Junior Angler
Instructor's Guide

Wisconsin Aquatic Resources Education
Dear Instructor,

What lucky kids! They have a teacher and caring community members who have found a way to take them fishing all in the name of higher education and experiential learning. What more fertile ground for creative writing, than the local fishing hole? How about science and biology at the water's edge? Or an opportunity to affirm that there is life after football for the Packer wannabes in physical education class? And history? The Wisconsin fishing tradition is almost as old as the water that defines our state!

We know it's not always smooth sailing for fisheries and aquatic habitat. There will always be work to be done to ensure that our waters will always be fishable and swimable. Opportunities abound throughout this program and several complementary programs for your students and club members to get involved in protecting their resources and gaining a sense of ownership. We need kids to grow up loving their local waters, and the connection between understanding aquatic resources, loving them and protecting them. We hope that while you're out there leading investigations of Wisconsin's lakes and streams with fishing pole in hand, you're having a good time too.

We're glad you're taking the plunge!

Thank you, all.

Aquatic Resources Education Director

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And many dedicated Angler Education instructors and Fisheries Management and Habitat Protection staff who have provided us with valuable feedback over the years.

Thank you all.
**Objective**

Begin the process of learning what supplies anglers need to gather in preparation for a fishing outing.

**Life Skill**
Planning

**WI Academic Standards**
Physical Education:
A.4.1, 8.3, D. *4.1, 8.3.

**Getting Started**
Introduce yourself, your co-leaders, and assistants, and explain the scope of this program. Ask the anglers to introduce themselves if they are strangers to each other, and have them indicate whether or not they’ve fished before. Get them thinking about what people need to have for a good fishing experience. The list can be long and diverse, from specific tackle to friends and people who care about habitat.

**Hands On**
Some participants will have had prior fishing experience. Have them bring in a favorite piece of tackle to describe its purpose and relate to a memorable fishing trip. Depending on the group, you may need to collect all tackle at the beginning of the session as a safety precaution. In some cases it will be more practical for anglers to share their fishing experiences and knowledge without bringing in tackle. Anglers can complete the exercise in the booklet during the session or on their own.

**Materials**
Magazines for cutting
Glue
Art supplies
Pencils

**Duration**
15-45 minutes depending on the length of the sharing session.

**Web Connection**
These web sites open doors to further study and provide many links to topics on fish, fishing and water resources: dnr.wi.gov and www.asafishing.org.

**Note**
Angler’s Checklist: bobber, clippers, pliers, hook, line, sinker, rod, reel, drinking water, hat, sunscreen, buddy, adult, safe place, snack, good fishing habitat, bait, favorite lure, stringer.

Our state motto is “Forward,” but with nearly one million licensed resident anglers in Wisconsin, it could be “Anglers, fish!” You can join the ranks of license holders when you turn 16. These Web sites provide many links to topics on fish, fishing and water resources: dnr.wi.gov and www.asafishing.org.
**Objective**

Describe the historical and cultural significance of fishing in Wisconsin.

**Life Skill**

Inquiry

**WI Academic Standards**

Social Studies: A.4.4, 8.4, B.4.1, 8.1.


**Hands On**

Have anglers construct models of pre-settlement fishing scenes or post-European settlement fishing villages. Discuss how fishing has been important to people in Wisconsin and how fishing methods have changed over time.

**Inquiry**

Interview anglers, merchants and innkeepers in the community. What does fishing mean to them and how has it changed. Have the changes been for the better or worse? Encourage them to extend their inquiry via letter, telephone or e-mail to different communities.

**Materials**

Art materials if done during the session
Phone book
Tourism guide booklets

**Duration**

20-30 minutes for introduction. Extended periods for research and model construction.

**Web Connections**

State Historical Society of Wisconsin, [www.shsw.wisc.edu](http://www.shsw.wisc.edu).

Wisconsin Department of Tourism, [www.travelwisconsin.com](http://www.travelwisconsin.com), 800/432-8747.
Objectives

Learn how water played an important role in the settlement of Wisconsin.

Consider how historical events have affected fish and water resources.

Increase knowledge of Wisconsin geography.

Life Skills

Critical Thinking
Map Reading

WI Academic Standards

Social Studies: A.*4.2, 4.4, 4.5, 8.4.

Environmental Education: B.4.5, 4.11,*4.12, 8.5, 8.9, 8.10, 8.11.

Vocabulary

Wisconsin

Hands On

Anglers plot their favorite Wisconsin fishing spots. They also study a map of Wisconsin and make connections between town names and their historical connection to fish and water.

Inquiry

Older anglers can conduct inquiry investigations and write essays based on the questions in the lesson.

Materials

Wisconsin State Highway Map
State relief maps

Duration

20- to 30-minute introduction.
Extended periods for inquiry-based research and homework.

Web Connections

Lakes are Great!
dnr.wi.gov/org/caer/ce/EEK/
Enter Lakes are Great in the search field.

Resources

Video Champions of the Public Trust available from the DNR and local libraries, appropriate for Grades 7 and up.

Wisconsin Lakes, DNR publication #FH-800.
**Objective**

List the major components of fish habitat.

**Life Skills**
Observation  
Data Interpretation

**WI Academic Standards**
Science: F.4.1, 8.2, 8.7.  
Art: H.4.1, 4.4, 8.4.  
Environmental Education: B.4.4, 4.5, 4.6, 8.8, D.’8.6.

**Vocabulary**
Habitat  
Species  
Plankton  
Food chain

**Getting Started**
Ask anglers to name things that animals need to survive. You're likely to get lots of different responses, but guide the group toward these four basic components: food, water, shelter and space, all in a suitable arrangement. Discuss that different fish have different specific requirements and varying tolerances for habitat degradation.

**Hands On**
Knowing something about a fish’s habitat and food preferences can make a fishing trip more successful, as well as help keep people alert to detrimental changes. There are several options for this lesson: 1.) Research habitat requirements for different species of fish. 2.) Create habitat models or bulletin board displays. 3.) Turn your hallways into an underwater scene. 4.) Check with your local fisheries biologist for habitat project ideas to which your group can lend a hand.

**Web Connection**
Lakes are Great!  
dnr.wi.gov/org/caer/ce/eek/nature/habitat/lakes.htm.

**Resources**
The DNR has a series of fish fact sheets. Check your materials order form for a list of species and order a set for your classroom.  
Wisconsin Fishing, DNR publication #FH-500.  
Mapping Fish Habitats, by Katharine Barrett and Cary Sneider (UC Regents, 2005).  
Objective

Understand that lakes and streams have carrying capacities and that not all species are suited to all waters.

Life Skill
Critical Thinking

WI Academic Standards
Science: A.8.6, B.8.6, C.4.1.
Environmental Education: A.8.2, 8.3, B.4.4, 4.6, 8.8.

Vocabulary
Carrying capacity
Limiting factors

Hands On
Anglers “stock their lake” independently in their booklets, or with a partner on butcher paper, or as group at the chalkboard.

Inquiry
Some population experts think that the earth’s carrying capacity for humans is 13 billion. Currently there are over 6 billion people on the earth. What does this mean for fish and aquatic resources?

Materials
Fish Wildcards - assign pound values to various fish for a group activity

Duration
45-60 minutes.

Web Connection
The Population Connection website, www.populationconnection.org, offers classroom activities on population.
**Objective**

List the values of wetlands.

**Life Skills**
Observation

**WI Academic Standards**
Science: E.4.3, 4.7, 8.6.
Social Studies: A.4.4, 4.8, 8.4.
Environmental Education:
B.4.4, 4.5, 4.6, 4.10, 8.2, 8.3, 8.5, "8.6, 8.8, 8.10, 8.19, C.4.1, 4.3, 4.4, 8.1, 8.4.

**Vocabulary**
Runoff
Sediments
Non-point pollution

**Getting Started**

Wetlands have long been over-looked for their value to fish and wildlife. Their value to human communities was dismissed for decades until floodwaters lapped at doorsteps and filled basements. Ask anglers why wetlands are important to fish and wildlife. Use several common objects with anglers to help them visualize the varied roles wetlands play. For example, a coffee filter reminds us of their sediment-holding potential. Round up the items listed below (or a similar collection) and have anglers determine how each object symbolizes wetland characteristics and properties.

**Hands On**

Visit a wetland with a field guide in hand and have anglers conduct a site inventory. Revisit the site during different seasons. Allow quiet time for sketching or poetry writing. Remind anglers of proper dress and behavior when visiting a wetland. Stay on boardwalks in high-use areas, so as not to damage the delicate plants.

**Inquiry**

What social forces affect wetlands? How have people’s views toward wetlands changed through the years?

**Materials**

“Wetland Properties”
Object ..............Symbolic Wetland Function
sponge ..........flood retention
coffee filter ....catches fine sediments
doll cradle ......spawning or nursery areas
sleeping bag...resting area
sieve..............strains coarse sediments
cereal.............feeding areas
Field guides
Paper and pencil

**Duration**

30 minutes for indoor activity and two hours minimum for a wetland visit.

**Web Connection**

Check out some great field trip destinations: dnr.wi.gov. Click on Education & Training, then on Places to Go & Learn. Send the kids to EEK and have them search for Wetlands.

**Resources**


Guide to Wisconsin Aquatic Plants, DNR publication #FH-173.

Adapted from Wetland Metaphors, Aquatic Project WILD, 1987 Western Regional Environmental Education Council.
Objective
List the values of shorelands.

Life Skills
Observation
Investigation

WI Academic Standards
Science: E.8.6.
Social Studies: A.4.8, 8.4.
Environmental Education: B.4.5, 8.10, 8.15.

Vocabulary
Runoff
Sediments
Non-point pollution

Inquiry
How has shoreline development changed in the last 60 years?
What have been the effects of this development on fisheries?

Duration
One – two hours

Web Connection
Margin of Error, a downloadable slide show or PowerPoint® program appropriate for middle school and up is available at http://www.uwsp.edu/cnr/UWEXlakes/humanimpact/marginoferror.pdf.

Resources

Guide to Wisconsin Aquatic Plants, DNR publication #FH-173.


**Objectives**

Identify at least five invasive exotic animals in Wisconsin.
Describe their means of entry.
Identify what individuals can do to limit the spread of exotic species.

**Life Skills**
Observation
Critical Thinking
Responsible Citizenship
Wise Use of Resources

**WI Academic Standards**
Science: A.4.5, F.8.8, 8.9.
Social Studies: A.4.7, 8.4.
Environmental Education: D.4.6, 8.6.

**Vocabulary**
Exotic
Alien
Non-native
Weeds
Eradicate

**Getting Started**
Ask anglers to define the term exotic. Where have they seen non-native plants and animals? How have they used them? Have they been annoyed by any? Which ones?

**Inquiry**
Have anglers research how exotic species entered Wisconsin waters, how they continue to spread, and how they affect species composition of our waters.

**Duration**
One or two sessions for library or Internet research and one session for reporting.

**Web Connections**
dnr.wi.gov/org/caer/ce/eek/earth/aliens.htm and dnr.wi.gov/invasives/.
**Objectives**

Identify at least three exotic plants that are considered invasive in Wisconsin.

Explain how invasives were introduced and became established.

List ways that individuals can limit the spread of invasive plants.

**Life Skills**

Observation

Critical Thinking

Responsible Citizenship

Wise Use of Resources

**WI Academic Standards**

Science: A.4.5, F.4.2, 8.8, 8.9.

Social Studies: A.4.7, 8.4.

Environmental Education: D.4.6, 8.6.

**Vocabulary**

Decompose

Herbicide

Invasive

Restore

**Hands On**

Anglers meet with a nearby landowner or public property manager to plan and participate in a purple loosestrife removal and/or native plant restoration as a service project. The Purple Loosestrife Bio-contol Program uses beetles to eradicate this pesky plant. Contact the project manager in Madison at 608/221-6349 to find out more.

**Materials**

Gloves

Trash bags

Garden clippers

**Duration**

At least one session to plan a service project related to exotic control and one session to carry it out.

**Web Connections**

dnr.wi.gov/org/caer/ce/ek/earth/aliens.htm and dnr.wi.gov/invasives/.

**Resources**


*Guide to Wisconsin Aquatic Plants*, DNR publication #FH-173.
**Objectives**

Explore career options.
Recognize Wisconsin environmental and conservation heroes.

**Life Skills**
Planning
Interviewing

**WI Academic Standard**
Environmental Education: B.8.22.

**Vocabulary**
Lunkers

**Getting Started**
Wisconsin has a long legacy of conservation and environmental activism. Discuss how the Department of Natural Resources and partner agencies monitor and manage natural resources. Hundreds of groups, from garden clubs to local chapters of national organizations, advocate for healthy ecosystems. Who are the anglers’ environmental heroes? How many conservation groups can they name and describe?

**Inquiry**
Pick a Wisconsin environmental or conservation hero and research his or her contributions to protecting natural resources. Interview a natural resources professional or advocate.

**Duration**
15 minutes for worksheet.
One or two sessions for research or interview.
One session for reporting.

**Web Connection**
dnr.wi.gov/eek/.
Enter Get a job in the search field.

**Resources**
Video Champions of the Public Trust, available from the DNR and local libraries, appropriate for middle school and up.
**Objective**
Understand the odds of a fish hatching from an egg.

**Life Skill**
Cooperation

**WI Academic Standards**
Science: F.4.3, 8.5, 8.8.
Math: A.4.3.

**Vocabulary**
Spawning
Phytoplankton

**Getting Started**
Ask anglers to take a guess at how many eggs a fish will lay. Sturgeon and salmon will lay from 3,000 to 7,000 eggs while bluegill will deposit upwards of 60,000. Why so many?

**Hands On**
Anglers play a board game to follow fish egg development.

**Materials**
Game markers
Coin
Pencil
Paper

**Duration**
30 minutes.

**Web Connection**
Visit a hatchery or egg collection facility. For a listing, go to: dnr.wi.gov, click on Education & Training, then Places to Go & Learn from the drop-down menu.

Adapted from Fishing . . . Get in the Habitat! courtesy Minnesota Department of Natural Resources.
Objectives
Understand basics of fish anatomy. Identify key adaptations.

Life Skills
Observation
Problem Solving

WI Academic Standards
Science: F.4.1, 8.1, 8.2.

Vocabulary
Adaptation
Camouflage
Barbel
Slime
Mucous
Adipose
Lateral line

Getting Started
Ask anglers what makes a fish a fish and list their responses. Features they’re likely to list (such as fins, gills, slime, etc.) are called adaptations. How do they help fish live in water?

Hands On
Pin the fins on the fish. Anglers learn which fin is which in a remake of an old parlor game. Tape a cardboard cutout of a generic fish body to the board. Have anglers take turns attaching cutouts of fins to the proper location and describe the function of each fin.

Using the list of adaptations they generated and the Wildcards, have anglers create a graph to classify fish. Put the adaptations on the x-axis and the number of fish that share them on the y-axis. Examples of adaptations to graph include down-turned mouth, vertical markings, horizontal markings, barbels, adipose fin, prominent lateral line, torpedo-shaped body and pan-shaped body.

Materials
Cardboard cutout of a fish body and fins
Tape
Fish Wildcards
Paper
Colored pencils for graphing

Duration
30 minutes.

Web Connections
There are good kids pages on fish anatomy at www.seagrant.wisc.edu.
**Objectives**

Continue study of fish anatomy and adaptations with a focus on senses.

Learn to identify fish through various games and activities.

**Life Skill**

Observation

**WI Academic Standards**

Science: F.4.1, 8.2.

**Getting Started**

Ask anglers to name the senses and consider how fish use them. Once anglers can identify various parts of a fish’s anatomy, they can begin to identify the different species of fish. Use games to reinforce their knowledge.

**Hands On**

Have anglers play 20 Questions to guess the name of a fish taped to their backs. They can use the key on the next page to zero in on their fish or a different line of questioning such as, “Am I a predator? Do I live in rivers more than lakes? Do I prefer weedy areas?”

Tape flash cards to fish targets during casting practices to test their knowledge. Add a regulations element to the game by taping a size of the fish on the target.

Which of these fish have they caught?

**Materials**

Fish Wildcards
Backyard Bass or other targets
Wisconsin Fishing, DNR publication #FH-500
Wisconsin Fishing Regulations

**Duration**

30-60 minutes.

**Resources**


Fishes of Wisconsin by George C. Becker (University of Wisconsin Press, 1983).

**Note**

There are positive aspects to either order of these identification lessons. You could save the games until after the classification key activity on the next page, or you could do them now with a focus on habitat and behavior, rather than on physical features.
Objective
Learn to use a dichotomous key.

Life Skill
Observation

WI Academic Standards
Science: B.4.1.

Getting Started
Ask anglers why it is a good idea to learn to identify fish. There are legal reasons as well as taste preferences. Now that they are familiar with some identifying characteristics, they can learn to use a dichotomous key - a skill useful in many areas of nature study.

Hands On
Explain how to navigate through a key. Begin with the first set of characteristics and decide whether choice (a) or choice (b) is true for that fish. At the end of each line there will be either instructions to go to another clue or the name of a fish. If it’s the name of a fish, they’ve solved that puzzle and can try another one. Anglers should key out more than one fish.

Materials
Fish Wildcards

Duration
30 minutes (minimum).

Notes
Learning to use and make keys is a good way for anglers to be aware of the world around them. Take this activity further by having them create keys to classify everything from aquatic plants to cookies or shoes.
Important Key Notes

Without actual specimens, some key characteristics of fish may be difficult to discern from an illustration. Here are some hints you may want to share with the group to keep them from getting stuck as they make their way through the key.

**Single dorsal fin v. two dorsal fins** – Some fish clearly have just one dorsal fin and some clearly have two distinct dorsal fins. Others have two that may be joined together with a spiny anterior part and a soft posterior part. The adipose fin is something different altogether.

**Visible sharp teeth** – This is tough to see in an illustration. To help anglers get on the right track, ask them what kind of fish come to mind when they think of toothy predators

**Fin rays and fin spines** – For some species the number of rays or spines may be the clincher in distinguishing one species from another. You can see these by looking at a good illustration and counting carefully.

Adapted from a fish key by WENR Fisheries Biologist Steve Gilbert

How’s your fish grammar? You can catch one fish, two fish, or lots of fishes when referring to different species of fish, but you never catch lots of fishes if they’re all the same kind. Now she and I fish together, but he fishes alone. It’s time to finish your homework and go fishing!
Objectives
Identify basic fishing equipment.
Assemble a fishing pole and rig it with simple tackle.
Properly care for and store fishing equipment.

Life Skills
Planning
Organization
Responsibility
Safety

Getting Started
Read the story on page 17, Fishing for Answers, to the group and use the questions at the end as the basis for a short discussion. Next, demonstrate how to string a fishing rod. Loaner equipment often comes to you all set to go, so the anglers miss out on this part of the learning process. With older, capable anglers, allow time for them to unstring and restring the rod.

Hands On
Pass equipment around and encourage anglers to push the buttons on the bobbers, note the sharpness of the hooks, etc. Check their knowledge of tackle by setting up numbered stations around the room with various pieces or pictures of equipment. Have anglers record the name of each item next to the appropriate number on their paper. Next have them rig gear for a fishing outing and demonstrate how to properly care for it. Arrange for a visit to the local sporting goods store for a first-hand look at the vast array of tackle choices.

Materials
Station props and labels:
- Line
- Bobber
- Sinkers (in plastic bags)
- Hooks (in plastic bags)
- Rods
- Reel
- Stringer
- Lure
- Plug
- Jig, etc.

Duration
60 minutes, plus optional field trip.

Web Connections
Need tackle to take your class fishing? Learn about the Tackle Loaner Program:
dnr.wi.gov/fish/kidsparents/loanerequipment.html.
Get access to discount prices for educators through www.asafishing.org.

Note
Beginning anglers should learn to fish with a closed-face, push-button reel first.
Fishing for Answers

Skip, Jack and Barb have gone fishing. Listen to their tale and see what you can learn from their experience.

Skip was puzzled as well as a little discouraged. He was almost out of bait and all he had to show for a day of fishing was sunburn. His friends Jack and Barb meanwhile were suffering from tired arms from reeling in so many fish. He swallowed his pride and walked over to where they were fishing. “You two always seem to catch fish while I have done nothing but feed fish. What’s your secret?” asked Skip.

Barb, comfortably situated on a nice log and eating a sandwich, smiled at him and said, “Let’s see what you’re using. Here’s part of the problem. This pond is full of panfish, but you’re using equipment for whales. Your rod, reel, and line are way too big for these fish. Try a lightweight rod. It will act as a spring and keep your line from snapping if a big fish is pulling on it. Replace your thick, heavy fishing line with 6-pound test line. Lighter line will help you cast farther and more accurately with light-weight panfish tackle.”

“Take off that huge sinker and just use a small split shot,” suggested Jack. “That way a fish will be able to wiggle the line when it starts nibbling on your worm. Also, look at the mouth on this bluegill I just caught. It’d be pretty tough for this fish to get its mouth around that shark hook you’re using. Try a #8 hook so a fish can grab the whole bait and not just nip the worms off your hook. It is also easier to hide a small hook with a worm.”

Skip was catching on. “I’ll bet my bobber should be smaller too, so it will actually move if a fish is pulling on the bait.”

“Right!” said Barb. “Would you like to try using my pole and equipment for a bit?”

“That would be great. Thanks!”

Skip cast out and a few minutes later was proudly holding a plump bluegill. “Hey, look at that; I’m catching fish! Being out with you guys is fun, but catching fish is a blast. Thanks for sharing your fishing secrets!” Skip gently removed the hook and released the bluegill back into the pond.

“Hey Skip,” said his friends, “get out of the sun for a while.”

Answer the following questions based on the story above:

1) List the fishing equipment that Skip, Jack, and Barb were using.
2) What did Skip need to change about his equipment? Why?
3) What bait were the kids using? What else could they have used?
4) What general tips about fishing can you learn from this story?
5) What hidden messages did you find?
Objectives
Tie at least one fishing knot.
Test knot strength.

Life Skills
Confidence
Evaluation

WI Academic Standards
Physical Education: B.4.1, 8.3.
Math: E.4.1, 4.3, 8.1, 8.2.

Hands On
These knots are excellent standard fishing knots. Teach the one you like best and encourage the anglers to learn the others, but don’t try to teach them all at once. Use props anglers can easily see and hold onto. Once they succeed with the prop, have them try it with a snap swivel or hook.

Inquiry
Anglers test knots and determine which method of tying produces the strongest results.

Materials
Knot tying practice kits are available from the Tackle Loaner program and include shower curtain rings and cord.

For the knot testing activity, each angler needs a wooden peg-style clothespin, a screw eye, and fishing line. The leader will need a drill and a small drill bit.

Duration
30-60 minutes. Accomplished knot-tiers can help others or work on the puzzle on page 30 while the rest of the group catches up.

Note
This is a good time to call on volunteers for help.
**Test Your Knot**

### Random Number Chart

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</tbody>
</table>

These numbers were selected randomly by a computer. Scientists use random numbers to eliminate bias, or the tendency to choose some numbers more often than others. Do you have a “favorite” number?

### Better Knot

#### Better Knot Class Data and Column Chart

<table>
<thead>
<tr>
<th>Number of Wraps</th>
<th>Number of Wins</th>
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<tr>
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#### How to make a knot tester:

**Materials**
- 1 old-fashioned-style clothespin for each student
- 1 metal screw eye bolt for each student
- Drill
- 1/16” drill bit
- Cardboard box

1. Use the cardboard box to hold the clothespins in place while you drill the hole.
2. Drill the pilot hole.
3. Twist the screw eye bolt into the pilot hole.

Adapted from Go Fish IN, Indiana Division of Fish and Wildlife

Sturgeon were once so plentiful in the Mississippi River that they destroyed the nets of commercial fishermen. To deal with this problem, sturgeon were tossed on the sandbars of the river, allowed to dry and burned as fuel by riverboat pilots.
**Objective**

Learn to make and use inexpensive fishing equipment.

**Life Skill**

Resourcefulness

**Materials**

Listed at right, plus practice casting plugs or corks.

Measure the line by pulling six times on a spool of line. Six pulls, each the length of the average adult arm, is equal to about 30 wraps.

**Duration**

Allow at least 15 minutes to make the pop can rig, depending on how much help you have. Allow time to try out the rigs on the playground.

**Resources**

Borrow *Backyard Bass* fish targets from the DNR’s tackle loaner sites.

Adapted from *Get in the Habitat!*, Minnesota Department of Natural Resources. “Pop” translates to “soda” in Wisconsin.

---

**Make Your Own Equipment!**

**Pop Can Fishing**

You don’t need a lot of fancy or expensive equipment to fish. Once you learn how to tie a fishing knot and attach a split-shot sinker and bobber, you can make your own rig with an empty pop can.

**To make a pop can rig, you’ll need:**

- An empty pop can
- Masking tape
- 6- to 10-lb. fishing line (30 wraps around the can is equal to about 6 arm’s-length pulls from a spool of line)
- A hook
- Split-shot sinkers
- A bobber
- Fingernail clippers to cut the line

**Build your pop can rig like this:**

1. Tie the end of the line to the pull-tab, or around the can, with a knot.
2. Securely and smoothly tape the knot and fishing line near the top of the pop can. If the tape is unravelled, it will catch on the line. (You can also try it without the tape.)
3. Wrap the line around the pop can until you reach the last two feet of line.
4. Attach the bobber, split-shot sinker and hook (see page 16-17 for directions)

**To cast your line:**

1. Hold your finger on the line next to the bobber.
2. Swing your arm back for the wind up.
3. Bring your arm forward and release your finger from the line.
4. Don’t let go of the can or you will be littering!
5. The rest of the line should unwind and follow.

**To “reel in” a fish:**

When your bobber tells you that you have a fish, give the line a quick jerk. Then wind the line around the can, keeping it tight until you can grab the fish.

---

Remember to recycle your pop-can rig when you finish using it. Aluminum is more valuable to recycling companies than any oil-based, plastic container. Mining and processing new aluminum are very expensive both financially and environmentally. Glass is the best choice for beverage containers, except on field trips.
Objective
Consider the variety of baits available.

Life Skill
Decision Making

WI Academic Standards
Art: E.4.3, 8.3.

Vocabulary
Minnow

Getting Started
There are possibly 10 times as many baits and lures as there are fish. Some are better at attracting humans than fish, but you never know until you rig up with your latest razzle-dazzle creation and give it a try. Remind anglers that fish have a keen sense of smell and don’t like sunscreen or bug dope. Anglers should use the backs of their hands to apply any type of lotion.

Hands On
Anglers in Grade 6 and up can make their own lures and jigs. See appendix for supply list and sources. Check any cautionary notes on use of paints.

Lure testing is best done outdoors. Cap off the ends of a rain gutter to make a trough. Fill it with water and watch the lure action as anglers line their creations through the water. Ready-made, store-bought lures are fun to watch, too.

A swimming pool is a good option if you have access to one. Assign a volunteer to bring along a swimming suit to don, if necessary, to retrieve lost lures.

Inquiry
Survey anglers at the local fishing hole to determine the most common bait.

Many anglers collect their own live bait or make their own lures. Interview a lure carver or fly-tier to find out why he or she does it.

Materials
Capped off rain gutter and water. See page 32 for jig painting supplies.

Baiting Your Hook

Be careful not to bait your hook with your finger!
Worms are a favorite fish bait. Dig for them in wet, rich soil. Keep worms fresh in a covered container with damp soil or shredded newspaper.

When fishing for catfish or bass, hook a whole worm in the middle, leaving the end free to wiggle. For sunfish and other bait-stealers, hook bits of worms at the end.

Minnows used for bait are usually about one to three inches long. Put the hook through the very top of its back, just in front of the fin so that the minnow can swim. Buy minnows only from licensed Wisconsin bait dealers to help prevent the spread of viral hemorrhagic septicemia (VHS), a serious fish disease. You also may use minnows you catch yourself from the same place you are fishing.

It is illegal to dump minnows into the water; you might be introducing an exotic or spreading a fish disease. Nightcrawlers are a concern in Wisconsin woods where they are changing the ecology of the forest floor. Share your extra bait with another angler or throw it in the trash. Do not dump it in the water.

Dough balls are the best bait for carp. You can make them with flour, bread, commerel, or flaky cereal, dampened with water and honey. Press them into tight little balls around a fishhook, take off your bobber, and drop your bait to the bottom with a big sinker.

Keep your bait in the shade.

Grasshoppers and crickets are good summer baits you can find in fields and lawns. Slip the hook through the collar just behind their necks; this will keep them lively to attract a fish.

Artificial lures come in all sizes, shapes and colors. They are designed to resemble natural fish food, grab a fish’s curiosity, or just make a fish mad enough to bite it. A good rule of thumb is to buy or make one lure at a time and perfect your use of that lure before getting more - unless you just like to collect things.

Is your bait legal? Not all baits and lures are legal everywhere or all the time. Check the fishing regulations to be sure. People are sometimes tempted to use crayfish for bait, but they’re not legal in inland waters, so read those regs!

Duration
Two 45-minute sessions.

Web Connection
Freshwater Fishing Hall of Fame in Hayward, WI includes a museum filled with antique lures and fishing equipment. Visit their website at www.freshwater-fishing.org.

Please review current protocols for preventing the spread of VHS, on our web site. Go to dnr.wi.gov and search for VHS.

Resources
Wisconsin Fishing Regulations, DNR Publication #FH-301.

Note
Not all baits are legal to use at all times. For example, crayfish are legal to use in the Mississippi River but not in inland waters. Minnows are legal during the summer, but not for ice fishing on certain lakes. In some circumstances, only artificial lures and flies are permitted. Always check the regulations regarding bait before fishing.

The deadly fish virus, viral hemorrhagic septicemia (VHS) is not a threat to people who handle or eat fish. However, it can spread easily to healthy fish that eat infected fish or absorb water carrying the virus.

Materials
Capped off rain gutter and water. See page 32 for jig painting supplies.

Vocabulary
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The deadly fish virus, viral hemorrhagic septicemia (VHS) is not a threat to people who handle or eat fish. However, it can spread easily to healthy fish that eat infected fish or absorb water carrying the virus.
**Objectives**

Safely and accurately cast and reel in a fishing hook, lure, or practice plug.

Explain why it is important to properly dispose of fishing line and demonstrate how to do it.

**Life Skills**

Safety
Wise Use of Resources
Concern for Others

**WI Academic Standards**

Physical Education: B.4.1, 4.3, 8.3, 8.4, D.4.1, 4.2, 4.3, 8.1, 8.3, F.4.1, 4.2, 4.4, 8.3.

**Vocabulary**

Recycling

**Hands On**

Through casting games, anglers learn that it is finesse, not brute strength, that makes a good angler. Set up a casting course with targets, mini-golf style, in the schoolyard or at a park. Or, keep it real simple and just line them up in any open area. The gym is a good rainy-day option.

Combine casting practice with fish identification by taping a picture of a fish to the back of the target. Anglers identify the fish when they reel them in. Assign a size and season to the fish and have anglers check the regulations to see if the fish is legal.

**Inquiry**

Anglers find out where they can recycle old line.

**Materials**

Rods
Reels
Casting plugs
Fish targets

Fish flash cards are all available at DNR Tackle Loaner sites. You may use almost anything for a target, but the Backyard Bass targets are fun to use. They are available to borrow at DNR loaner sites or to purchase at the Future Fisherman Foundation. See the Appendix for game and score sheet ideas.

**Duration**

45 minutes (minimum)

**Web Connection**

Check out the Future Fisherman Foundation: [www.asafishing.org](http://www.asafishing.org)

**Note**

Put snap swivels on for practice casting to avoid twisting the line. Pieces of garden hose cut with a hacksaw make great practice plugs.
**Objective**
Learn fish handling skills.

**Life Skills**
- Choices
- Observation
- Problem solving

**WI Academic Standards**
Physical Education: F.4.1, 4.2, 4.4, 8.1, 8.3, 8.4.

**Vocabulary**
- Catch and release
- Bag limit
- Sorting fish

**Hands On**
With a little luck, the fish will be biting and anglers will have the experience of reeling in fish.

**Inquiry**
**Rusty Hooks**
What happens to the hook when left inside a fish? Some people think that the stomach acids in the fish dissolve the hook or rust it out, but many fish have been caught with intact hooks still in them. Other people think the tissue around the hook deteriorates and the fish “coughs up” the hook once the barb loses its grip - much like a sliver works loose from your finger. Have anglers set up a “hook rusting” experiment by soaking different types of fish hooks in different substances, e.g. vinegar, tomato juice, etc. and form their own conclusions. Use pH test strips to compare acidity.

**Materials**
- WI Fishing Regulations
- Fishing Ruler
- Recommended Instructor Gear:
  - Protective fillet glove for cleaning demonstration and hook removal.
  - Jaw spreaders
  - Needle-nose pliers
  - Clippers
  - Forceps
  - Hemostat

**Duration**
30 minutes (minimum) depending on the cooperation of the weather and fish and your proximity to water.

**Note**
Debate continues as to whether fish are sentient creatures and, if so, at what level. Some anglers will be highly sensitive to this and should not be forced to fish or bait hooks with live bait if it clashes with their beliefs. Alternate activities like sketching fish habitat or identifying aquatic plants will still get them outdoors and occupy them while the rest of the group fishes. For anglers and non-anglers alike, acknowledge that a life worthy of respect is being reeled out of the water, and remind them that none of us pass through life without affecting other species. If anglers keep their fish, ensure that someone eats it so that the fish is not wasted. If anglers release their fish, they should handle the fish gently.
**Objective**
Learn to identify likely fish holds.

**Life Skill**
Observation

**WI Academic Standard**
Science: B.8.4.

**Vocabulary**
Structure

**Getting Started**
Successful anglers take what they know about good fish habitat and cast their lines in spots most likely to harbor fish. It’s not always on the other side of the lake, although it seems that way. What specific locations are good places to look for fish? Weather, season and structure are important factors in determining when and where the fish will be biting. Fish seek structure for food and protection. Deep water holes provide a sanctuary when they are not feeding.

**Hands On**
Remind anglers to be on the lookout for likely fish hangouts when they approach the water’s edge. This is a good time to begin the journal writing exercise on the next page. Anglers can record or illustrate their observations of the fishing area.

**Materials**
Journals
Pencil
Fishing gear

**Duration**
Open-ended.

**Resources**
Waterproof Lake Catch-A-Fish lake map game by Fishing Hot Spots, Inc, 715/369-5555, Rhinelander, WI.
**Objective**

Learn to record data and keep a journal.

**Life Skill**

Observing

**WI Academic Standards**

Language Arts: A.4.2, 4.3, 8.2, 8.3, B.4.1, 4.2, 8.1, 8.2.
Science: C.4.2, 4.5, 8.2.

**Getting Started**

Read excerpts from famous journals like the *Journal of Lewis and Clark* and discuss the importance of well-kept journals to science and history.

**Duration**

Allow 10 minutes for writing after each outing.

**Hands On**

Have anglers share excerpts from their own journals and expand selected entries into essays, illustrated stories, or poems. Tell a round-robin story where each student briefly adds from his/her journal to the previous contribution, building a whopper of a tale.

**Web Connection**

A listing of children’s environmental literature can be found at dnr.wi.gov/eek. Enter *Children’s Literature* in the search field.

---

**Take Note!**

Many anglers keep a fishing log or journal to record their fishing memories. You can use a simple spiral notebook or a stylish hardcover journal. What you put down on the pages is what really counts. The more detail you include in your journal the more valuable it will be to you as you learn which techniques work and which don’t. Photos, illustrations, wildlife observations and notes about plants in bloom will make your journal more interesting to read in the future.

**Fishing Log - Date: 8/14/2005**

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<th>Location: Green Lake - Blackbird Point &amp; in front of church</th>
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<tr>
<td>Temperature: 72°F</td>
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<td>Wind: SW, slight breeze</td>
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<tr>
<td>Precipitation: None</td>
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<tr>
<td>Water Color: greenish</td>
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<tr>
<td>Current: calm</td>
</tr>
<tr>
<td>Species: Largemouth bass, Yellow perch</td>
</tr>
<tr>
<td>Size: 18”, 7-10”</td>
</tr>
<tr>
<td>Method: casting, still fishing</td>
</tr>
<tr>
<td>Structure: woods, pier</td>
</tr>
<tr>
<td>Bottom Type: silt, sand, silt</td>
</tr>
<tr>
<td>Other observations: primrose in bloom, lots of blackbirds, brother fell off pier and started herd of ducklings</td>
</tr>
</tbody>
</table>

Got a whopper to share? Send your fish tales to EEK, Environmental Education for Kids at eek@dnr.wi.gov, and they’ll get posted on the DNR’s Web site.
**Objectives**

Learn to fish safely.
List different uses of aquatic resources.
Explain how some uses might be in conflict with one another.
Propose solutions to user conflicts.

**Life Skills**

Choices
Cooperation
Empathy
Planning
Personal Safety
Critical Thinking

**WI Academic Standards**

Physical Education: F.4.1, 4.2, 8.1, 8.3, 8.5.

**Vocabulary**

Multiple use
Personal watercraft

**Getting Started**

Safety and courtesy go hand-in-hand on the water. Resource use conflicts and many mishaps can be avoided by being thoughtful resource users. Life jackets are usually not necessary for most shore fishing situations, but it’s wise to wear one around deep or swift water. They are required in boats.

**Hands On**

Have anglers demonstrate safe fishing behaviors. Also have them consider, then role-play problematic and cooperative aquatic recreation situations. In round-robin fashion, discuss inappropriate behaviors shown in the illustration and suggest alternatives.

**Inquiry**

Some communities have enacted ordinances restricting motor usage to certain hours or banning them entirely. Have anglers investigate statewide rules and local ordinances regarding motors, wakes and noise on local or selected waters.

**Materials**

Life jacket to demonstrate proper fit.

**Duration**

30 minutes, plus on-going reminders.

**Web Connection**

Check out the DNR web site for current boating safety course schedules: dnr.wi.gov/org/es/enforcement/safety/boated.htm.
Also see www.boatsafe.com. For information on lake issues see www.uwsp.edu/cnr/uwexlakes.
Objectives
Learn to fish safely.
Be aware of basic first aid skills.

Life Skills
Planning
Personal Safety
Critical Thinking

WI Academic Standards
Physical Education: F.4.2, 8.3.

Getting Started
All fishing trips should be the basis for good memories. Common sense can prevent most mishaps, but this trait may still be under development. Frequent safety reminders are necessary during outings. Ask anglers what types of accidents and discomforts can occur while fishing. How can they be prevented?

Hands On
Have anglers demonstrate safe fishing behaviors.

Materials
First aid kit, including hydrogen peroxide – bring to every outing.

Duration
30 minutes, plus on-going reminders.

Note
Pinch down barbs on hooks.
It’s safer for the kids and easier to practice catch and release.
**Objective**

Learn that fish is a healthy food choice when properly prepared.

**Life Skills**

Choices

Teamwork

**WI Academic Standards**

Social Studies: E.*4.2, *4.4, 8.2, 8.3.

Family & Consumer Education: A.1, A.2.

**Vocabulary**

Fillet

**Getting Started**

Ask anglers if they eat fish at home. How do they obtain the fish? Do they know where it comes from? How do their families prepare it? Encourage anglers to bring in family recipes.

**Hands On**

Adult leaders demonstrate cleaning and preparation, step by step. Teens can give cleaning a try with close supervision. Younger anglers can help with scaling and flouring or breading.

**Materials**

Fillet knife and pliers.

Ask volunteers to bring shore lunch supplies:

- Flour seasoned with salt and pepper
- Camp stove (two-burner preferred)
- Plastic bowl or bag for flouring fish
- Small paper plates
- Cooking oil
- Forks (optional, fingers are fine for tasting)
- Paper towel
- Frying pan (two)
- Fuel and matches

---

**Fish for Dinner!**

It’s fun to learn to clean and cook your fish. Ask an adult for help and be careful with the knife. Keep cleaned fish ice-cold.

**Filleting**

Always cut away from yourself.

**Scaling**

For most fish, you’ll want to remove the scales if they are not skinned.

To scale fish:

Hold the fish by its tail and scrape from tail to head with a fish scaler, butter knife, or tablespoon. Cut around the head with a sharp knife.

Remove the head and insides.

**Skinning**

Skin a fillet by placing it skin-side down on the cutting board. Start at the tail and keep a tight grip on the skin. With the knife at an angle, saw the flesh off the skin.

Catfish and bullhead have tough skins and you need a pliers to pull them off. First, cut around the head with a sharp knife, then pull the skin back with the pliers. Finally, remove the head and insides.

**Duration**

60 - 90 minutes for demonstration, cooking, eating, and cleanup.
Objectives

List three things anglers can do at home on a regular basis to reduce contamination of water resources and fish.

Life Skills

Choices
Healthy Lifestyle
Disease Prevention
Personal Responsibility

WI Academic Standards

Family & Consumer Education: A.2, D.1.

Vocabulary

Mercury
PCBs
Food chain
Bioaccumulation
ppm (parts per million)

Getting Started

Point-source pollution by early industries and municipalities left a lasting legacy in the rivers they used as sewers. Sewage treatment facilities and the Clean Water Act stopped most point-source pollution but the sediments remain. Current water pollution additions stem from non-point run-off and atmospheric deposition, adding to the toxic mix lodged in sediments. Discuss with anglers this history and what they can do to get us on a clean watercourse.

Hands On

Research origin and history of contaminants in the environment.

Materials

Choose Wisely - A Health Guide for Eating Fish in Wisconsin, DNR Publication #FH-824.

Duration

One session for reporting and discussion of research findings.
Objectives

Learn ways that fish habitat can be changed.
List at least two things individuals can do to protect fish habitat.

Life Skills

Awareness
Responsible Citizenship
Wise Use of Resources
Community Service

WI Academic Standards

Family & Consumer Education: A.2, D.1.

Vocabulary

Pollution
Run-off
Non-point pollution

Hands On

Encourage anglers to complete this puzzle at their leisure or use as a rainy-day activity. Anglers who have accomplished knot tying can work on it while the rest of the group catches up.

Storm-drain Stenciling provides a community service experience that helps to increase water quality issue awareness. Contact the DNR Water Action Volunteer program office at 608/264-8948 or call your local UW-Extension office for information on obtaining storm-drain stenciling kits. Other action projects include litter patrols, habitat improvement projects, and letter-writing campaigns advocating for healthy fish habitats.

Duration

Allow at least two hours for the storm-drain stenciling option. You can turn it into a half-day adventure, depending on how far you range from your site.

Resources

Video, Coon Creek’s Contribution, available from the DNR, Angler Education Program office.
Objective

Learn how to read the Wisconsin Fishing Regulations.

Life Skills

Responsibility

Wise Use of Resources

Choices

WI Academic Standards

Physical Education: F.4.1, F.8.1, F.8.4.

Getting Started

As much as we try to simplify things, fishing regulations continue to befuddle the general public. It’s important for anglers to understand how to read the regulations as well as understand why they exist.

Hands On

Help demystify the regulations through quiz games. This encourages (okay, it forces) anglers to at least page through those regs. Sample questions are provided to get you and your group started; clues to finding the answers for the first four questions are provided for you.

True or False? Motor trolling is permitted on the Fox River in Outagamie County.

To find the answer, anglers learn that the regulations booklet is divided, in part, by counties.

In what years did the Lake Superior Chippewa Tribes cede 22,400 square miles of northern Wisconsin to the United States?

To find the answer, look under Ceded Territory towards the front of the regulations. This historical reference may prompt some interesting discussions about our state’s past.

When can you fish for bullheads?

To find the answer, look toward the back of the booklet under Open Seasons, Length Limits, and Bag Limits.

Regulations Quiz Bowl

Learn the regulations to avoid citations!

Wisconsin’s diverse waters do not lend themselves to a one-size-fits-all approach to fishing regulations. Playing Regulations Quiz Bowl can help you become familiar with and understand the fishing regulations. In teams or as individuals, come up with statements or questions and have your fellow anglers page through the regulations booklet to find the answers. The team or individual that thinks they’ve found the answer raises a hand or rings a bell. When they give the answer, they also note where they found it. Here are some sample questions to get you started.

True or False? Motor trolling is permitted on the Fox River in Outagamie County.

In what years did the Lake Superior Chippewa Tribes cede 22,400 square miles of northern Wisconsin to the United States?

When can you fish for bullheads?

True or False? You can use gamefish for bait.

True or False? A warden may seize your boat if it was used in connection with a violation.

How many fish can an able-bodied 18-year-old keep in Greenfield Park on April 5?

What’s the difference between possession limits and bag limits?

What’s the size limit for snapping turtles?

What is the season for frogs?

How many pounds of clams can a person gather in a day?

True or False? You can use gamefish for bait. To find the answer, look toward the front of the booklet.

You can take this lesson further by posing ethical dilemma situations for students.

Materials

Wisconsin Fishing Regulations

Bell (optional).

Duration

30 minutes.

Notes

With proper notice, Department of Natural Resources conservation wardens are available to discuss regulations with your group.

Instructors and volunteers need fishing licenses! If you have volunteers who do not wish to purchase fishing licenses, assign them to non-fishing tasks like knot tying or litter patrol. If they help anyone cast or reel, they are fishing.
**Objective**

Learn about other fishing options.

**Life Skill**

Preparedness

WI Academic Standards

Physical Education: A.4.1, 8.3.

**Hands On**

Painting jigs is a fun activity for middle school students. Be careful with paints, the heat gun, and lead jigs if you use them.

**Materials**

Blank spoons or jig heads

Special paint

Heat gun to set paint

**Web Connection**

dnr.wi.gov/eek/. Enter ice fishing in the search field.

Several fishing organizations have websites.

**Notes**

Jig painting supplies are available at various local tackle shops and hardware stores.

**Blank jigs**

Reinke Bros. Inc.

3144 W. Greenfield Ave.

West Allis, WI 53214

414/383-5591

**Jig molds**

Proto Products

414/476-7359

**Wet and dry paints**

Fleet Farm and many combination tackle equipment-hardware stores.

The Angler Education office has a very small supply of fly rods and reels and fly tying vices if you’d like to give this a try. A few tackle loaner sites have ice fishing equipment.

---

**More Fishing Opportunities**

**Ice Fishing**

Fishing is hot when the lakes are cold!

Fishing doesn’t have to stop when winter snaps an icy lid on Wisconsin lakes. Find out more about ice fishing and head out to the nearest ice shantytown! Contact the Angler Education office or any DNR Service Center and ask for Ice Fishing - What to Know Before you Go. Publication #FH-751, or contact the University of Wisconsin-Sea Grant for their publication, Ice Fishing by Warren Downs.

See EER for more ice fishing information. 
dnr.wi.gov/eek/

**Fly-fishing - Poetry in Motion**

Learning the graceful art of fly-fishing is a lifelong commitment. It requires more specialized equipment and skill than spin-casting, and persistent anglers are rewarded. As in spin-casting, the more you fish, the more you learn about fish preferences and behaviors. You also learn to recognize good habitat when you see it and how you can help remedy problems.

Several organizations are ready to help you take the next step and make your first cast with a fly rod.

We need your help!

Want to get involved in protecting Wisconsin’s lakes and streams? Local conservation and environmental organizations abound throughout our state. Type in a topic on the World Wide Web and you’ll be linked to any number of organizations that share your concern.

---

**What Have You Learned?**

**Beginning Junior Angler (Grades 4-6)**

- Assemble basic tackle.
- Tie one fishing knot.
- Cast safely and accurately.
- Identify five species of fish and baits used to catch them.
- Know the name and function of three fins.
- List two fish adaptations.
- Know two fishing safety rules.
- State one fishing regulation and know where to look for more.
- Describe good fish habitat.
- Describe two traits of an ethical angler.

**Advanced Junior Angler (Grades 7-8)**

- Assemble basic tackle.
- Tie two fishing knots.
- Cast safely and accurately.
- Identify at least 10 species of fish and baits used to catch them.
- Know the names and functions of six fins.
- List seven fish adaptations.
- State three fishing regulations and know where to look for more.
- Describe good fish habitat.
- Describe how fishing is important to Wisconsin.
- List four threats to fish habitat and some possible solutions.
- Describe four traits of an ethical angler.

Walleye are anglers’ favorite targets, but panfish are the most frequently caught species.
Appendix

About this Booklet
We hope you find these materials fun and easy to use. The student guide mirrors the instructor guide to help you stay together, and it gives you the answers! Alert the kids to these special icons:

Hands On! There is a special project, activity, or task involved.

Web Connection. Learn more about the topic on the web.

Writing Activity. Sharpen the pencil; there’s writing involved!

Fishing Tackle. Add an item to the angler checklist.

Getting Started

Whether you’re a camp director, fishing club leader, or a classroom teacher you’ll want to embark on this adventure with other capable adults to help you. You’ll need chaperones, people to gather materials, and people to share their expertise. The ratio of adults to youth depends on the activity and the age of participants. For activities around water, a maximum of five youth to one volunteer is recommended. A similar ratio is recommended for knot tying instruction. Most formal educators have built-in requirements for chaperones. The Department of Natural Resources asks non-formal educators to follow standard youth development practices and always have at least two adults present. This will help to ensure child safety and protect the reputations of the instructors as well as improve logistics.

Some of activities will be done as a group while others will be done individually. See the instructor manual for additional teaching tips and requirements.

Send out a note like this one to get parents or other volunteers to help.

Hello!

We are starting a unit on fishing and could use your help in the classroom with ______________________ on ______________.

We are in need of chaperones for a field trip to __________________ on ______________.

We need someone to pick up equipment from the DNR tackle loaner site at ______________ on ___/___/___ and review it to ensure that it is in proper working order. We also need someone to return the equipment in good working order by ______________.

It would be great if someone could assemble these supplies for our knot tying practice session:

We need one for each student.

Eyebolt, shower curtain ring, or shark hook to simulate hook.

One 30” piece of nylon cord with ends fused.

Borrow knot-tying practice kits from DNR tackle loaner sites or recruit a volunteer to make a kit for your group.
**Backyard Bass**

**Game Plans**
Kids and adults have fun while improving their casting skills.
Practice casting independently.
Have a “tournament” between groups of two to four anglers.
Use the targets to play fish identification games and to teach about fishing regulations.

**Supplies**
A minimum of three fish for each group of two to four anglers.
One fishing pole for each angler.
One casting plug for each angler. Do not play this game with real hooks!

**Set-up**
These fish float, so you can practice casting in a lake or swimming pool as well as on dry land.
If playing on land, determine your boundaries and mark them with flagging or cones.
Set up fish and scoring like a mini-golf course.
Assign points to each fish based on distance or difficulty of cast.

**Who won?**
You decide. Use these suggestions or make up your own rules. Or, skip the contest format altogether and just focus on learning a new skill.

---

**The winner can be the person who:**
is first to catch a fish.
has the most points after all the fish are caught.
catches the fish placed in the most challenging position.
catches the most fish.
took the least number of casts to land the most fish.

**Be Safe!**
Be aware of your surroundings when casting. Always use caution, and never cast at people, pets, or objects that could be damaged. And, NEVER use hooks with Backyard Bass.

**More Ideas!**
**Fish Identification:** Tape pictures of fish to the backs of the targets for anglers to identify when they reel them in. Award points for correct answers. Use pictures from DNR’s publication, *Wisconsin Fishing*, #FH-500 or *Wisconsin Wildcards*, #FH-923.

**Fishing Regulations:** On a strip of masking tape list a date and a size for the fish pictured. Anglers have to check the regulations to see if that fish is legal to keep. On the back of the target, tape true or false questions that anglers should be able to answer to fish in their area.

Backyard Bass™ is a product of Ironwood Pacific, Inc.

---

Have a volunteer bring in fish fry supplies or have anglers sign up for these various items:

- Flour seasoned with salt and pepper
- Cooking oil
- Camp stove (two-burner preferred)
- Forks (optional, fingers are fine for tasting fish)
- Plastic bowl or bag for flouring fish
- Paper towel
- Small paper plates
- Frying pan
- Fuel
- Matches (leader brings)
- Cooking oil
- Fuel
- Matches (leader brings)
# Backyard Bass

## Sample Scoresheets

### Fish/Name

<table>
<thead>
<tr>
<th>Fish</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orange</td>
<td>15</td>
</tr>
<tr>
<td>Blue</td>
<td>10</td>
</tr>
<tr>
<td>Yellow</td>
<td>5</td>
</tr>
</tbody>
</table>

### Fish/Name

<table>
<thead>
<tr>
<th>Fish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fish behind bush</td>
</tr>
<tr>
<td>Fish by 2nd Base</td>
</tr>
<tr>
<td>Fish by principal’s car</td>
</tr>
</tbody>
</table>

### Fish/Name & number of casts per station

<table>
<thead>
<tr>
<th>Fish</th>
<th>Number of casts</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td></td>
</tr>
<tr>
<td>#2</td>
<td></td>
</tr>
<tr>
<td>#3</td>
<td></td>
</tr>
</tbody>
</table>

*Total number of casts. Low score wins.*
There are many ways to integrate art with angler education. One idea is to make class quilts depicting fishing adventures or habitat. Others include fabric storyscapes, paper mache' fish, sketching, and gyotaku, as described in the next column. Weave in the dramatic arts by having anglers role-play fish in their habitat or fishing ethics dilemmas.

**Gyotaku**

*Pronounced, ghee you tah koo.*

*Gyo=fish* *taku=rubbing*

The Japanese have been making “fish rubbings” for hundreds of years as an artistic expression and a means to record their catch. Traditional methods used rice paper and block printing ink. A more casual approach lends itself to t-shirts, pillowcases and dishtowels. Experiment with different media as you combine art, literature, and fish anatomy in a fun activity, indoors or out. The steps listed will get you started, and you will likely develop your own special technique. Anglers may enjoy hearing this tale before making their rubbings.

Once upon a time, a Japanese peasant caught a very beautiful silver fish in the lake on the grounds of the emperor’s palace. As he was about to gather it up to take it home, he was astonished to hear the fish beg for its life. The fish, it seems, was actually the son of the emperor, transformed by a spell of an evil, ambitious priest. Moved to pity by the fish’s plight, the peasant spared its life and asked how he could help. The fish knew that if his enemy, the priest, gazed upon his image, the evil spell would be broken.

“Take me home with you,” the fish said, “and I will tell you what you can do.”

At the peasant’s home, the fish directed his benefactor to lay him upon a piece of rice paper. The peasant so obliged. Then as instructed, the peasant removed the fish. There remaining was a gleaming print of the fish, dazzling and perfect in every detail! The fish then told the peasant to take this print to the emperor, who loved all things beautiful and artistic. The emperor was so pleased with the gift that he rewarded the peasant handsomely and hung the print in the palace. In due time the ambitious priest came to the palace. One day he paused before the fish’s portrait. In an instant the prince was restored, stood before the evil priest, and vanquished his enemy.

—Japanese folk tale.
**Gyotaku Instructions**

**Materials Needed for Gyotaku**
- Rice paper or fabric upon which to make your prints
- Non-toxic permanent ink
- Paint brushes
- Newsprint
- Paper towels
- Cardboard
- Iron to heat-set ink on fabric
- Paper to protect your iron
- Marking pens
- Fish – real or rubber. If you use real fish you will also need:
  - Modeling clay
  - Stick pins

**Preparing the Fish**
1. Select a species with distinctive scales, such as carp or bluegill. Fresh fish can be frozen whole to be saved for this activity.
2. Wash an intact fish with soap to remove slime and grit, and pat it dry. If bodily fluids ooze out onto a print, assure students that it will all come out in the wash.
3. Soften small pieces of modeling clay and roll into snake-like shapes. Fit the clay under the fins to build them up to the level of the body, so everything lies relatively flat.
4. Use stickpins to keep the fins fanned out. You can remove the pins once the fins dry.
5. For a hungry-looking fish, put a tiny ball of clay in its mouth to keep it open.

**Printing**

Some methods leave the eye unpainted where the light would shine on a living fish. Some fish printers adorn the eyespot with a jewel or paint it bright yellow or orange.

1. Place pieces of paper towel under the fins and tail to cover the clay supporting them.
2. Paint a light coat of paint on the fish. Too much paint obscures the delicate scale pattern. Finish the paint application with a few backstrokes to lift the scales a bit.
3. Remove the paper towel and blot up any splattered ink, so you don’t spoil your design.
4. Carefully lay a piece of paper or fabric over the fish. If you’re printing a t-shirt, place your hands inside the shirt so it doesn’t soak through to the other side.
5. Gently pat the fish, being careful to leave no scale untouched.
6. Lift the material off the fish and set it aside to dry.
7. Re-ink your fish for many more gyotaku.

**After Printing**
1. Students can draw in aquatic plants and label the fins.
2. Place clean paper over the fish print design and iron for a few minutes to set the ink.
3. If you haven’t been working your fish for too long and have used non-toxic ink, you can wash your fish and cook it for supper!
4. If you used rubber fish, scrub them well before storing, or else the scales will be gummed up with paint for the next group that uses them.
Junior Angler Materials List

Divide this list amongst your volunteer team members to begin rounding up supplies for the program. Some items may appear more than once.

Fish On!
- Magazines
- Glue
- Art supplies
- Pencils

Fishing Villages
- Art supplies
- Telephone book
- Tourism guide booklets

Head for the Water
- Wisconsin State Highway Map
- State relief maps

Hooray for Habitat!
- *Fish Pictures
- Shoelaces
- Magazines
- Art supplies
- Natural materials for creating dioramas

Living Room
- *Fish Wildcards

Wetland Habitats
- Sponge
- Coffee filter
- Doll cradle
- Sleeping bag
- Sieve
- Cereal
- Field guides
- Paper and pencil

When a Plant Becomes a Weed
- Gloves
- Trash bags
- Garden clippers

Friend in the Field
- An Egg-citing Race
  - Game markers
  - Coin
  - Pencil
  - Paper

Fish Inside
- Cardboard cutouts of a fish body and fins
  - Tape
  - *Fish Wildcards
  - Paper

Colored pencils for graphing
  . . . and out
- *Fish Wildcards
- • Backyard Bass or other targets
- "Wisconsin Fishing, DNR Publication #FH-500"
- "Wisconsin Fishing Regulations"

Classified Information
- *Fish Wildcards

Get Ready to Go Fishing!
Station props and labels:
  - Line
  - Bobber
  - Sinkers
  - Hooks
  - Rod
  - Reel
  - Stringer
  - Lure
  - Plug
  - Jig
  - Plastic bags for hooks & sinkers
  - Other tackle of your choice

Tie a Knot - It’s Easy!
Knot tying practice kits:
  - Shower curtain rings
  - Cord
  - Wooden peg-style clothespins
  - Screw eyes
  - Fishing line
  - Drill
  - Small drill bit

Popcan Fishing
Aluminum can
- Practice casting plugs or corks
- Line

Bait Your Hook
Capped off rain gutter and water
Lures
Blank spoons or jig heads
Special paint
Heat gun to set paint

Casting
- Rods
- Reels
- Casting plugs
- *Fish flash cards or Wildcards
- Backyard Bass or other targets
- Score sheets

I Caught a Fish!
- *WI Fishing Regulations
- *Fishing Ruler
- Fillet glove
  - Jaw spreaders
  - Needle-nose pliers
  - Clippers
  - Forceps
  - Hemostat

Reading the Water
- Journals
- Pencils
- Fishing gear

Take Note
- Journals
- Pencils
- Safety
- Life jacket

First Aid
- First aid kit
- Hydrogen peroxide

Fish for Dinner
- Fillet knife and pliers
- Shore lunch supplies:
  - Flour seasoned with salt and pepper
  - Camp stove (two-burner, preferred)
  - Plastic bowl or bag for flouring fish
  - Small paper plates
  - Cooking oil
  - Forks
  - Paper towel
  - Frying pan (two)
  - Fuel and matches

Hook into Healthy Fish
*Choose Wisely - a Health Guide for Eating Fish in Wisconsin. DNR Publication #FH-824

What Can You Find in a Lake?
- Pencil

Regulations Quiz Bowl
*Wisconsin Fishing Regulations
- Bell (optional)

More Fishing Opportunities
- Blank spoons or jig heads
- Special paint
- Heat gun to set paint
  - 12 Fly rods
  - 12 Fly tying vices
  - Ice fishing rigs (available at a few sites)

* Available from the Angler Education Office
  • Available from most DNR tackle loaner sites
Several water education programs complement the Angler Education program. Aquatic Project WILD and Project WET (Water Education for Teachers) are two programs that especially support the themes of Angler Education. Both consist of activity books that are distributed through teacher training workshops. Both programs are administered by the Bureau of Communication and Education of the Department of Natural Resources. Projects WILD and WET activities that correlate to Junior Angler activities are listed below. Page numbers are based on the 2004 edition of Project WILD and the 2003 edition of Project WET.

**Fishing Villages**
WILD: p. 85 ....Net Gain, Net Effect
   p. 91 ....Watered Down History
WET: p. 223 ..Color Me a Watershed

**Head for the Water!**
WILD: p. 29 ...Aqua Words
   p. 91 ...Watered Down History
   p. 132 .Watershed
   p. 190 .Living Research: Aquatic Heroes and Heroines
WET: p. 129 .Branching Out
   p. 223 ..Color Me a Watershed
   p. 367 ..Choices and Preferences, Water Index

**Hooray for Habitat!**
WILD: p. 19 ....Designing a Habitat
   p. 43 ....Hooks and Ladders
   p. 170 ..To Dam or Not to Dam
WET: p. 322 ..Macroinvertebrate Mayhem

**Living Room**
WILD: p. 166 ..Where Have All The Salmon Gone?

**Wetland Habitats**
WILD: p. 39 ....Wetland Metaphors
   p. 184 ..Dragonfly Pond
WET: p. 129 .Branching Out
   p. 133 ..Capture, Store, and Release
   p. 212 ..Wetland Soils in Living Color

**Shoreland Homes**
WILD: p. 52 ....Blue Ribbon Niche
   p. 118 ..Riparian Retreat
   p. 184 ..Dragonfly Pond
WET: p. 267 ..Sum of the Parts

**Alien Invasion!**
WILD: p. 61 ....Sockeye Scents
   p. 163 ..Aquatic Roots
WET: p. 316 ..Humpty Dumpty

**When a Plant Becomes a Weed . . .**
WILD: p. 31 ....Water Plant Art
   p. 163 ..Aquatic Roots
WET: p. 12 ....Water Log

**Classified Information**
WILD: p. 8 ......Fishy Who’s Who
   p. 140 ..What’s in the Water?
   p. 145 ..Something’s Fishy Here!

**Cast It Out, Reel ‘Em In!**
WILD: p. 128 ..Plastic Jellyfish
WET: p. 19 ....Water Log

**An Egg-citing Race!**
WILD: p. 43 ....Hooks and Ladders
   p. 176 ..Silt: A Dirty Word

**Fish Inside and Out**
WILD: p. 56 ....Fashion a Fish
   p. 61 ....Sockeye Scents

**Take Note!**
WILD: p. 174 ..Aquatic Times
WET: p. 19 ....Water Log

**Hook into Healthy Fish!**
WILD: p. 136 ..What’s in the Air?
   p. 140 ..What’s in the Water?
   p. 145 ..Something’s Fishy Here!

**What Can You Find in a Lake?**
WILD: p. 132 ..Watershed
   p. 128 ..Plastic Jelly Fish
   p. 140 ..What’s in the Water?
   p. 145 ..Something’s Fishy Here!
   p. 155 ..The Glass Menagerie
WET: p. 12 ....Water Actions
   p. 267 ..Sum of the Parts
   p. 316 ..Humpty Dumpty
Wisconsin’s Model Academic Standards

Junior Angler activities have been correlated to Wisconsin’s academic standards to help facilitate the infusion of this program into the classroom curriculum. Correlating activities to standards is a subjective and challenging task. Interpretations of the standards and presentation of the activities may differ from one educator to another. Standards are listed with the most basic presentation of the activity in mind. Additional standards may be addressed through extensions and deeper investigations of issues related to the activities. Some of those additional standards are listed in the chart and noted with a *.

Standards have been paraphrased to provide a quick summary in a tight space. While every effort was made to preserve the intent of the standards, educators are advised to consult the complete standards available from the Department of Public Instruction, as needed. By utilizing the Junior Angler Program to its fullest, you will have addressed these academic standards with your students:

### Art & Environmental Education

#### Art Students Will:
- E.4.3: Communicate basic ideas by producing images and objects, such as folk art, traditional arts and crafts, popular arts, mass media, and consumer products.
- E.8.3: Communicate complex ideas by producing images and objects, such as folk art, traditional arts and crafts, popular arts, mass media, and consumer products.
- H.4.1: Study the pattern and color in nature.
- H.8.4: Create three-dimensional models.

#### Environmental Education Students Will:
- A.4.1: Make observations and plans environmental investigations.
- A.8.2: Collect information from a variety of resources, conduct experiments, and develop possible solutions to their investigations.
- A.8.3: Use techniques such as modeling and simulating to organize information gathered in their investigations.
- B.4.4: List the components of an ecosystem, including the qualities of a habitat.
- B.4.5: Describe natural and human-built ecosystems in Wisconsin.
- B.4.6: List examples of how different organisms adapt to their habitat.
- B.4.10: Describe how they use natural resources in their daily lives.
- B.4.11: List jobs in the community that result from or are influenced by processing and using natural resources.

### Fish On!
- Fishing Villages
- Head for the Water!
- Hooray for Habitat!
- Living Room
- Wetland Habitats
- Shoreland Homes
- Alien Invasion!
- When a Plant Becomes a Weed . . .
- Friends in the Field
- An Egg-citing Race!
- Fish Inside . . .
- . . .and Out
- Classified Information
- Tie a Knot – It’s Easy!
- Baiting Your Hook
- Cast It Out, Reel ‘em In!
- I Have a Fish!
- Reading the Water
- Take Note!
- Safety and Courtesy Near the Water
- First Aid for Anglers
- Fish for Dinner!
- Hook into Healthy Fish!
- What Can You Find in a Lake?
- Regulations Quiz Bowl
- More Fishing Opportunities
### Environmental Education Students Will:

<p>| | |</p>
<table>
<thead>
<tr>
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<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>B.4.12: Determine the causes of different types of pollution.</td>
</tr>
<tr>
<td></td>
<td>B.8.2: Explain how change is a natural process, citing examples of succession, evolution, and extinction.</td>
</tr>
<tr>
<td>*</td>
<td>B.8.3: Explain the importance of biodiversity.</td>
</tr>
<tr>
<td></td>
<td>B.8.5: Give examples of human impact on various ecosystems.</td>
</tr>
<tr>
<td>*</td>
<td>B.8.6: Describe major ecosystems of Wisconsin.</td>
</tr>
<tr>
<td>*</td>
<td>B.8.8: Explain interactions among organisms or populations of organisms.</td>
</tr>
<tr>
<td>* *</td>
<td>B.8.9: Explain how the environment is perceived differently by various cultures.</td>
</tr>
<tr>
<td>* *</td>
<td>B.8.10: Explain and cite examples of how humans shape the environment.</td>
</tr>
<tr>
<td></td>
<td>B.8.11: Describe our society as an ecosystem.</td>
</tr>
<tr>
<td></td>
<td>B.8.15: Explain how people impact their environment through resource use.</td>
</tr>
<tr>
<td></td>
<td>B.8.19: Distinguish between point and non-point source pollution.</td>
</tr>
<tr>
<td></td>
<td>B.8.22: Identify careers related to natural resources and environmental concerns.</td>
</tr>
<tr>
<td></td>
<td>C.4.1: Identify environmental problems and issues.</td>
</tr>
<tr>
<td></td>
<td>C.4.3: Identify people and groups of people that are involved in the issue.</td>
</tr>
<tr>
<td></td>
<td>C.4.4: Identify some of the decisions and actions related to the issue.</td>
</tr>
<tr>
<td></td>
<td>C.8.1: Define and provide examples of environmental issues, explaining the role of beliefs, attitudes, and values.</td>
</tr>
<tr>
<td></td>
<td>C.8.4: Evaluate the credibility of information, recognizing social, economic, political, environmental, technological, and educational influences.</td>
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<td>D.4.6: Develop a plan, either individually or in a group, to preserve the local environment.</td>
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<td>D.8.5: Explain how personal actions can impact an environmental issue; e.g., doing volunteer work in conservation.</td>
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<td>* *</td>
<td>D.8.6: Develop a plan for improving or maintaining some part of the local environment and identify their role in accomplishing the plan.</td>
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<td>Family &amp; Consumer Education Students Will:</td>
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<td>A.1. Introductory &amp; Intermediate Level: Identify several contributions the family makes in meeting family members’ needs for food, clothing, shelter, and economic resources; encouraging development of all family members throughout life; and improving conditions in the workplace, neighborhood, community, and world.</td>
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<tr>
<td>A.2. Introductory Level: Identify and give examples of continuing concerns of the family, such as what should be done to conserve natural resources.</td>
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<tr>
<td>A.2. Intermediate Level: Describe several significant, broad, continuing concerns of the family, such as what should be done to manage human and natural resources wisely in providing for the family’s physical needs.</td>
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<td>D.1. Introductory Level: Give examples of individual, family, and community action.</td>
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<td>D.1. Intermediate Level: Explain what it is to take informed, socially responsible action.</td>
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<td>Language Arts Students Will:</td>
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<td>A.4.2: Read, interpret, and critically analyze literature.</td>
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<th>Math Students Will:</th>
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<tr>
<td>A.4.3: Connect mathematical learning with other subjects, personal experiences, current events, and personal interests.</td>
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<tr>
<td>B.4.2: Determine the number of things in a set by grouping and counting, combining and arranging, and estimation including rounding.</td>
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<tr>
<td>B.4.5: In problem-solving situations involving whole numbers, select and efficiently use appropriate computational procedures.</td>
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<tr>
<td>E.4.1: Work with data in the context of real-world situations by formulating questions that lead to data collection and analysis.</td>
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<tr>
<td>E.4.3: In problem-solving situations, read, extract, and use information presented in graphs, tables, or charts.</td>
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<tr>
<td>E.8.1: Work with data in the context of real-world situations by formulating questions that lead to data collection and analysis and designing and conducting a statistical investigation.</td>
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<tr>
<td>E.8.2: Organize and display data from statistical investigations using appropriate tables, graphs, and/or charts.</td>
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<tr>
<td>F.4.5: Use simple equations and inequalities in a variety of ways.</td>
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</table>
Physical Education Students Will:

- A.4.1: Select and participate regularly in physical activities for the purpose of improving skills and maintaining good health.
- A.8.3: Explore personal interests in a variety of new physical activities both in and out of the physical education class.

- B.4.1: Demonstrate progress towards the mature form of all locomotor (movement) patterns and selected manipulative and nonlocomotor skills such as throwing, catching, and kicking.
- B.4.3: Acquire beginning skills in a few specialized movement forms such as dribbling and passing a basketball to a moving receiver or jumping and landing for height/distance using mature form.

- B.8.3: Demonstrate increasing competence in more advanced specialized physical skill.
- B.8.4: Explain how people can enjoy an activity if they are not gifted athletes.

- D.4.1: Experience positive feelings as a result of involvement in physical activity.
- D.4.2: Learn to enjoy practicing activities to increase skill competence.
- D.4.3: Celebrate personal successes and achievements as well as those of others.
- D.8.1: Feel satisfaction when engaging in physical activity.
- D.8.3: Enjoy learning new activities.

- F.4.1: Follow activity specific rules, procedures, and etiquette with little or no reinforcement.
- F.4.4: Work independently and “on task” for short periods of time.

- F.8.1: Identify positive and negative peer influence.
- F.8.3: Make choices based on the safety of self and others.
- F.8.4: Consider the consequences when confronted with a behavior choice.

- F.8.5: Resolve interpersonal conflicts with sensitivity to rights and feelings of others; find positive ways to exert independence.
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<tr>
<th>Fish Out! Fishing Villages</th>
<th>Head for the Water!</th>
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<td>I Have a Fish!</td>
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<td>Reading the Water</td>
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<td>Take Note!</td>
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<td>Baiting Your Hook</td>
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**Science Students Will:**

| A.4.5: When studying a science-related problem, decide what changes over time are occurring or have occurred. |
| B.4.6: Use models and explanations to predict actions and events in the natural world. |
| B.4.1: Use source books, texts, adults, journals, and various other sources to help answer science-related questions and plan investigations. |
| B.8.4: Describe types of reasoning and evidence used outside of science to draw conclusions about the natural world. |
| B.8.6: Explain the ways in which scientific knowledge is useful and also limited when applied to social issues. |
| C.4.1: Use the vocabulary of the unifying themes to ask questions about objects, organisms, and events being studied. |
| C.4.5: Use data they have collected to develop explanations and answer questions generated by investigations. |
| C.8.2: Identify data and locate sources of information including their own records to answer questions being investigated. |
| E.4.3: Develop descriptions of the land and water masses of the earth and of Wisconsin's rocks and minerals, using the common vocabulary of earth and space science. |
| E.4.7: Using science themes, describe resources used in the home, community, and nation as a whole. |
| E.8.6: Describe through investigations the use of the earth's resources by humans both in the past and current cultures, particularly how changes in the resources used for the past 100 years are the basis for the efforts to conserve and recycle renewable and non-renewable resources. |
| F.4.1: Discover how each organism meets its basic needs for water, nutrients, protection, and energy in order to survive. |
| F.4.2: Investigate how organisms, especially plants, respond to both internal cues (the need for water) and external cues (changes in the environment). |
| F.4.3: Illustrate the different ways that organisms grow through life stages and survive to produce new members of their type. |
| F.8.1: Understand the structure and function of cells, organs, tissues, organ systems, and whole organisms. |
| F.8.2: Show how organisms have adapted structures to match their functions, providing means of encouraging individual and group survival within specific environments. |
| F.8.5: Show how different structures both reproduce and pass on characteristics of their group. |
| F.8.7: Understand that an organism's behavior evolves through adaptation to its environment. |
| F.8.8: Show through investigations how organisms both depend on and contribute to the balance or imbalance of populations and/or ecosystems, which in turn contribute to the total system of life on the planet. |
| F.8.9: Explain how some of the changes on the earth are contributing to changes in the balance of life and affecting the survival or population growth of certain species. |
### Social Studies Students Will:

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<th>A.4.2: Locate on a map or globe physical features such as continents, oceans, mountain ranges, and landforms, natural features such as resources, flora, and fauna, and human features such as cities, states, and national borders.</th>
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<td>A.4.4: Describe and give examples of ways in which people interact with the physical environment, including use of land, location of communities, methods of construction, and design of shelters.</td>
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<td>A.4.5: Use atlases, databases, grid systems, charts, graphs and maps to gather information about the local community, Wisconsin, the United States, and the world.</td>
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<tr>
<td></td>
<td>A.4.7: Identify connections between the local community and other places in Wisconsin, the United States, and the world.</td>
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<td>A.4.8: Identify major changes in the local community that have been caused by human beings, such as a construction project, a new highway, a building torn down, or a fire; discuss reasons for these changes; and explain their probable effects on the community and the environment.</td>
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<td>A.8.4: Conduct a historical study to analyze the use of the local environment in a Wisconsin community and to explain the effect of this use on the environment.</td>
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<td>B.4.1: Identify and examine various sources of information that are used for constructing an understanding of the past, such as artifacts, documents, letters, diaries, maps, textbooks, photos, paintings, architecture, oral presentations, graphs, and charts.</td>
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<tr>
<td></td>
<td>B.8.1: Interpret the past using a variety of sources, such as biographies, diaries, journals, artifacts, eyewitness interviews, and other primary source materials, and evaluate the credibility of sources used.</td>
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<td>E.4.2: Explain the influence of factors such as family, neighborhood, personal interests, language, likes and dislikes, and accomplishments on individual identity and development.</td>
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<td>E.4.4: Describe the ways in which ethnic cultures influence the daily lives of people.</td>
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<tr>
<td></td>
<td>E.8.2: Give examples to explain and illustrate how factors such as family, gender, and socioeconomic status contribute to individual identity and development.</td>
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<tr>
<td></td>
<td>E.8.3: Describe the ways in which local, regional, and ethnic cultures may influence the everyday lives of people.</td>
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</tbody>
</table>
Referenced Resources and More

**Angler Education Office Publications:**
Please use the order form in your Instructor’s Manual. If you need one, contact the Angler Education office at the number below.

You can fax your order form to us at 608/266-2244 or mail it to:

Angler Education, FH/3
P.O. Box 7921, Madison, WI 53707-7921.

If you need a form or have questions about your order, call 608/261-6431.

**Program policy or content questions:**
Contact program director in Madison at 608/266-2272.

**Project WILD Office**
608/264-6280 (Madison)

**Project WET Office**
608/264-6280 (Madison)

**UW Sea Grant Institute Publications**
608/263-3259 (Madison)

**Department of Public Instruction**
800/243-8782
http://dpi.wi.gov

**State Youth 4-H Program**
608/262-1536 (Madison, or contact your local UW-Extension Office)

**Nasco**
Borrow rubber fish for fish printing from our Tackle Loaner sites or buy your own from Nasco. 800/558-9595

**Ironwood Pacific**
Borrow Backyard Bass from our Tackle Loaner sites or buy your own from Ironwood Pacific. 800/261-1330

**Carolina Biological Supply**
800/227-1150

**Fishing Equipment**
The Future Fisherman Foundation is the educational arm of the American Sportfishing Association - the major tackle industry organization. Non-profit organizations can obtain access to discounts on equipment and educational supplies by registering their group on ASA’s web site. Go to www.asafishing.org, click on FTLP and you’ll be prompted to register. You’ll receive confirmation several days later. They also carry Backyard Bass and rubber fish.

**School Aquariums**
There are laws regarding the keeping of game fish in aquariums. Schools are encouraged to purchase game fish from a licensed privately owned fish hatchery. It is important to keep the receipt on file. A list of private hatcheries is available from the Department of Agriculture, Trade and Consumer Protection (DATCP) in Madison.

If a class wishes to capture the fish themselves, they must obtain a scientific collector’s permit from the DNR fisheries expert or biologist in their region. Undersized fish are allowed with a scientific collector’s permit. Without a permit, any fish caught and kept must be taken in season, be of legal size, and count toward the teacher’s possession limit. Fish raised in a school aquarium cannot be introduced or reintroducted into the wild without approval as it constitutes stocking without a permit. Disease and genetic dilution are the major concerns.

Aquaculture classes are advised to contact DATCP for further information, 608/224-5137.

**Scouting Connections**
See the Angler Education Instructor’s Manual for correlations of Junior Angler activities to Boy Scout and Girl Scout merit badge requirements.

**Angler Education Instructor’s Manual**
Please review your Angler Education Instructor’s Manual. It contains important information on program certification, program format ideas, and general teaching tips.
What Have You Learned?

Beginning Junior Angler
(Grades 4-6)
- Assemble basic tackle.
- Tie one fishing knot.
- Cast safely and accurately.
- Identify five species of fish and baits used to catch them.
- Know the name and function of three fins.
- List two fish adaptations.
- Know two fishing safety rules.
- State one fishing regulation and know where to look for more.
- Describe good fish habitat.
- Describe two traits of an ethical angler.

Advanced Junior Angler
(Grades 7-8)
- Assemble basic tackle.
- Tie two fishing knots.
- Cast safely and accurately.
- Identify at least 10 species of fish and baits used to catch them.
- Know the names and functions of six fins.
- List seven fish adaptations.
- State three fishing regulations and know where to look for more.
- Describe good fish habitat.
- Describe how fishing is important to Wisconsin.
- List four threats to fish habitat and some possible solutions.
- Describe four traits of an ethical angler

[Angler's Basic Checklist]
- Tackle box
- Pliers
- Rod
- Stringer
- Reel
- Sunscreen
- Hook
- Drinking water
- Line
- Snack
- Clipper
- Hat
- Bobber
- Buddy or adult
- Bait
- Sunglasses
- Sinkers
- Safe place
- Lure
- Good fish habitat
- Reel
- Stringer
- Sunscreen
- Drinking water
- Snack
- Hat
- Buddy or adult
- Bait
- Sunglasses
- Good fish habitat