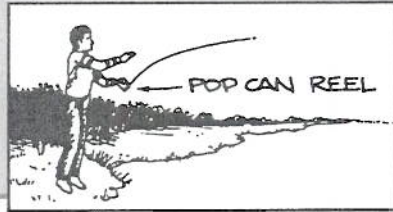
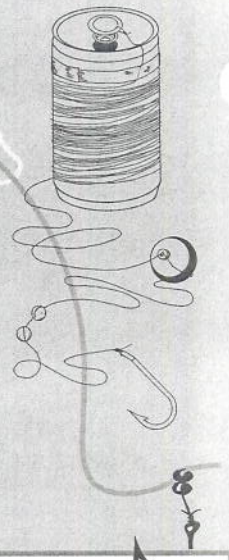
Materials Needed

- Pop can
- 50 feet of fishing line
- Casting weight
- Piece of tape

Baiting the Hook

First you'll want to make your own pop can rig. Find a pop can, about 50 feet of fishing line and a plastic casting plug. Attach the line to the can with a piece of tape. Then wind the line around the center of the can. Finally, tie a loop in the end of the line and attach the weight.

Now the fun begins. See what happens when you cast the weight to a target such as a bucket. First cast 10 feet to the target. Record below how many feet away from the target the weight lands. Do this 10 times. Check the casting tips in the Fishing Tips section on page 11 for helpful hints. Practice with a friend or your helper to make this activity even more fun. Now cast 10 times from 15 feet and then 20 feet. Finally, write in the space below how you improved your casting scores.



My Casting Record

Cast Number

How I Improved My Score:

	1	2	4	5	6	7	8	9	10
10' Cast									
15' Cast									
20' Cast									

Sharing Fish Tales

Casting Out

- How did you make a pop can fishing rig?
- How was your rig like a real fishing pole, line and lure?
- What happened when you made your first casts?
- How is this way of casting like casting a real rig?

Working the Lure

- What is the most important part of building a pop can rig?
 - What did you do to make your casts go in the bucket (or close to the bucket)?
-
-
-

Setting the Hook

- What's another problem that can be solved in a similar way?
-
-
-

Landing the Fish

- How could this activity make you a better angler?
-
-
-

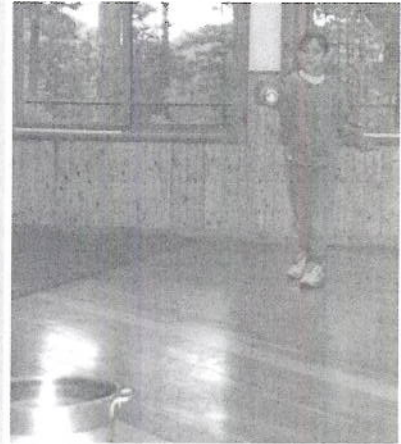
Fish Facts

There are casting tournaments where anglers compete for prizes.

Fishing Tips

Casting the Pop Can Rig

Place your hand around the can behind the line with your thumb on the line. Swing the can underhand like you would throw a ball. Instead of letting go of the can as you would a ball raise your thumb off the line and hold onto the can.



Increasing Accuracy

As you practice casting you will learn that there are many ways to increase accuracy.

- Releasing the line too soon will cause the weight to fall short.
- Releasing too late causes the weight to go too high and probably short.
- A faster arm speed will cause the weight to go farther.
- How high your hand is when you release the line may affect where the weight goes.

Fishing Deeper

1. Teach someone who has never fished how to cast a lure using the pop can rig.
2. Use a regular fishing rig and practice casting to a target.
3. Describe to your helper how the pole, reel, line and bait affect how accurately you can cast.

Tackling Tackle

It's important to have the right fishing equipment for the type of water you will be fishing and the kind of fish you want to catch. You don't need a lot of equipment to begin fishing. In fact, it's a good idea to begin with basic, simple tackle. Many times a tackle box contains fishing tackle given to you by someone else or new lures that are pretty but will not work for the fishing you will be doing. Select your equipment wisely. Try more difficult tackle after you've mastered some basic skills.

Baiting the Hook

Match the picture of the tackle with its correct name and description.



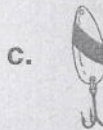
1. Fishing Line

N. A spool on which fish line is wound.



2. Rod

O. Devices that permit one part of the tackle to rotate or spin without causing the line to twist. These allow an angler to change lures or other terminal tackle quickly and without cutting and re-tying the line to the lure.



3. Reel

P. Lures designed of plastic or wood to imitate fish foods like minnows or crayfish.



4. Hook

Q. Lures that are heavier than water, usually made of lead, steel, or brass.



5. Sinker

R. Braided or monofilament strands that connect the pole or reel to the hook or lure and come in a wide variety of strengths, colors, types and sizes.



6. Snap/swivel

S. Types of lures that combine characteristics of two or more other types, like spinner flies or spinner baits.



7. Bobber

T. Sometimes called "bobbers" or "floats", they are used to suspend the bait or lure at a specific depth in the water.



8. Jig

U. Mostly underwater, wobbling lures that are shaped like the bowl of a teaspoon. They suggest forage fish and come in a wide variety of sizes, shapes, color combinations and hook types.



9. Plug

V. Come in a few basic types: spinning, spin cast, bait casting, and fly. Each type is built with an action, guide types and handle to complement the type of reel and line being used.



10. Spoon

W. Named for the revolving (spinning) blade that is attached to the shank of the lure.



11. Spinner

X. Lures consisting of a weighted head on a hook. The shank may be dressed with materials such as hair, marabou, artificial fibers, chenille, soft plastic lures or combinations of these items.



12. Artificial Fly

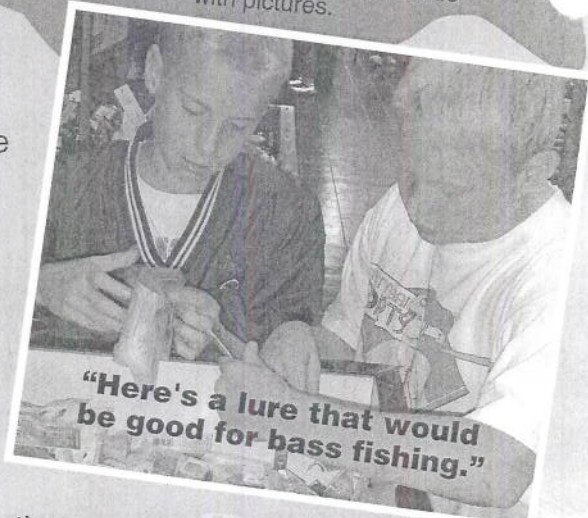
Y. Hold the fish to the line. Regardless of their size and style they must be sharp for best success.



13. Combination Lures

Z. These suggest or imitate various fish foods. They tend to be rather light lures that require fly tackle or a special kind of bobber known as a casting bubble to be cast.

Fishing Project Skill: Identifying types of fishing tackle
Life Skill: Making decisions
Success Indicator: Matches pieces of tackle with pictures.



Sharing Fish Tales

Castig Out

With the equipment you now have in your tackle box, what kinds of fish could you catch?

Which is your favorite lure in the tackle box? Why?

Working the Lure

Why is it important to have several different types of tackle?

Setting the Hook

What kinds of fish are commonly found where you fish?

Landing the Fish

How do you decide what kinds of tackle to use to catch a species of fish common to your area?

Tackle Tips

Fishing Tackle

Start with the kind of fish you will be trying to catch most of the time. Study the methods used for those fish and the tackle preferences of others who fish for them in your area. Ask other anglers about their favorite lures or baits and rigs for them. Plan your tackle purchases so you will be prepared for the most common situations, then develop your own ideas as you gain experience fishing.

Reels

Allows the angler to cast, retrieve and store extra line. In combination with the right type of rod, reels let you cast your bait or lure farther. They also help you retrieve lures correctly and provide assistance in playing larger fish.

Artificial Flies

- Artificial tied flies include wet flies, dry flies, nymphs and streamers.
- Nymph – Special wet flies that suggest aquatic stages of insects.

Bugs or Poppers

Deer hair, foam or cork bugs or poppers are designed to float on the surface and suggest insects, frogs or other fish foods.



Plugs

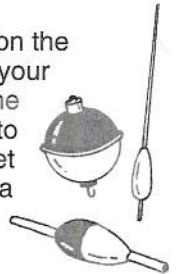
Wise anglers choose plugs with different depth ranges, actions, and color patterns proven for the fish and the area.

Sinkers

Sinkers are weights that come in many different shapes and sizes to help get your bait deeper and to cast farther. They also help you keep the line tight so you can feel the fish bite. The fishing method and the type of bottom where you fish are the two most important factors in choosing sinkers.

Bobbers

A bobber floats on the surface to keep your baited hook at the depth you want to fish. They also let you know when a fish bites your bait. Use the smallest, least resistant bobbers that will balance with your bait for best results.



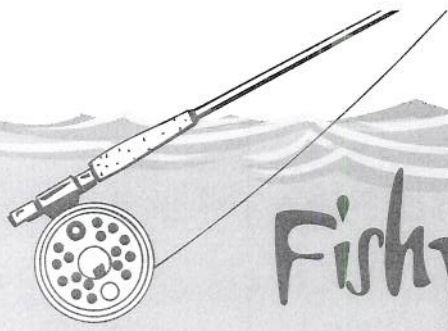
Snaps and swivels

Line twist weakens the line and makes it tangle more often. Swivels reduce that twist. For lures like spoons and spinners, swivel snaps are very important. Some lures work better when tied directly to the line.



Fishing Deeper

1. Make a poster or display of different types of fishing tackle.
2. Organize and conduct a tackle identification activity with your fishing group or your family using real tackle.
3. Go to the library or search the Internet for information on the history of lures and fishing tackle.



Fishy Baits

Fishing Project Skill: Identifying different baits and their use
Life Skill: Acquiring knowledge
Success Indicator: Reports information gathered.

What baits have you used to catch fish? You have a lot of options. Fish can be caught on natural baits that are either exactly like what they eat or are something they might feed on if they can find them. Prepared baits usually appeal to a fish's sense of smell. Artificial flies and lures often resemble something that fish eat, but sometimes they seek to trigger a reflex strike from the fish.

Baiting the Hook

1 Natural baits are neither man-made nor artificial. These can include actual animals or animal parts, worms, crickets, vegetables and many others. Make a list of live animals that fish might eat. Discuss where you would get them and if they would be a realistic bait.

2 Prepared baits are something that you made or can buy already mixed up. Find a recipe for making either doughball or stinkbait and record it in the space on the right. Ask another angler to help you check the internet or visit a fishing department, tackle store or bait store. Always be sure to check your fishing regulations for the use of prepared baits.

3 Look at artificial flies and lures in someone's tackle box (do not use your own tackle box). Also look in fishing magazines for articles or the Internet for artificial flies and lures. Make a list of artificial flies and lures that resemble something that fish eat and make a list of things you don't think fish would eat.

1 Natural Baits

Bait	Where to find
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____

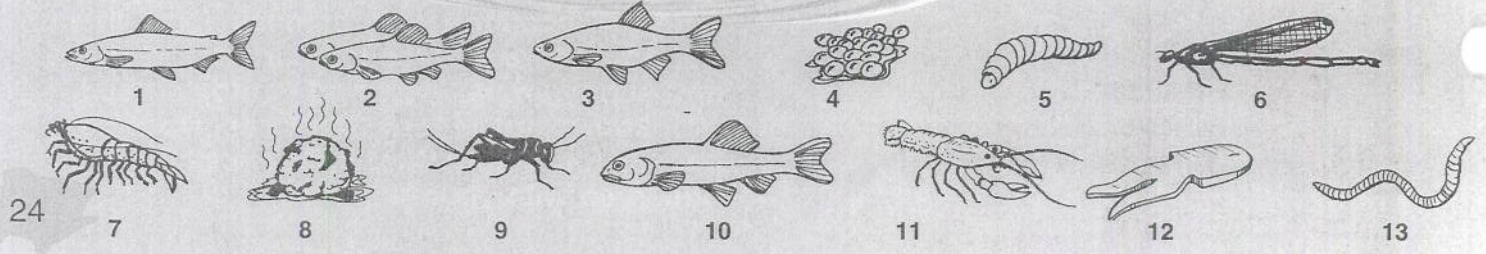
2 Prepared Bait Recipe

3 Artificial flies and Lures

Name	Looks like	Yes	No

Check fishing regulations to make sure the bait is legal for the body of water you are fishing. Live fish as bait are sometimes illegal in some waters.

Fish Facts



Sharing Fish Tales

Casting Out

What baits have you used?
 Why are some baits illegal?
 Why would you want to use prepared baits?

Working the Lure

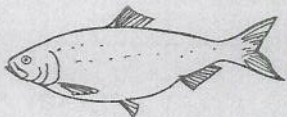
How did you decide what recipe to use to make doughballs or stink bait?

Setting the Hook

What did you learn about searching for information on a topic you know little about?

Landing the Fish

How can you be more efficient in gathering information in the future?



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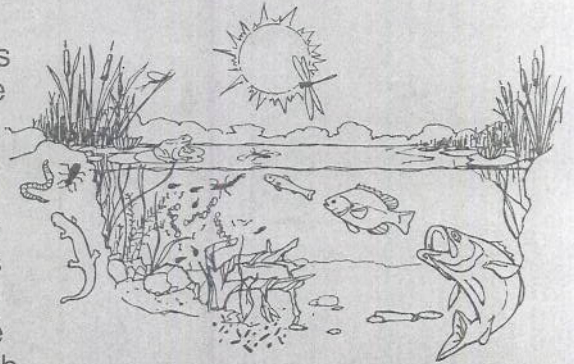
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Angling Tips

The Food Chain

Here is an example of a typical food chain beginning with worms and insects and ending with a large predator fish.



Fishy Bait Crossword



Word Bank

Crayfish
 Chub
 Cisco
 Cricket
 Dances
 Grub

Leech
 Maggot
 Manure worm
 Minnows
 Night crawler

Nymph
 Pork rind
 Roach
 Shad
 Shiner
 Shrimp

Smelt
 Spawn
 Stinkbait
 Waxworm
 Wiggler

Fishing Deeper

1. Describe to your helper the Food Chain shown above.

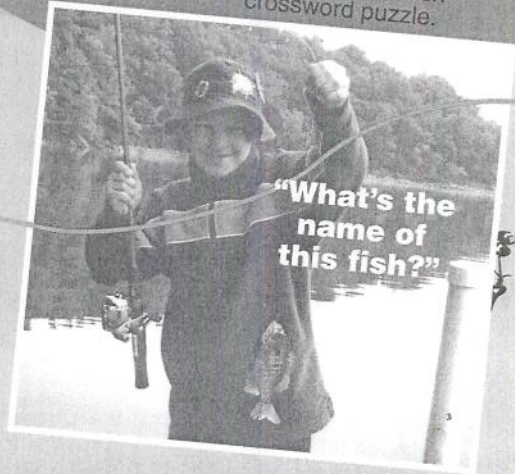
2. Complete the Fish Bait Crossword Puzzle and describe each type of bait to your helper.



Which Fish Is It?

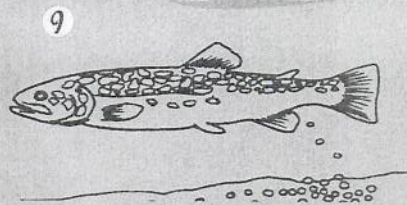
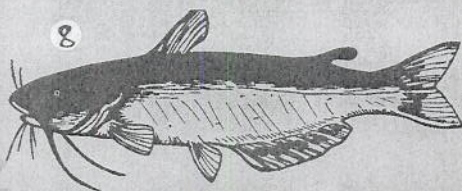
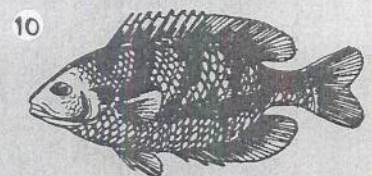
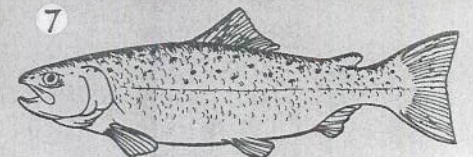
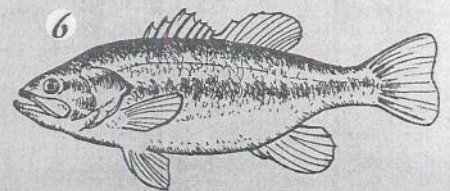
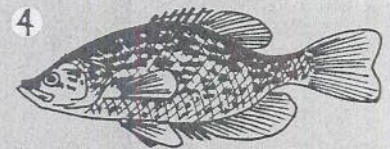
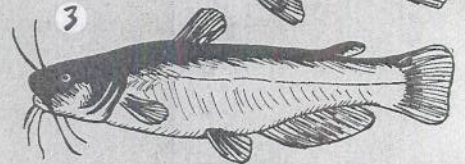
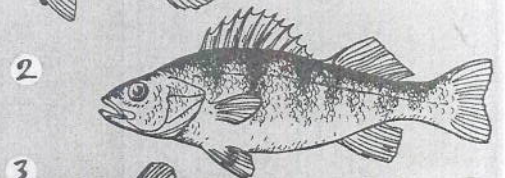
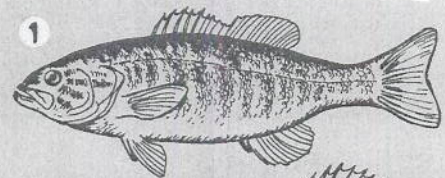
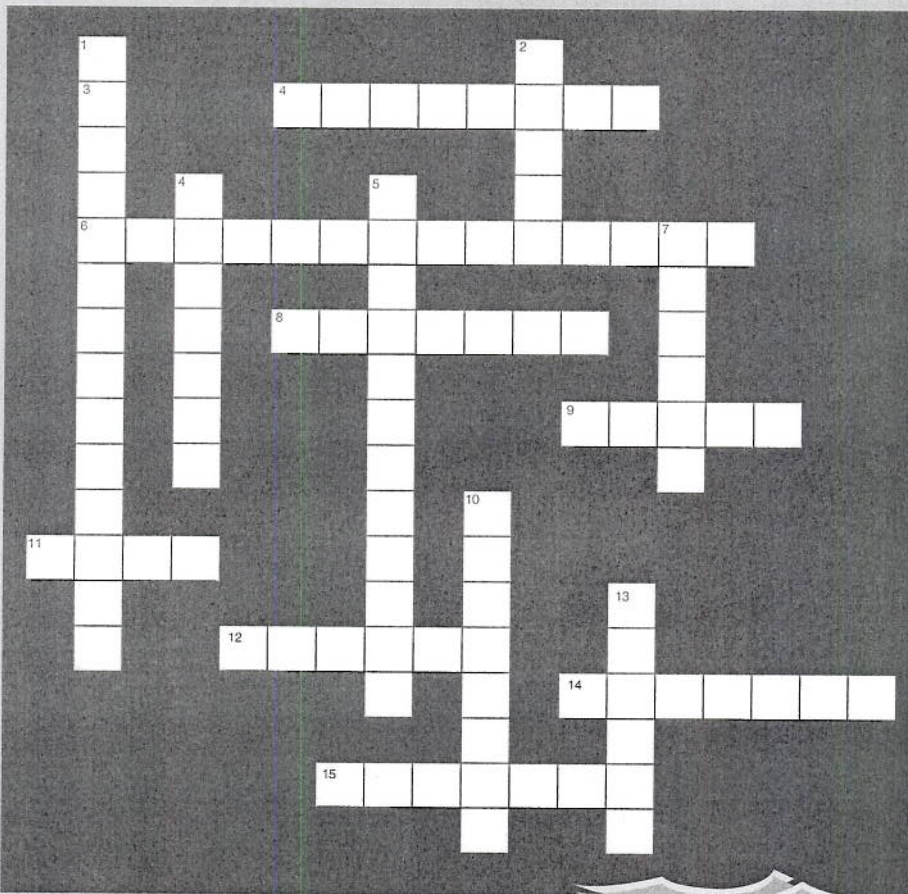
How many different kinds of fresh water fish can you identify? Can you tell the difference between a Largemouth and a Smallmouth Bass? A Northern Pike and a Muskie? A Perch and a Walleye? A Crappie and a Sunfish? Or a Catfish and a Bullhead? In this activity you'll see how many of these popular game fish you know.

Fishing Project Skill: Identifying fish in your area
Life Skill: Decision making
Success Indicator: Completes the fish crossword puzzle.



Baiting the Hook

Complete the crossword puzzle. If you don't recognize one or more you may find that completing the Fish Word Find may provide you a clue. After you have completed the puzzle, make a copy of the fish shown or find color pictures in magazines or on the Internet and make a flash card or game to help members of your family identify different fish species.



Sharing Fish Tales

Casting Out

Name the kind of fish you identified first?
What was the hardest fish to identify?

Working the Lure

Why is it important to know different kinds of fish?

Setting the Hook

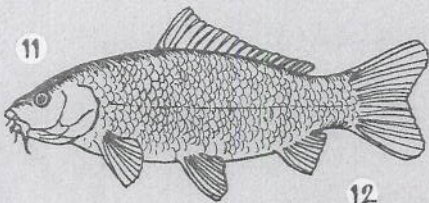
What species of fish have you caught in the past?

Landing the Fish

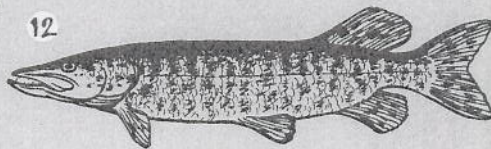
How will knowing the different kinds of fish help you be a better angler?

Fish Talk **words** • Species

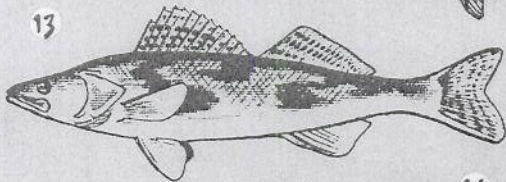
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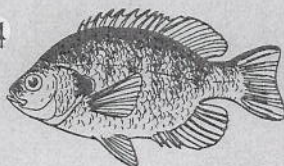
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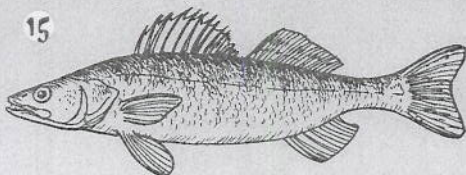
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Fishing Tips

Best Fishing Times

Fish seem to get hungry about a half-hour before daylight and for about two or three hours after sun-up. They are also feeding about a half-hour before sundown until about an hour after dark. Try to fish during these hours, especially in the summer. During the spring and fall, you can catch fish from mid-morning until late afternoons. On cloudy days fish sometimes stay active all day.

Fish Species

Arctic Char	Northern Pike
Arctic Grayling	Perch
Bluegill	Pickeral
Bullhead	Salmon
Carp	Sauger
Catfish	Shad
Coho	Smallmouth Bass
Crappie	Sunfish
Lake Whitefish	Trout
Largemouth Bass	Walleye
Muskie	

Fishing Deeper

1. Learn 10 species of salt-water fish and describe each to your helper.

Fish Talk 1

Adipose fin - A small fatty fin found on members of the trout and catfish families.

Anal fin - The fin found on the underside of the fishes body near the tail.

Angling - Fishing for pleasure with a fishing rig usually consisting of hook, line and pole.

Aquatic - Referring to any fish, animal or organism that lives in water.

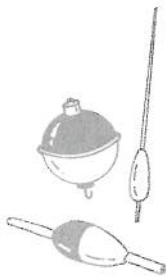
Bait - Any live or natural thing that represents or imitates food for fish - worms, minnows, frogs, corn or marshmallows are all examples.

Barb - A spur on the point of a fishhook designed to help keep a fish on a hook.



Barbel - A whisker-like projection growing from the jaws of certain fish used to help taste and feel. Common to bottom feeding fish like bullheads, catfish, carp and sturgeon.

Bobber - Also referred to as a fishing float or cork. Bobbers are designed to float on the waters surface and keep bait or lure at a selected depth.



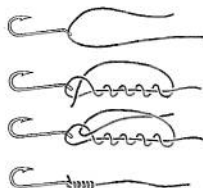
Bony plates - Hard, heavy scales.

Casting - The art of throwing your lure and line to a specific location on the water to attract and catch a fish.

Caudal fin - Relating to the tail. On a fish this is the name of the tail fin.

Clinch knot

- Sometimes referred to as the fisherman's knot, this is a very common knot used to attach a hook/lure, swivel or leader to a fishing line.



Cover - A fish's habitat component made up of vegetation, debris and other irregularities within the water that provide protection, resting and feeding areas.

Creel - A basket or pouch container for carrying the fish that have been caught.



Dorsal fin - Dorsal relates to the back. The dorsal fin is located on the upper most portion of the back.

Drag - A system within fishing reels that allows you to let fish take line off the reel while playing a fish.

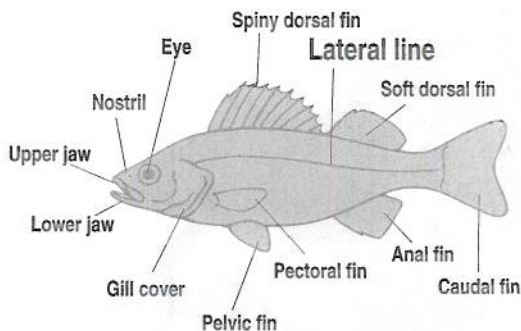
Dry fly - A fishing fly designed to float on the surface of the water and imitate an adult stage of a stream insect like the mayfly, caddis fly or stonefly.

Fishing rig - Fishing set up consisting of a rod, reel, line, bobber and hooks that are designed as a tool for the angler to attract and catch fish.

Gill arches - Bony structures that give internal support to the gills.

Habitat - The place where a fish or animal naturally lives and grows. Includes the critical elements of food, water, shelter or cover and space.

Lateral line - A set of pores running along each side of a fishes body that are sensory organs capable of detecting vibrations and pressure changes in the water.



Leader - Material used between the main fishing line and the lure or hook. Often a heavy leader is used to catch fish with sharp teeth like northern pike and muskie while a light leader is used when fly-fishing to help dry flies float on the waters surface for trout.

Lure - Refers to artificial baits used to attract and catch fish.

Nymph - The larval stage of aquatic insects or artificial flies designed to imitate a nymph that is often used for trout fishing.

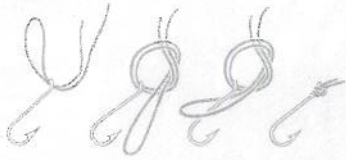
Pectoral fins - Relating to arms or upper body appendages. On a fish the pectoral fins are the pair of fins on the front lower side of the body.

Pelvic fin - A pair of fins found on the front underside of a fish that are comparable to the hind limbs of a four-legged animal.

PFD - Abbreviation used for a personal flotation device or life jacket. An important safety device designed to prevent drowning and hypothermia.

Playing a fish - The technique of tiring a fish so it can be brought to a boat or up to shore and safely landed by an angler.

Polomar knot - A common knot used in fishing to tie the line to a hook, lure, swivel or leader.



Practice plug - A plastic weighted device without hooks used for practicing casting techniques on land or water.

Predator - A fish or animal that feeds on other fish, animals or organisms.

Prey - A fish animal or other living organism that is eaten as food by a predator.

Ray - Bony structure supporting the membranes of the fin.

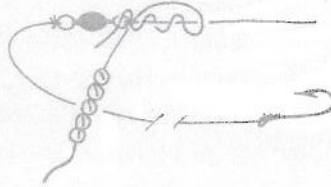
Recipe - A set of instructions combining certain ingredients to properly and safely prepare a fish or food dish for human consumption.

Reel - The portion of a fishing rig that holds the fishing line and allows the angler to cast and retrieve fishing line.



Reeling - The process of rewinding fishing line onto a reel to retrieve a bait or lure.

Rigging - Referring to setting up a fishing rod with the necessary equipment (bobber, hook/lure, sinker).



Rod - The part of a fishing rig that aids in casting the line out to greater distances with better accuracy. The rod is also important in properly playing and landing a fish.

Sinker - A weight used to keep bait or lures at a desired depth in the water.

Species - The biological classification of a group of fish or animals that are more or less alike and are able to breed and produce offspring naturally.

Snap swivel - A small device with a swivel to prevent line twist that connects hooks or lures to a fishing line.



Snell knot - A knot used to provide a strong connection between a hook and a fishing line. Often used to tie a short length of leader line to a fishhook.

Spawn - The releasing of eggs by a female fish into the water for fertilization by a male fish.

Spine - Sharp, pointed structure.

Split shot - A style of sinker used to add weight to a fishing rig.



Streamer - A type of fly using feathers that is designed to imitate a stream minnow.

Swivel - Designed for fastening lines to lines or leaders, to prevent line twisting, swivels typically have two eyes and a barrel type center portion.

Tackle - Fishing gear or equipment.

Tackle box - A storage container for holding and keeping fishing tackle.



Terminal tackle - The tackle attached at or near the end of a fishing rig. Includes hooks/lures, bobbers, weights and swivels/leaders.

Wet fly - A fly made of soft water absorbent material that sinks in the water. Typically designed to imitate a land or aquatic insect.