

Tackling Your Tackle Box

A tackle box is an angler's toolbox.

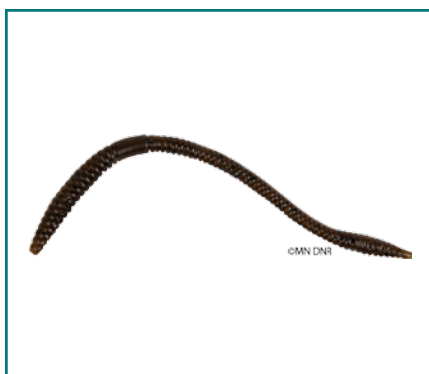
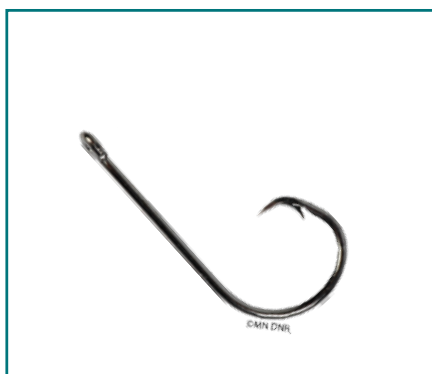


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Chapter 5 • Lesson 4

Please note: Academic Standards are updated regularly and our alignments will be updated on the DNR Academic Standards Website at: www.mndnr.gov/education/teachers/edstandards_intro.html

Tackling Your Tackle Box

Minnesota Academic Standards

- ☉ Lesson *introduces* this Benchmark.
- ☉ Lesson *partially* addresses this Benchmark.
- ☉ Lesson *fully* addresses this Benchmark.

Language Arts

Grades 3, 4, and 5

I. Reading and Literature

B. Vocabulary Expansion:

Benchmark 1—The student will acquire, understand and use new vocabulary through explicit instruction and independent thinking. ☉

Grade 3

III. Speaking, Listening and Viewing

A. Speaking and Listening:

Benchmark 1—The student will participate in and follow agreed-upon rules for conversation and formal discussions in large and small groups. ☉

Benchmark 2—The student will demonstrate active listening and comprehension. ☉

Benchmark 4—The student will give oral presentations to different audiences for different reasons. ☉

Benchmark 5—The student will organize and express ideas sequentially or according to major points. ☉

Grade 4

III. Speaking, Listening and Viewing

A. Speaking and Listening:

Benchmark 1—The student will participate in and follow agreed-upon rules for conversation and formal discussions in large and small groups. ☉

Benchmark 2—The student will demonstrate active listening and comprehension. ☉

Benchmark 3—The student will give oral presentations to different audiences for different reasons. ☉

Grade 5

III. Speaking, Listening, and Viewing

A. Speaking and Listening:

Benchmark 1—The student will participate in and follow agreed-upon rules for conversation and formal discussions in large and small groups. ☉

Benchmark 2—The student will demonstrate active listening and comprehension. ☉

Benchmark 4—The student will give oral presentations to various audiences for different purposes. ☉

Math

Alignment to the 2007 Minnesota Academic Math Standards coming soon.

Grade 3

II. Number Sense, Computation and Operation

A. Number Sense:

Benchmark 1—The student will read, write with numerals, compare and order whole numbers 1 to 9,999. ☉

B. Computation and Operation:

Benchmark 1—The student will use addition of up to three whole number addends, containing up to four digits each in real world and mathematical problems. ☉

C. Measurement:

Benchmark 6—The student will make change using as few coins as possible up to a dollar. ☉

Grade 4

II. Number Sense, Computation and Operation

B. Computation and Operation:

Benchmark 1—The student will use addition and subtraction of multi-digit whole numbers to solve multi-step real-world and mathematical problems. ☉

C. Measurement:

Benchmark 3—The student will make change using as few coins and bills as possible up to \$20.00. ☉

Grade 5

B. Computation and Operation:

Benchmark 2—Add and subtract numbers with up to two decimal places in real-world or mathematical problems. 🗳️

History and Social Studies

Grades K-3

VI. Economics

A. Economic Choices:

Benchmark 3—Students will understand and explain that the concept of scarcity means that one can not have all the goods and services that one wants. 🗳️

Grades 4-8

V. Geography

D. Interconnections:

Benchmark 2—Students will analyze how the physical environment influences human activities. 🗳️

Science

Grade 4

I. History and Nature of Science

A. Scientific World View:

Benchmark 1—The student will explore the uses and effects of science in our interaction with the natural world. 🗳️

Benchmark 2—The student will discuss the responsible use of science. 🗳️

Benchmark 3—The student will recognize the impact of scientific and technological activities on the natural world. 🗳️

III. Earth and Space Science

A. Earth Structure and Processes:

Benchmark 1—The student will identify and investigate environmental issues and potential solutions. 🗳️

Environmental Literacy Scope and Sequence

Benchmarks

- Social and natural systems are made of parts. (PreK-2)
- Social and natural systems may not continue to function if some of their parts are missing. (PreK-2)
- When the parts of social and natural systems are put together, they can do things they couldn't do by themselves. (PreK-2)
- In social and natural systems that consist of many parts, the parts usually influence one another. (3-5)
- Social and natural systems may not function as well if parts are missing, damaged, mismatched or misconnected. (3-5)

For the full Environmental Literacy Scope and Sequence, see:

www.seek.state.mn.us/eemn_c.cfm

Chapter 5 • Lesson 4

Tackling Your Tackle Box

Grade Level: 3-5

Activity Duration: 50 minutes

Group Size: up to 30

Subject Areas: Physical Education, Language Arts, Social Studies, Science

Academic Skills: identification, listening, matching, observation, presentation skills, recognition, small group work

Setting: indoor or outdoor gathering area with tables

Vocabulary: bobber, crankbait, hook size, jig, spinner, split shot sinker, spoon, stringer

Internet Search Words: fishing lure, fishing tackle, improved clinch knot; on the Minnesota DNR website: Lake Finder

Instructor's Background Information

Would you play a game of soccer without a soccer ball? Go canoeing without a paddle? Go biking without a bike? Like any other sport, fishing requires special gear.

But what do you buy? Sporting goods stores carry seemingly endless arrays of tackle and fishing gear, including specialized equipment for every situation.

To purchase wisely, consider your target species. What type of fish do you hope to catch? After you choose a fish, you must learn a few things about it, such as its mouth size, food preferences, where it spends most of its time, and its typical size.

Spend some time learning about fish, their habits, preferred baits and lures, and fishing techniques. Information is available in books, magazines, and online. Even a small amount of information can help you get started, and familiarity with basic tackle will help you effectively match tackle to a target fish species. (**Lesson 5:6—Fool Fish With Flies**, **Lesson 6:4—Piscatorial Palate**, and **Lesson 2:1—Fish Senses** contain additional information about artificial lures, baits, and how they attract fish.)

A sunfish, for example, has a small mouth, so it's best to use a small bobber, sinker, and hook with small bait such as wax worms. Sunfish aren't large or heavy, so a basic rod and reel with a light line of 4-pound test suffices. (You may choose a slightly heavier line, such as 6-pound test, when fishing with young children because they're more likely to snag their lines.) Knowing that sunfish live in shallow water, you'll know where to fish for them—from shore, or from a dock or fishing pier.

Summary

When anglers have the information that helps them select the correct equipment, chances for fishing success are greatly improved. A show-and-tell activity and a matching activity familiarize students with common lures and tackle. Using a limited amount of money, students shop in a virtual tackle store to stock a tackle box with basic lures and baits appropriate for catching their targeted fish species. On a second virtual shopping trip, students return prepared with information on the characteristics of their targeted fish species. In a presentation to the group, they compare items purchased on the two shopping trips and share their reasons for choosing them.

Student Objectives

The students will:

- 1 Identify various pieces of fishing equipment and describe the function of each.
- 2 Select tackle appropriate for catching a particular type of fish.
- 3 Work cooperatively in small groups to present an explanation of their groups' choices of fishing tackle for targeted fish species.
- 4 Describe how knowledge of fish characteristics leads to economical and effective choices of tackle box items.

Materials

These items can be purchased at a sporting goods store or borrowed from an avid angler such as a parent, instructor, or fishing club member.

- Tackle box
- Bobbers, one-inch red and white (plus one spring and one slip, if desired)
- Split shot sinkers, a few in different sizes—non-lead, if available
- Hooks mentioned in the lesson, sizes 10, 8, 6, 2, 1, 1/0
- Containers for hooks, one for each hook size (clear 35mm film canisters work well)
- Fingernail clipper
- Needlenosed pliers
- Common artificial lures mentioned in the lesson—jig, plastic worm, straight-line spinner, spinnerbait, crankbait, surface lure, spoon—one of each type, in various sizes
- Snap swivel
- Leader
- Spools of fishing line mentioned in the lesson, 4-, 6-, 10-, 12-, and 20-pound test
- Knot-tying card
- Practice casting plug
- Measuring tape or ruler
- Fish stringer
- Whistle
- First aid kit (or a few band-aids to represent a first aid kit)
- Personal safety gear (sunscreen, hat, sunglasses, insect repellent)
- Small plastic trash bag
- Sample fishing license
- Minnesota fishing regulations booklet

continued

Northern pike, on the other hand, are typically larger and heavier than sunfish, so a sturdier rod and reel with a heavier line is a better choice. (Try a line of 12-pound test or heavier.) These fish have bigger mouths than sunfish, calling for larger hooks and bait. Northern pike typically eat other fish (rather than invertebrates), so a minnow is a better choice than a wax worm. (Northern pike actually have many teeth that can cut line, so anglers often attach a metal leader to the end of their line next to the lure or bait.) Northern pike come close to shore to feed on the smaller fish that live there, so it's possible to catch them by casting from shore.

Some anglers prefer artificial lures to live bait. Artificial lures are easier to keep in a tackle box. They're more expensive than live bait initially, but they can be reused if you don't lose them.

To keep things simple and limit fishing expenses, anglers should collect only the gear that they really need for their typical style of fishing. It's best for beginners to start with simple tackle and to outfit their tackle boxes with some essentials. A few extra hooks, sinkers, bobbers, a fingernail clipper, needlenosed pliers, and a few band-aids in a small tackle box come in handy if there's a snag, or if someone loses something or gets cut by a hook. The tackle box shouldn't be so overstocked with unused equipment that it becomes heavy, cumbersome, or difficult to use.

No one item can guarantee that you'll catch a fish, but a few simple tools can make a fishing trip more pleasant and successful. These are suggested items for a tackle box. Most can be found at sporting goods stores or bait shops.

- **Tackle box**—These containers store gear and keep it organized and easily accessible. A small, top-opening tackle box with one tray is a good first box. Plastic tackle boxes are rugged and will keep your tackle dry. Select one that's easy to carry.
- **Bobbers**—Usually made of plastic or foam, bobbers are floats for the fishing line and keep bait at a specific depth. They also signal when a fish nibbles at the bait by bobbing up and down—when a fish takes the bait, they submerge, or are pulled along the surface of the water. Bobbers come in several styles. There are bobbers that remain fixed on the line (like the round red and white type or thin spring lock type). A slip bobber slips or slides along the line until it hits a knot placed on the line to a set depth.

Fixed bobbers are easier for young people to put on and take off by themselves, but slip bobbers are easier to cast, especially in deeper water. Round bobbers work well with heavier baits, lures, and rigs. Thin bobbers are more sensitive to the movements of nibbling fish. The size of any bobber should match the weight of the bait and other tackle on the line.

- **Split shot sinkers**—These are small weights with a split down the center and they attach to a line. Split shot can be made of ceramic

materials, lead, tin, or other non-lead metals. Sinkers weight the fishing line, allowing the bait to be cast and to sink. Sinkers also keep the line tight so the angler can tell when a fish bites. Split shot sinkers are easy for young anglers to attach and remove by themselves. They come in a range of sizes, and assortment packs are available. Use just enough split shot on your line so the bobber rests upright and half of it sticks out of the water. Other types of sinkers are used for special fishing situations, but split shot are a good starter sinker.



Many students have seen people cut fishing line by biting it with their teeth. This is a safety concern because people can chip teeth or swallow a loose piece of line. Use nippers or nail clippers to cut fishing line. Many students have seen someone secure a sinker by biting on it. Sinkers are easily swallowed and they're made of hard metal that can chip teeth. Use needlenosed pliers to open and secure sinkers. Most sinkers are still made of lead, which can be toxic if ingested. Always keep sinkers away from the mouth.

- **Hooks**—Hooks come in a variety of sizes and styles. Carrying assorted hooks helps anglers catch different types of fish and use various types of natural bait.

Hook Size—Hooks need to be large enough to hold the bait, but small enough to fit in the fish's mouth. Hook sizes 10, 8, and 6 work well for smaller-mouthed fish such as panfish and stream trout. Larger hooks, such as 2, 1, and 1/0, are required for larger fish such as walleye, northern pike, muskellunge, and largemouth bass.

Shank Length—The shank is the part of the hook between the bend and the eye. Hooks have a short shank or long shank. Choose a long shank hook for chunky baits such as night crawlers.

Styles—Circle hooks are designed to hook fish in the mouth as soon as the fish bites down and turns to swim away. The point of the hook faces the shank, and may or may not be slightly offset. Circle hooks are particularly good for beginners because you don't have to set the hook by jerking the line—they're self-setting. Fish hooked in the mouth (rather than in the throat or stomach) have a better chance of surviving catch-and-release.

- **Hook containers**—Tackle boxes stay neat and safe with hooks organized into small containers like clear 35mm film canisters. Use a different canister for each hook size. Hooks can also be stored hooked into a piece of foam or a cork.
- **Fingernail clipper**—The tackle box fingernail clipper isn't for manicures, but for cutting fishing line! A fingernail clipper is handy if a hook swallowed by a fish needs to be cut free, a knot needs

Materials (continued)

- Lake, stream, or fishing pier map
- Hook sharpener
- Play money (optional)
- **Tackling Tackle Cards**, one set for each group of three students
- **Tackling Tackle Checklist**, one for each group of three (and enough extra copies for any student who wants to take one home)
- **Tackling Your Tackle Box Price List**, two for each group of three students
- **Fish Information Cards**, one for each group of three students
- **Fish Tackle Cards**, one for each group of three students
- Mail order catalog of fishing equipment and supplies from a sporting goods store (optional)



Get the Lead Out

Consider using fishing tackle that doesn't contain lead. Lead is a toxic metal and, in sufficient quantities, it adversely affects the nervous and reproductive systems of mammals and birds. Ask for non-lead tackle at your bait shops.



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Many catch-and-release anglers flatten the barb of the hook by pinching it down with needle-nosed pliers. This reduces the chance of a hook getting caught deep in a fish. It's also easier to remove.



Alluring Names

Manufacturers name lures, so names can be very similar or identical to names of other well-known and popular lures. Anglers loyal to one company may know only the trade name for their favorite lure. Names used here are as general as possible, but students may know these lures by other names.



Traditionally, jig heads have been made with lead, but jigs made of non-lead materials are becoming more common. Ask your local fishing supply store for non-lead jigs. You can also order these directly from some manufacturers—look for them online.

trimming, or for adding a new line to a reel. Biting monofilament line can damage teeth. Fishing stores carry “nippers,” a similar device.

- **Needlenosed pliers**—Needlenosed pliers or long-handled forceps allow anglers to gently and safely remove a hook from a fish's mouth. They also allow you to reach further into the mouth while keeping fingers away from sharp teeth. Pliers are especially important for catch-and-release fishing.
- **Artificial lures**—Selecting fishing lures can be an overwhelming task with the many types of lures available on the market today. Each lure style comes in a dazzling variety of shapes, sizes, and colors. (It's been said that fishing lures are designed to catch anglers as well as fish!) To start, select a few types of lures in sizes that can be used for the fish you most often seek. As you gain fishing experience, increase your skills, or expand your fishing to a wider variety of species, add the appropriate lures to your collection.

For more information about the color of fishing lures, and how lures attract fish, see **Lesson 5:5—Flashy Fish Catchers**. To learn about a special type of artificial lure often used in flyfishing, refer to **Lesson 5:6—Fool Fish with Flies**.

Types of Lures

The following isn't a complete list of all types of lures, but introduces some of the most popular ones.

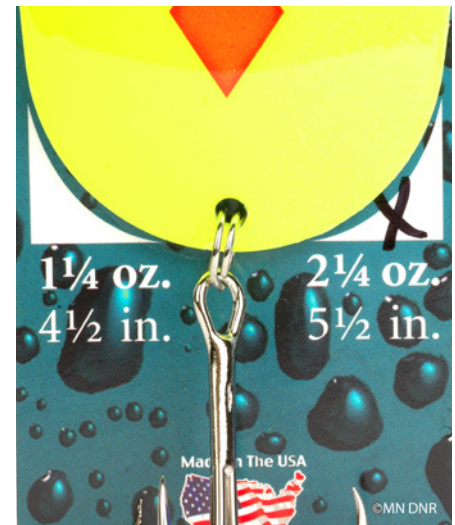
- **Jigs or jig heads** have weighted heads and a hook. A jigtail made of feathers, hair, or soft plastic can be purchased separately and slid over the hook to make a tail. Jigs resemble natural fish food such as insects and small fish. They're lifted and lowered near the bottom (as in dancing a jig.) The most common types are feather jigs and twistertail jigs. Feather jigs are used to catch smaller fish like panfish. Twistertail jigs are used to catch all species. A small piece of natural bait, such as a minnow or worm, can be added to jig hooks to further entice fish to bite.
- **Plastic worms** are commonly used to catch bass, but sunfish and walleye will also bite them. They're made of soft plastic and come in many shapes and sizes. Some contain scents attractive to fish. They don't have hooks, so they're threaded onto a basic hook or another lure attached to the line. An easy way to use a plastic worm is to hook it to a plain jig head.
- **Spinners** have one or more blades that spin around a metal shaft. Fish see the flash of the revolving blade from a distance and feel its vibrations. Most have tails made of soft plastic or animal hair that resemble natural fish food such as insects. Common types are straight-line spinners and spinnerbaits. Spinnerbaits look like an open safety pin, with a spinning blade on one end, and a jig on the other. Spinners can be used to catch all species.
- **Diving lures or crankbaits** imitate baitfish, with “lips” that cause them to dive and wiggle. The size and angle of the lip and the weight

of the lure determine how deep the lure will travel. Crankbaits are great for attracting larger predator fish that swim in deeper areas such as northern pike, muskellunge, walleye, bass, and salmon.

- **Surface lures** float on the surface of the water. They resemble insects or frogs and can be used for all species, especially sunfish, bass, northern pike, and muskellunge. Some, called poppers, have flat or scooped-out fronts that splash as they're jerked across the water.
- **Spoons** have one large heavy blade that wobbles through the water like a baitfish. Spoons typically have one shiny silver or gold side, with the other side painted in bright colors. Fish see the flash, the color, and the movement, and may sense some vibrations. Spoons are used to attract trout and larger predator fish such as northern pike, muskellunge, walleye, bass, and salmon.
- **Snap swivels**—A swivel keeps the line from being twisted as certain types of lures wiggle and twist through the water. One looped end of the swivel is tied to the end of the fishing line—the lure is then clipped or snapped to the other end loop while the center of the swivel twists. Snap swivels make frequent changes of lures easier. Swivel sizes should be matched to lure sizes.
- **Leaders**—Leaders are six- to twelve-inch lengths of line that often contain metal cores. They're tied to the end of the line when fishing for large fish with big, sharp teeth such as walleye, northern pike, and muskellunge—these fish might cut the line when they bite.
- **Extra fishing line**—It's not uncommon for an angler to have to cut a fishing line to free a snag or to repair a bad backlash (line tangled on the spool of the reel). To replace the line on a reel, it's wise to keep spare fishing line in the tackle box. Fishing line comes in different sizes, or "tests," measured in pounds. The higher the pound test, the heavier or stronger the line. For example, 4-pound test line is appropriate for catching sunfish, trout, and perch. The 4-pound test line won't break unless there's four pounds or more of pull on the line. Fishing for northern pike or muskellunge calls for 12-pound test or higher. This line is stronger and more durable than lower test line that could break if tugged by large fish.

Don't litter when replacing or cutting fishing line! Discarded line left in the water or on the ground can entangle and endanger animals such as birds. Many bait shops accept used monofilament line for recycling.

- **Knot-tying card**—A well-tied knot will prevent you from losing the big fish you worked so hard to lure and hook. A fishing line is only as strong as the knot! There are many different knots, but the improved clinch knot is one of the most versatile, and it suits most fishing styles. A knot-tying card reminds anglers how to tie various knots. You can make your own, or find them in sporting goods stores or bait shops.
- **Practice casting plug**—A casting plug is made of rubber, plastic, or wood with a heavy center, and is the approximately weight of a typical lure. It doesn't have a hook or other parts that could catch



A lure package.

Lure sizes are listed on their packages. Jig heads, spinnerbaits, diving lures, surface lures, and spoons are sold by weight, usually in fractions of an ounce. Heavier lures are larger and sink deeper—they typically attract larger fish. Diving lures, surface lures, and spoons may also state the lure length. Longer lures attract fish with larger mouths. Diving lure packages give a range for how deep the lures will dive or "run," as determined by the weight and the size and angle of the lip. The backsides of lure packages also often suggest a number of fish species attracted to the particular lure.



Recommendations for lure types, sizes, and colors depend on individual fish sizes, fishing locations, and water and weather conditions.

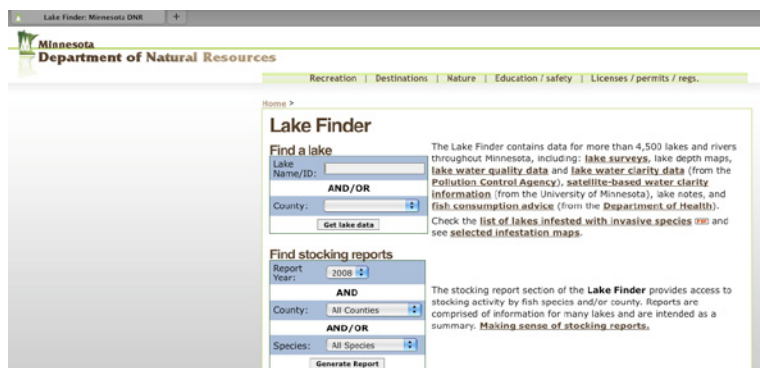


When a fish swallows a hook, the best practice is to cut the line. If the hook is forcibly removed it can tear tissues and injure the fish. The fish may swim away, but such injuries can be fatal.

- on plants, objects, or people during casting practice. Although the plug isn't used for fishing, it's good to keep one in the tackle box for sharpening casting skills. Casting skills can be practiced on land, but having the plug handy at the water offers the opportunity to practice casting lures to the right spots in actual fishing conditions, as well.
- **Measuring tape or ruler**—Measure your catch from nose to the tip of the tail. In some lakes and streams, special regulations apply to the size of fish anglers can keep. When ice fishing, anglers can measure the thickness—and safety—of the ice.
- **Fish stringer**—If you catch a fish and plan to keep it, a fish stringer keeps fish fresh in the water. A cooler of ice may also be used to keep fish fresh, especially on hot summer days.
- **Whistle**—A whistle can be used to call for help in an emergency such as someone falling in the water. Blow three long blasts.
- **First aid kit**—Clean wipes and band-aids treat punctures from hooks, scratches, or bug bites. Rubber gloves and additional wraps and bandages are useful for more serious medical emergencies. Consider an emergency kit with matches, rain poncho, water and snacks, and a throwable personal flotation device on a rope.
- **Personal safety gear**—For protection from the sun, keep a bottle of sunscreen, a pair of sunglasses, and a hat with a brim in the tackle box. Before you leave for fishing, check the weather. Long sleeves protect skin from sun, biting insects, or walking through brush. Bring a jacket if it will be cold, or rain poncho if it looks like rain. Always bring a bottle of drinking water to stay hydrated. Wear a personal flotation device if wading or on a boat.
- **Small plastic trash bag**—Bring a bag to pack out trash or pick up any litter found on the fishing trip. Always leave the fishing spot cleaner than you found it.
- **Fishing license**—Any angler 16 years of age or older is required to have a fishing license. Younger anglers aren't required to have fishing licenses, but they must follow all rules in the Minnesota fishing regulations booklet. Revenue from the sale of fishing licenses and trout stamps supports the work of the Minnesota DNR in protecting and improving fisheries resources throughout the state. A trout stamp is usually required for anglers 16 to 64 years of age who intend to fish for trout or salmon. Check the Minnesota fishing regulations booklet for specifics.
- **Minnesota fishing regulations booklet**—*Minnesota Fishing Regulations* is published annually by the Minnesota DNR, and contains information essential to responsible and law-abiding anglers. It summarizes all of the state's fishing rules and regulations. Fishing regulations are the laws that govern sport fishing and are designed to maintain healthy fish populations throughout the state. All anglers are responsible for following and supporting these rules today to ensure that they can continue to enjoy good fishing tomorrow. The Minnesota fishing regulations booklet contains information on seasons and limits, as well as a fish identification

section so anglers can confirm the types of fish they catch.

- **Lake or stream map**—Maps of many Minnesota lakes and streams are accessible on the Internet. For example, lake maps appear on the Minnesota DNR website under Lake Finder. These maps show anglers lake sizes and depths, fishing spots to try, and how to get to the lakes. They provide insight into safety measures to consider before going to the lake. Lake maps are contour maps displaying water depth and topographical information, which helps anglers find underwater features like drop-offs, ridges, or shallow areas that certain species of fish may inhabit. Having a lake map of the best fishing sites handy on a fishing trip saves time—time that can be spent fishing!
- **Camera**—Consider keeping a camera in the tackle box to photograph that first fish, unusual fish, or large fish.
- **Hook sharpener**—A hook sharpener keeps hooks sharp, making them easier to bait and more effective for hooking fish.
- **Fillet knife**—Keep a sharp fillet knife for cleaning the catch for a shore lunch or for preparing it for transport. Sharper knives slide through the fish more easily than dull ones, reducing the risk of slipping. (Children shouldn't carry knives in their tackle boxes.)



The Lake Finder area of the Minnesota DNR website.

Tackle Maintenance

Remember that your fishing tackle requires periodic maintenance and attention. It's a good idea to get in the habit of drying tackle after a fishing trip so lures and hooks don't rust. Wipe off wet lures and leave the tackle box lid open for a few days to promote drying. Cleaning and drying gear also helps prevent the spread of any aquatic invasive species that may have hitched a ride on tackle or fishing line.

Choosing Tackle

The hooks, line sizes, lure types and sizes, and bait to choose depend on the target fish species. Sporting goods and bait shop personnel, fishing clubs and organizations, fishing shows, the Internet, and fishing books and magazines provide good information on the appropriate equipment for different types of fishing. See **Lesson 6:3—Planning a Fishing Trip** for an exercise on employing the Internet and other sources to research information for planning a fishing trip.

To choose the right tackle for a tackle box and spend fishing dollars wisely, invest time in learning about the fishing site and the fish you want to catch. See **Lesson 1:5—Habitat Hideout** and **Lesson 5:5—Flashy Fish Catchers**.



**STOP AQUATIC
HITCHHIKERS!**
Prevent the transport of nuisance species.
Clean all recreational equipment.



If you've previously completed one or more lessons on lures, bait, or flies, this activity can be used as a review of those lessons.

It takes some time to assemble all of these items for a tackle box, but the experience of a great fishing day will make this worthwhile! Although these items give beginners a good collection of gear for several different fishing styles, keep in mind that more advanced anglers may have several tackle boxes that they use for different conditions. Ice fishing supplies may be in one tackle box, stream fishing tackle in another, and summer lake fishing in yet another. But every tackle box should be neat, organized, and well stocked to help ensure successful fishing adventures!

Procedure

Preparation

- 1 Collect all materials.
- 2 Fill the sample tackle box with the materials on the **Tackling Tackle Checklist**. Covering the hook tips with masking tape or hot glue makes the hooks safer to handle.
- 3 Make a set of **Tackling Tackle Cards** (one card per student).
- 4 Copy the **Tackling Your Tackle Box Price List** (one for each group). You may wish to have a variety of lures, lines, and other equipment available for demonstration.
- 5 Copy the **Tackling Tackle Checklist** (one for each group).
- 6 Copy and cut the **Fish Information Cards** and **Fish Tackle Cards**.

Activity

Warm-up

- 1 Start the lesson by asking students to think about what they would need if they wanted to go fishing. Then ask them to brainstorm a list of some types of natural bait that fish like to eat. Write the list on the whiteboard or use a projection device so that the class can see it. The list will probably include worms, minnows, wax worms, frogs, grasshoppers, and so forth.
- 2 Tell students that many of these items are indeed used for fishing, but that live bait can be difficult to store and carry. There are other types of tackle and fishing gear that are easily stored and carried in a tackle box. Show students a closed tackle box. Tell them that they'll be deciding which items to put into a tackle box.
- 3 Ask the students to brainstorm another list of terminal tackle (which goes at the end of a fishing line). Record this list of items next to the list of bait types. Finally, brainstorm a third list of additional fishing equipment needed for fishing. Record this in a third list or column. This list might include a stringer, pliers, ruler, clippers to cut line, and so forth. Some items on the terminal tackle list could include hook, bobber, sinker, artificial, lures, and bait.
- 4 Ask students if they've ever been to the tackle section of a store where fishing gear is sold. Comment on the many types and varieties of fishing tackle and gear available for purchase. You might show students a mail order catalog from a sporting goods store to demonstrate the variety of tackle and equipment available.

Lesson

Part 1: Basic Tackle Box

- 1 Open the tackle box in front of the class. Display and describe some or all of the items, their uses, and how to handle them safely. You can pass the items to students so they can look at more closely. Emphasize that hooks are sharp and can be dangerous if not handled with care.
- 2 To actively engage students, you may wish to have volunteers come forward to hold an item and display it to the group as they explain how they think it might be used. Remember to emphasize safety in handling the equipment.

Part 2: Lures and Terminal Tackle

- 1 When students have reviewed the basic items in the tackle box, tell them that they will now do a matching activity to become more familiar with some of the common types of lures and terminal tackle they listed in the Warm-up, as well as some items they may not have listed.
- 2 Give each student a **Tackling Tackle Card**. Some students will get a card with a picture, others a card with a name, and still others, a card with a description. Have students circulate around the room and form groups of three by matching the picture, name, and description of a piece of tackle. For example, the student with the card showing a picture of a hook will search for the student who has the “hook” name card and the student who has the card containing the description of a hook (“Holds the fish to the line. For best results, must be sharp.”) After students locate their teammates, they should gather into these groups of three and continue to hold onto their cards until all students have found their matches and formed groups.
- 3 Ask one person from each group to represent the group and to present to the class the type of lure or terminal tackle card they received, and describe the item’s use. (If you’ve collected actual lures to use during this lesson, you could show them during these presentations.)
- 4 When the groups have completed their presentations, ask group members to return their cards to the instructor.



Students might use brand names or several different common names for similar types of lures.



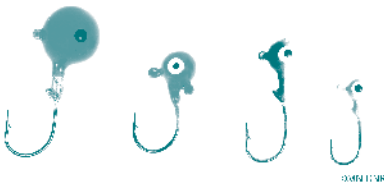
Hooks are sharp! You can cover hook tips with masking tape or glue (with a hot glue gun) for safe handling during the lesson.



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Part 3: Shopping Trip, Round One

- 1 Tell the students that now that they've learned about some types of tackle, they'll go "shopping" to purchase items to stock a tackle box for a fishing trip. Each group of students will plan to go fishing for a different species of fish and each group will have twenty dollars to spend on tackle. Tell students to think about the amount of money they have to spend as being a limited resource. Discuss the meaning of **limited resource**. Because the amount of money is limited, they'll probably want to make good decisions about how to spend that money. Briefly review that, in real life, we all make decisions about our purchases based on needs, wants, values, and how much money we have to spend.
- 2 Have one volunteer from each group formed in Part 2 present an idea to the rest of the class about making good decisions about spending or saving money. The volunteers might recount a personal experience about making a good decision about spending money received as a birthday present or allowance.
- 3 Assign a fish (sunfish, yellow perch, crappie, trout, bullhead, walleye, smallmouth bass, largemouth bass, catfish, northern pike, or muskellunge) to each group of three students.
- 4 Give each group a **Tackling Tackle Checklist**. Tell the students that each group already has all of the checked items on this list in their tackle box. These are basic tackle box items for many types of fishing.
- 5 Each group has been given a budget of twenty dollars. With this money, they can buy a few more items for their tackle box that will help them catch their target fish. How will they choose to spend this money?
- 6 Give a **Tackling Your Tackle Box Price List** to each group. Explain that this list is based on prices from a fishing catalog. The students will shop by catalog. Ask each group to decide which items to check off the list to purchase (or order) for their tackle boxes that will help them catch their target fish.
- 7 Have them multiply the number of individual items selected by the price of each item, and write the total in the cost line across from the item. In the space provided, have them write their reason for purchasing the item. Remind the student groups to add up the prices of the items as they "shop." They have a twenty-dollar spending limit. If available, give each group twenty dollars in play money in assorted bills and change to count out as they decide on purchases.
- 8 After each group has completed their purchases, remind them to write down the total cost of their purchases, and how much change they have left from their twenty dollars.
- 9 Ask a spokesperson from each group to present how much money the group spent, how much money they have left over, and what they bought. Ask each group to explain how they decided which items to buy. How are they sure that their items are the best choices to help them catch their desired fish? Did they have enough money to buy



everything they needed? Did they spend all of their money? If they didn't spend all of the money, what could they do with the rest?

- 10 When all the groups have finished presenting, ask the students if there is any type of additional information that might make it easier to choose the items for their tackle box.
- 11 Ask students to set the **Tackling Your Tackle Box Price Lists** aside.

Part 4: Shopping Trip, Round Two

- 1 If you don't know what to look for, shopping for bait and tackle can be overwhelming. Stores are filled with many different types of tackle, in all shapes, sizes, and colors. Tell students that knowing a little bit about their target fish species can help their groups decide which items to purchase for their tackle box. Ask the students if they know why this is the case. How might they find out which equipment is appropriate to buy and to use to angle for their fish species? Some answers include asking someone who catches that type of fish, asking storeowners, looking on the Internet, looking in a book or fishing magazine, or watching a television fishing program.
- 2 Tell the students that you've collected some information on each fish species from a Minnesota DNR fish biologist. Give each group the appropriate **Fish Information Card**. Ask the groups to silently read their card and plan which items they might purchase using this new information.
- 3 Hand a second **Tackling Your Tackle Box Price List** to each group. Ask each group to repeat the shopping exercise with their new information in mind. (Reminder: They don't need to spend all of their money.)
- 4 After groups have decided on their purchases, again ask them to carry over the price for each item they bought, write down why they decided to purchase it, and total the amount spent on all of the tackle.
- 5 Ask the students how they knew what to buy during Round Two. Was it easier to decide this time? Why? Are they more confident that the items they chose will help them catch their target fish? Did they have enough money to purchase what they thought they needed? Did they spend all of their money? Why or why not? Compared to the first order from Round One, how much money did they have left?
- 6 Tell the students that you have information on the tackle recommended for catching each species. Hand the appropriate **Fish Tackle Card** to each group. Ask the students to compare what they bought in each of the two rounds with the items on their **Fish Tackle Card**.
- 7 Ask each group to present to the class what they bought and why they decided to buy the items they chose during the second shopping trip. Have students use visual aids in their presentations, such as drawings, PowerPoint presentations, pictures of tackle and their targeted fish. Was each item they purchased recommended on the **Fish Tackle Card**? Did they purchase more of the



recommended items on the **Fish Tackle Card** during their first or second shopping trip? Why? Did they spend more money on their first or second shopping trip? Why or why not? On which of the two shopping trips did they think they spent their money more wisely? Why?

- 8 Collect cards from the students.
- 9 Variation: If the students have already studied fish or completed lessons in **Chapter 2—Minnesota Fish**, and have previously studied the characteristics of different types of fish, they may not need to do the Round Two shopping trip. At the end of Round One, give them the **Fish Tackle Cards** to check their work. In this case, the lesson could assess students' ability to apply knowledge of fish characteristics to the selection of tackle for a particular fish species.

Wrap-up

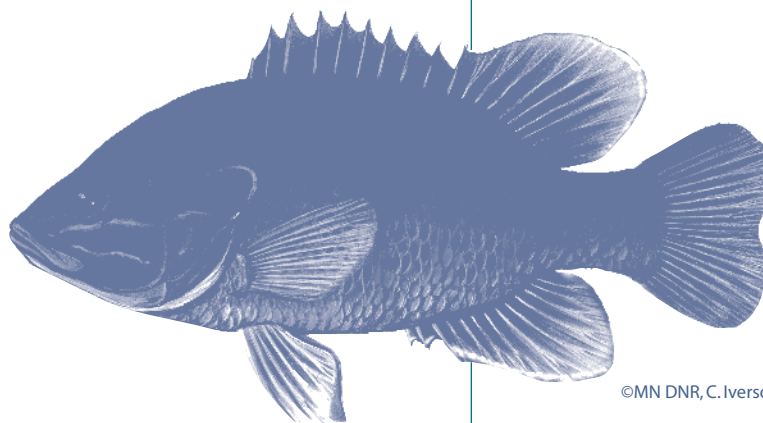
- 1 Ask the students what was important to learn about the fish in order to make good decisions about choosing tackle. The size of the fish determines the line size. Habitat and food preferences help determine which type of lure or bait to use. Mouth size helps determine the size of the lure or bait. A bluegill has a small mouth that measures less than one inch wide. Would it be able to swallow a large sucker minnow or be expected to bite on a seven-inch crankbait? (Often, beginning anglers try to catch small fish with oversized tackle.)
- 2 Did the students make different choices in how to spend their money in Round Two than in Round One? Why? Did they want to spend all of their money, or did they save some? How can knowing more about your target fish help you save money when you shop for tackle?
- 3 Ask the students if they were able to purchase everything on their list. Bait and tackle stores can contain an overwhelming amount of merchandise. It may be appealing to buy numerous items. Encourage new anglers to do research ahead of time so they don't buy things they don't need, and to try only a few new items at a time. Review that we may have many *wants*, but that it's important to know that what we want may differ from the items that are truly most useful. Ask students to think of another situation where it would be helpful to research a product before making a purchase.

As anglers become more familiar with using the tackle that they have, they gain more experience. They may have the opportunity to fish with others who are more experienced, or to read books and articles about fishing that will help them learn more about the different types of fish and fishing techniques. Then, they may just want to branch out and stock their tackle boxes with equipment and lures for those new kinds of fishing adventures!



Assessment Options

- 1 Use an observation checklist to assess whether students could identify various pieces of fishing equipment and their functions throughout the activities in the lesson. Design a Bingo game with pieces of equipment found in a tackle box. Create clues for the uses for each item, and read them in random order. Students place an X on the tackle box item on their Bingo card if it matches the use. Students with “bingos” win. Check the winners’ cards to have students determine if the correct tackle box items were chosen to match the uses read.
- 2 Place all of the completed **Tackling Your Tackle Box Price Lists** from Shopping Round Two at stations around the room. Provide each student group with **Tackling Tackle Checklists** for each of the other groups. Have students rotate from station to station to review whether or not the tackle box items chosen were appropriate for the type of fish the group was assigned. Evaluate the reviews and give verbal feedback to the class regarding the item choices.
- 3 Evaluate each group’s presentation after the second shopping trip. Presentations should include:
 - the name and function of the gear on the team card
 - the fish they plan to catch
 - the hook type to use for live bait and why it was chosen
 - the lure type for their fish and what the lure mimics
 - the fishing line best for this fish and why it was chosen
 - a statement to the effect that knowing the characteristics of their target fish helps them make better choices when buying tackle for a tackle box
 - two criteria for making good decisions about how to spend (or save) money
- 4 Assessment options include the Checklist and Rubric on the following pages.



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Checklists are tools for students and instructors. Checklists involve students in managing their own learning. They help students understand and set learning goals before the lesson begins, and help them monitor their progress during the lesson, ensuring that they meet learning goals and objectives by the end of the lesson. Students can also use checklists to discover areas that may need improvement. Checklists help instructors monitor each student's progress throughout the lesson, facilitating appropriate adjustment of instruction to ensure learning by the end of the lesson. The instructor may wish to have students add several of their own learning goals to the checklist to personalize it, and to accommodate varied learning needs and styles.

Grade

24-25 points = A

Excellent. Work is above expectations.

21-23 points = B

Good. Work meets expectations.

17-20 points = C

Work is generally good. Some areas are better developed than others.

13-16 points = D

Work does not meet expectations; it's not clear that student understands objectives.

0-12 points = F

Work is unacceptable.

Tackling Your Tackle Box Checklist

Possible Points	Points Earned	Points Earned	
	Student	Instructor	
2	_____	_____	Presentation includes name and function of the gear on the team's cards.
2	_____	_____	Presentation includes the type of fish they plan to catch.
2	_____	_____	Presentation includes the hook type to use for this fish.
2	_____	_____	Presentation includes a lure type and what the lure mimics.
2	_____	_____	Presentation includes proper fishing line for this fish and why it was chosen.
3	_____	_____	Student can explain three reasons why it's important to know characteristics of target fish when purchasing tackle.
2	_____	_____	Presentation utilized two types of supporting visual aids.
4	_____	_____	Student participates in the group presentation.
2	_____	_____	Voice is loud enough to hear. The length of presentation is equal to the time limit given.
4	_____	_____	Student identifies and understands the different types of tackle and gear found in a tackle box throughout the lesson and can identify how each is used on a fishing trip.
Total Points			
25	_____	_____	Score _____

Tackling Your Tackle Box Scoring Rubric

Second Shopping Trip Presentation Criteria	3 Excellent	2 Good	1 Fair	0 Unacceptable
Content	Presentation includes name and function of the items purchased on their team's shopping list, the type of fish they plan to catch, the hook type to use for this fish, a lure type and what the lure mimics, proper fishing line for this fish and why they chose it. Purchased items were compared to items on the recommended tackle cards. Understands importance of knowing characteristics of targeted fish when buying tackle. Two criteria for making decisions on how to spend money (a limited resource).	Presentation includes name and function of the items purchased on their team's shopping list, the type of fish they plan to catch. Purchased items were compared to items on the recommended tackle cards. Understands importance of knowing characteristics of targeted fish. Two criteria for making decisions on how to spend money (a limited resource).	Presentation includes name and function of at least half of the items purchased on their team's shopping list, the type of fish they plan to catch. Understands importance of knowing characteristics of targeted fish. One criterion for making decisions on how to spend money (a limited resource).	Presentation contains less than half of the required information.
Visuals	Information presented utilized visuals. At least two types of visual aids used. Visuals were easily read or seen from a distance.	Information presented utilized visuals. At least two types of visual aids used. Visuals weren't easily seen from a distance.	Information presented utilized visuals. One type of visual aid used. Visuals weren't easily seen from a distance.	No visuals used in presentation.
Participation and presentation style	All members of the group presented information. Voices were loud enough to hear. The talk was equal to the time limit given.	All members of the group presented information. Voices were loud enough to hear. The talk was shorter or longer than the time limit given.	All members of the group presented information. Some voices were too soft. The talk was shorter than the required time limit.	Only a few group members presented information. Voices were too soft to hear. The talk was shorter than the required time limit.

Score _____ (Calculate score by dividing total points by number of criteria.)

Diving Deeper

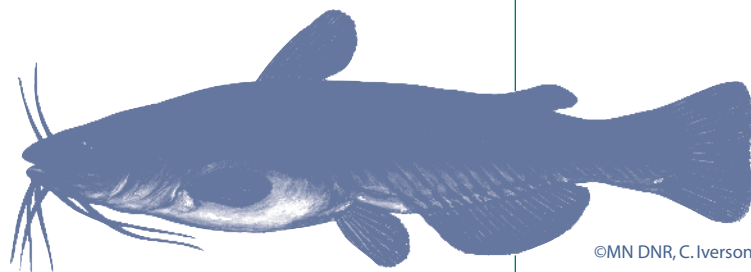
Extensions

- 1 Do **Lesson 5:5—Flashy Fish Catchers**.
- 2 Do **Lesson 6:3—Planning a Fishing Trip**.
- 3 Take the **Tackling Tackle Checklist** to a fishing tackle store and write down the prices for each item. Compare prices from more than one store.
- 4 Using resources in the library or the Internet, research the history of fishing tackle. Find pictures of unique fishing tackle. Discover how much or how little a certain type of tackle has changed over time. Bring fishing lure books from the library to class and show students the wide variety of lure types and antique lures. Point out the tiniest of trout flies to the biggest muskie lures. Investigate the history of lure making and the history of fishing gear.
- 5 Have students practice knot tying and rigging a line with hooks and lures.
- 6 Have students be fishing sportswriters who have just received an assignment from their editor to write an article entitled “Tackling Your Tackle Box” for their fishing magazine. Their assignment is to write an article telling anglers which items to include in their basic tackle box and why these items are important. Students could also write and illustrate magazine advertisements for the items to be included in a tackle box. Then have students read the article “Let’s Outfit a Tackle Box,” from the July–August 2006 *Minnesota Conservation Volunteer* magazine, which is available online at mndnr.gov.
- 7 Have students bring in a bobber, favorite lure, or interesting piece of tackle. Have each student tell a story about the item. Where did they get it? What kind of fish did they catch with it? Was it handed down from a grandparent? Have students classify the items. They might classify them according to the type of fish they could catch, materials, colors, sizes, or types of gear. Decorate a tree (or bare branches) with the items and display it in the classroom—or string the bobbers or tackle on a monofilament line to hang along a wall.
- 8 Your students may want to bring their own tackle boxes from home to show and discuss in class.
- 9 Sorting and categorizing lures and gear can be related to periodic table activities. Elements are arranged in a certain type of order in the periodic table, just as lures and fishing tackle are grouped and organized according to the target fish species and fishing conditions.

For the Small Fry

K-2 Option

- 1 Place several tackle boxes around the classroom, each filled with safe and sturdy fishing equipment including bobbers, lures without hooks (or cover the hook points with masking tape), fishing line, plastic worms, needlenosed pliers, fish ruler, sunscreen, band-aids, fishing license, fishing regulations book. Next to the tackle boxes, place simple fishing rods (or jiggle sticks) and stuffed fish or fish models. Divide students into groups of four or five and have the groups investigate the contents of the tackle boxes. Ask students to discuss the contents, and how each item might be used. Have students act out the steps of fishing—applying sunscreen, checking fishing regulations, choosing a lure for a target fish or to match fishing conditions, tying on a lure, putting on a bobber and sinker, deciding where to cast, and so forth.
- 2 Give each student (or pair of students) an abbreviated or illustrated checklist, a fishing equipment mail order catalog, scissors, and glue. Have them cut out pictures of equipment and paste them to a sheet of paper to make a poster showing the contents of their tackle box.



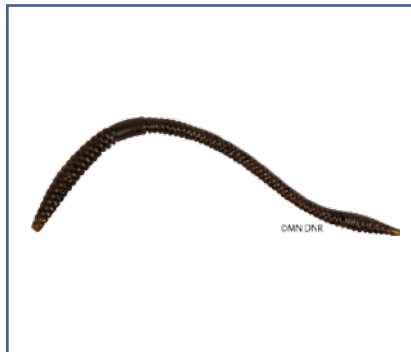
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Tackling Tackle Checklist

Packed	Item
X	Tackle box
X	Bobbers
X	Split shot sinkers
	Hooks in container (appropriate sizes for target fish)
X	Fingernail clipper
X	Needlenosed pliers
	Live bait (appropriate types for target fish, may carry separately)
	Fishing lures (appropriate types and sizes for target fish)
X	Swivels and leaders
	Extra fishing line (appropriate sizes for target fish)
X	Knot-tying card
X	Practice casting plug
X	Measuring tape or ruler
X	Fish stringer
X	Whistle
X	First aid kit
X	Personal gear (sunscreen, hat, sunglasses, rain gear)
X	Small plastic bag for trash
X	Fishing license—applies to anglers age 16 and older (also trout stamp if fishing for trout or salmon)
X	Fishing regulations booklet
X	Lake or stream map, or fishing pier map
X	Camera (optional)
X	Hook sharpener

Tackling Tackle Cards



Tackling Tackle Cards

Line

Jig

Crankbait

Hook

Plastic Worm

Surface Lure

Split Shot Sinker

**Spinners
Straight-line Spinner
and Spinnerbait**

Spoon

Bobber

Stringer

Tackling Tackle Cards

Comes in a variety of sizes or strengths. Use a lighter pound-test for smaller fish and a heavier pound-test for larger fish.

This heavy head on a hook may have a tail made of hair or soft plastic.

Has a lip that helps them dive. They imitate fish foods like minnows or crayfish.

Holds the fish to the line. Comes in different sizes. For best results, it should be sharp.

Pierce a plain hook into this soft plastic to catch a sunfish, walleye or—especially—a bass.

It floats on the surface of the water and imitates fish foods like frogs or insects.

Heavier than water, it helps the lure or bait drop underwater.

Named for the revolving blade attached to the lure.

One large metal blade wobbles through the water. One side is shiny and the other side is painted.

Suspends the bait or lure at a specific depth in the water.





Contains a fish while keeping it fresh.

STUDENT COPY

Names _____

Fish Species _____

Tackling Your Tackle Box Price List

Item	Price	Cost	Why did you choose this item?
Hooks 			
10 Hooks, Size 10	\$1.50		
10 Hooks, Size 8	\$1.50		
10 Hooks, Size 6	\$1.50		
10 Hooks, Size 2	\$1.50		
10 Hooks, Size 2	\$1.50		
10 Hooks, Size 1	\$1.50		
10 Hooks, Size 1/0	\$1.50		
Line 			
4-pound test line	\$5.00		
6-pound test line	\$5.00		
10-pound test line	\$6.00		
12-pound test line	\$6.00		
20-pound test line	\$7.00		
Jigs and Plastic Baits 			
Jighead, 1/16 oz	\$0.25		
Jighead, 3/8 oz	\$0.25		
Jighead, 1 oz	\$0.25		
			
Jigtail, 2 inches	\$0.20		
Jigtail, 3 inches	\$0.20		
Jigtail, 4 inches	\$0.20		
Total Cost, Page 1			






STUDENT COPY

Names _____

Fish Species _____

Tackling Your Tackle Box Price List

Page 2

Item	Price	Cost	Why did you choose this item?
Plastic Worm, 5 inches 	\$0.35		
Spinners 			
Straight-line Spinner, size 0	\$2.60		
Spinnerbait 			
Spinnerbait, 1/16 oz	\$2.00		
Spinnerbait, 3/8 oz	\$3.50		
Spinnerbait, 1 oz	\$5.50		
Diving Lures 			
Crankbait, 2 inches, shallow runner	\$2.50		
Crankbait, 3 inches, shallow runner	\$3.80		
Crankbait, 4 inches, shallow runner	\$4.80		
Crankbait, 3 inches, deep runner	\$3.80		
Crankbait, 4 inches, deep runner	\$4.80		
Crankbait, 5 inches, deep runner	\$6.00		
Crankbait, 7 inches, deep runner	\$7.00		
Surface Lures 			
Surface Lure, 2 ½ inches, 3/8 oz	\$3.50		
Surface Lure, 7 ½ inches, 2 ½ oz	\$5.50		
Total Cost, Page 2			



STUDENT COPY

Names _____

Fish Species _____

Tackling Your Tackle Box Price List

Page 3

Item	Price	Cost	Why did you choose this item?
Spoons 			
Spoon, 1 3/8 inches, 3/16 oz	\$2.30		
Spoon, 2 7/8 inches, 3/4 oz	\$4.80		
Spoon, 5 3/8 inches, 3 1/4 oz	\$5.80		
Live Bait 			
Wax worms or grubs (1 dozen)	\$1.50		
Worms (1 dozen)	\$2.50		
Nightcrawlers (1 dozen)	\$2.50		
Leeches (1 dozen)	\$2.80		
Crickets (1 dozen)	\$2.00		
Crayfish (5)	\$2.75		
Crappie minnows - small (1 scoop)	\$2.50		
Fathead minnows - medium (1 scoop)	\$2.50		
Sucker or shiner minnows - large	\$6.80		
Total Cost, Page 3			
Total Cost, Page 2			
Total Cost, Page 1			
Total Cost, All Pages			
Amount of change left over			

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Names _____

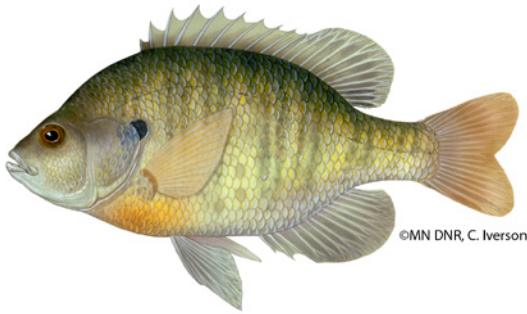
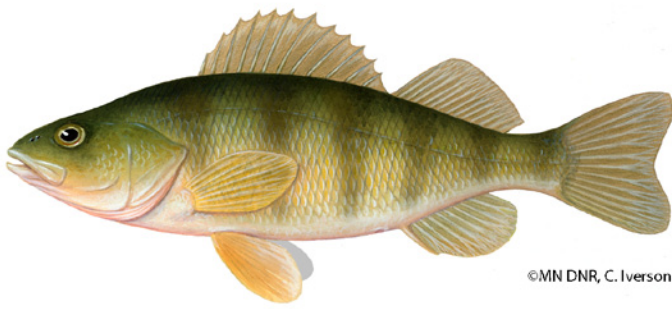
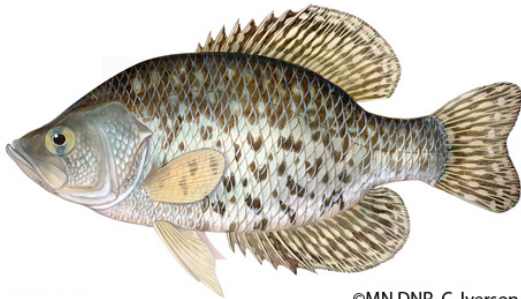
Fish Species _____

Tackling Your Tackle Box Price List

Page 4: Miscellaneous Tackle and Equipment

Item	Price	Cost	Why did you choose this item?
Tackle box (1 fold-out drawer)	\$5.99		
Bobbers (3-pack)	\$1.00		
Split shot sinkers (12 pack)	\$1.00		
Fingernail clipper	\$1.00		
Needlenosed pliers	\$5.00		
Swivels (4-pack)	\$1.25		
Leaders (3-pack)	\$1.45		
Knot-tying card	\$0.35		
Practice casting plug (2-pack)	\$1.25		
Measuring tape or ruler	\$12.00		
Fish stringer	\$1.50		
Whistle on lanyard	\$2.50		
First aid kit	\$5.00		
Sunglasses	\$15.00		
Hat	\$5.00		
Sunscreen	\$5.50		
Emergency rain poncho	\$1.50		
Fishing license	\$17.00		
Trout stamp	\$10.00		
Single-use camera, optional	\$5.00		
Minnow bucket and scoop	\$6.00		
Fillet knife	\$15.00		
Knife sharpener	\$2.00		
Hook sharpener	\$2.50		
PFD, vest type	\$25.00		
Hook covers (25-pack)	\$2.00		

Fish Information Cards

**Sunfish****Mouth size:** Small**Fish weight:** Light**Fish length:** Short**Primary habitat:** Shallow water**Food preferences:** Insects, worms, leeches, crickets, grasshoppers**Yellow Perch****Mouth size:** Small**Fish weight:** Light**Fish length:** Short**Primary habitat:** Shallow to mid-deep water**Food preferences:** Small fish, worms, leeches, crickets**Crappies****Mouth size:** Small to medium**Fish weight:** Light**Fish length:** Short**Primary habitat:** Shallow to mid-deep water**Food preferences:** Small fish, worms**Stream Trout****Mouth size:** Small to medium**Fish weight:** Light**Fish length:** Short to medium**Primary habitat:** Shallow to mid-deep streams**Food preferences:** Insects, small fish

Fish Information Cards



Bullheads

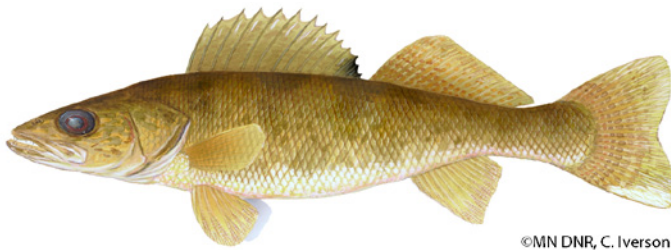
Mouth size: Small to medium

Fish weight: Light

Fish length: Short to medium

Primary habitat: Shallow to mid-deep water, likes bottom

Food preferences: Aquatic insects, worms, leeches, crayfish, snails, crickets



Walleye

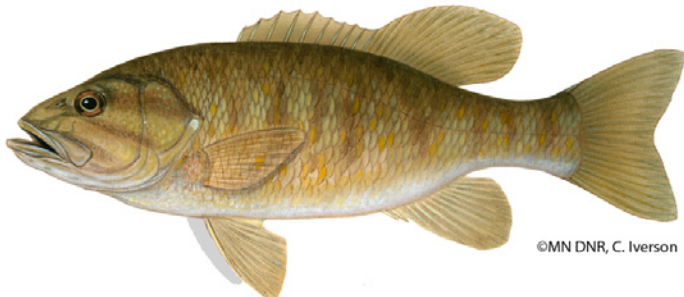
Mouth size: Medium to large, with teeth

Fish weight: Medium to heavy

Fish length: Medium to long

Primary habitat: Deep water

Food preferences: Medium to large fish



Smallmouth Bass

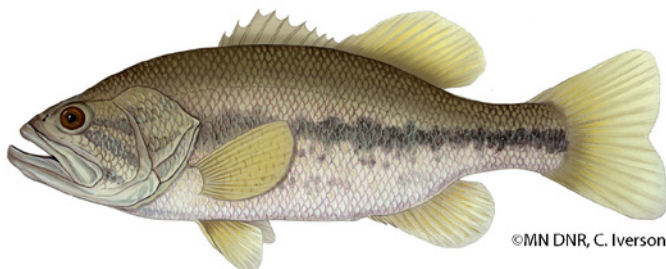
Mouth size: Medium

Fish weight: Medium

Fish length: Medium

Primary habitat: Medium to deep water

Food preferences: Medium fish, insects, crayfish



Largemouth Bass

Mouth size: Large

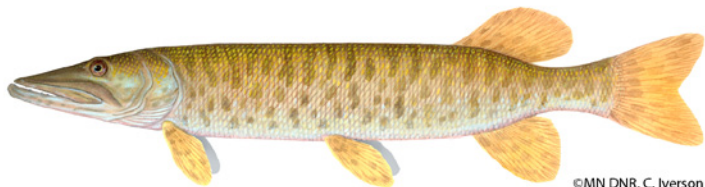
Fish weight: Medium to heavy

Fish length: Medium to long

Primary habitat: Shallow to medium water

Food preferences: Frogs, medium fish, crayfish

Fish Information Cards

**Catfish****Mouth size:** Large**Fish weight:** Heavy to very heavy**Fish length:** Long**Primary habitat:** Shallow to deep water, likes big rivers**Food preferences:** Frogs, crayfish, large fish, decaying matter**Northern Pike****Mouth size:** Large, with teeth**Fish weight:** Heavy to very heavy**Fish length:** Long**Primary habitat:** Shallow to deep water**Food preferences:** Large fish**Muskellunge****Mouth size:** Large, with teeth**Fish weight:** Heavy to very heavy**Fish length:** Long**Primary habitat:** Deep water**Food preferences:** Large fish

Fish Tackle Cards



Sunfish

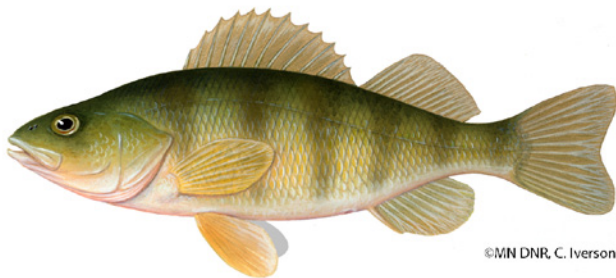
Hook size: 10

Line size: 4-pound test

Lures: Jig, spinnerbait

Lure sizes: 1/16 oz. jig with 2-inch tail,
1/16 oz. spinner bait

Live bait: Worms, wax worms, leeches,
crickets, grasshoppers



Yellow Perch

Hook size: 8

Line size: 4-pound test

Lures: Jig, spinnerbait

Lure sizes: 1/16 oz. jig with 2-inch tail,
1/16 oz. spinner bait

Live bait: Small minnows, worms, wax
worms, leeches, crickets



Crappies

Hook size: 6

Line size: 4-pound test

Lures: Jig, spinnerbait

Lure sizes: 1/16 oz. jig with 2-inch tail,
1/16 oz. spinner bait

Live bait: Small minnows, wax worms



Stream Trout

Hook size: 6

Line size: 4-pound test

Lures: Jig, straight-line spinner,
crankbait, spoon

Lure sizes: 1/16 oz. jig with 2-inch tail,
size 0 spinner, 2-inch shallow runner
crankbait, 3/16 oz. spoon

Live bait: Worms, hellgrammites

Fish Tackle Cards



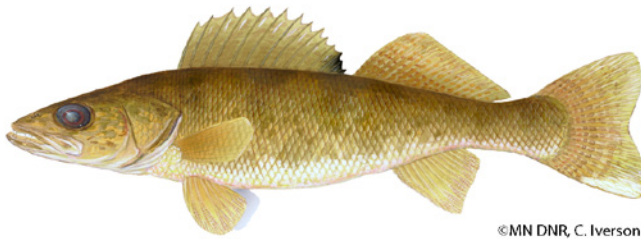
Bullheads

Hook size: 2

Line size: 4-pound test

Lures: Lures not usually used

Live bait: Worms, leeches, crayfish, snails, crickets



Walleye

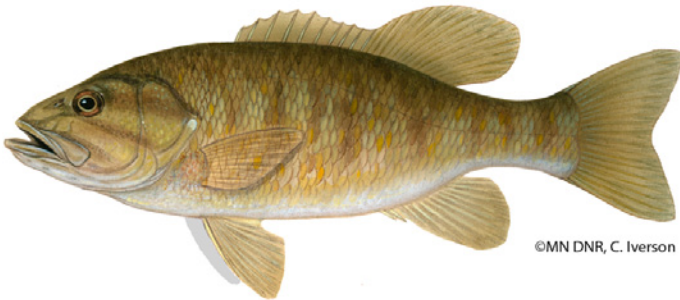
Hook size: 2

Line size: 6-pound test

Lures: Jig, Crankbait, spoon

Lure sizes: 3/8 oz. jig with 3-inch tail, 4-inch deep diver crankbait, 3/4 oz. spoon

Live bait: Nightcrawlers, leeches, 2- to 4-inch minnows



Smallmouth Bass

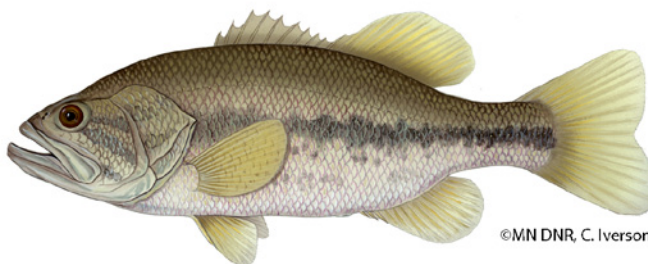
Hook size: 1

Line size: 6-pound test

Lures: Jig, plastic worm, spinnerbait, crankbait, surface lure

Lure sizes: 3/8 oz. jig with 3-inch tail, hook with 4-inch plastic tail, 3/8 oz. spinnerbait, 3-inch shallow or deep runner crankbait, 3/8 oz. surface lure

Live bait: Crayfish, 2- to 4-inch minnows, nightcrawlers, hellgrammites



Largemouth Bass

Hook size: 1/0

Line size: 10-pound test or higher

Lure sizes: 3/8 oz. jig with 3-inch tail, hook with 4-inch plastic tail, 3/8 oz. spinnerbait, 3-inch shallow or deep runner crankbait, 3/8 oz. surface lure

Live bait: Frogs, 3- to 6-inch minnows, crayfish, nightcrawlers

Fish Tackle Cards



Catfish

Hook size: 1/0

Line size: 10-pound test or higher

Lures: Lures not usually used

Live bait: Frogs, nightcrawlers, crayfish, live or dead minnows (small minnows for small catfish or 6 to 12-inch minnows for big catfish)



Northern Pike

Hook size: 1/0 or larger

Line size: 12-pound test or higher

Lures: Jig, spinnerbait, crankbait, surface lure, spoon

Lure sizes: 1 oz. jig with 4-inch tail, 1 oz. spinnerbait, 4- to 5-inch shallow or deep runner crankbait, 2 ½ oz. surface lure, ¾ oz. spoon

Live bait: 4- to 8-inch minnows



Muskellunge

Hook size: 1/0 or larger

Line size: 20-pound test or higher

Lures: Jig, spinnerbait, crankbait, surface lure, spoon

Lure sizes: 1 oz. jig with 4-inch tail, 1 oz. spinnerbait, 7-inch deep runner crankbait, 2 ½ oz. surface lure, 3 ¼ oz. spoon

Live bait: 6- to 12-inch minnows