

Let's

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By Roland Sigurdson Illustrations by Bill Reynolds Want to go fishing today? Here's how to put together a rig.

Huck finn and Tom Sawyer were two characters highlighted in Mark Twain's books about life along the Mississippi River in the mid-1800s. These kids spent their time roaming the riverbanks on many fishing adventures. In those days, most people didn't have much money to buy fancy equipment, but did that stop them? Heavens no! Fishing seemed simpler back then because people often made their fishing gear from things around the house or purchased at the general store. For as little as a dime, they could buy a hook, sinker, and spool of line to go fishing.

Today, anglers can buy a dazzling assortment of fishing gear made possible by modern technology: lightweight rods made of graphite, glow-in-the-dark lures, computerized fish finders, underwater cameras. But you don't have to go shopping for gear before you go fishing. In this story, you will learn how anyone can make simple tools to angle for fish in lakes and streams. You can become a modernday Huck Finn or Tom Sawyer.

Fishing LONG AGO

Between 10,000 and 12,000 years ago, people first arrived in present-day Minnesota. Archeologists have found that early American Indian fishing technology included bone and copper harpoons, bone fishing hooks, and stone net weights.

Dakota Indian tribes fished the many lakes, streams, and rivers around Lake Superior. What they hunted or gathered depended on the season, but they could angle, net, or spearfish year-round. Later, Ojibwe people fished the region around Lake Superior, or *Gitchi Gami* as they called it.

Ojibwe used birch-bark canoes and nets made from twisted and knotted strands of plants to catch lake trout, whitefish, and sturgeon. In winter they used hand-carved wooden decoys as bait and speared fish through holes chopped in the ice. Sometimes they made structures called *weirs* to catch fish. They piled rocks or pounded in wood stakes to form a V-shaped dam in a stream. The fish would congregate at the V, confused and unable to escape. The fishermen then used their hands, spears, or nets to capture the fish trapped in the weir.

Modern rods and reels are the product of experiments that began back in the 1600s. In 1653, British fisherman Izaak Walton described early fishing tackle in his classic fishing book, *The Compleat Angler*. Ever since then, people have been using new materials and technologies to improve rods, reels, and other fishing gear. Anglers love to invent new stuff that will make them more successful. Weirs were used long ago as a way to confine fish to a small part of a river. Then they could be speared, netted, or grabbed by hand. Today, weirs are sometimes used by fisheries biologists to capture fish for study or for collecting eggs for fish hatcheries.



)ad's FISHING DAYS

When my 72-year-old dad and his brothers were young, they used old spark plugs as sinkers to fish for bullheads. Dad said kids would turn bottle corks into bobbers by cutting a groove down the side and sliding fishing line inside. They'd make a fishing pole by cutting a young branch (called a *sapling*) from a willow or dogwood shrub. The thin, fresh branches had some bounce, so they were less likely to break if you hooked into a "monster from the deep."

During rest breaks in our swimming lessons back in the 1970s, my buddies and I tried catching some of the bluegills and pumpkinseed sunfish that nibbled our legs. To make a rig, I wound some fishing line around my comb. Then I attached a hook, sinker, and bobber. We baited our hooks with bits of bacon brought in a lunch bag. That rig sure did the trick. We caught and released hundreds of sunfish.

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MAKE YOUR OWN Lishing Ple

Here are some instructions for making an inexpensive fishing pole of your own.

• Start with a green sapling (a young, live branch from a leafy tree) that is 3/4 inch diameter at the base and 4 to 5 feet long. First, get permission to cut the sapling. Then, have an adult assist you in using pruning shears or a saw to remove the sapling.

Or you can buy a piece of bamboo. I've bought 5 feet of bamboo for less than \$2 from a garden store.

The length of your pole will determine how far from shore you can place your bait, so try longer poles as you gain experience. Fallen logs and aquatic vegetation near shore are places that fish often hide out.

Z. Next gather materials: fishing line, hooks, bobbers, and sinkers. Either buy these from a sporting goods store, or ask a relative or friend to help you find them. Trading fishing tackle for your services, such as raking leaves or taking out the trash, is a great way to say "Thank you."

Fishing line. Cotton, Dacron, or monofilament will work fine. I've even used kite string or dental floss. Cut a piece about 2 feet longer than your pole.





Hooks. Use a size 6 or 8 because they work for a wide variety of fish. Circle hooks allow you to catch fish without setting the hook.



Bobbers. A simple float will show you when a fish strikes. Find a small cork, such as one used in a wine bottle. Wrap a rubber band tightly around the cork and slip your line under the rubber band. Or buy a classic red-and-white plastic bobber at a store.

Sinkers. A sinker, also called a *weight*, brings bait down to where the fish live. Buy split-shot sinkers at a bait-and-tackle shop. The DNR suggests lead-free sinkers because lead can be poisonous to people and wildlife. Or try metal washers or nuts from your home toolbox.

3. Attach the line to the skinny end of the pole by wrapping it a couple times and finishing with a couple of half-hitch knots. Hint: You tie your shoe with a half-hitch knot.

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• Tie the hook on the free end of the line, using an improved clinch knot. Unless you are using a circle hook, it is a good idea to squeeze down the barb on the hook with a pair of pliers to make it easier to get the hook out of the fish's mouth. Attach the bobber about 2 feet above the hook. Place the sinker between the hook and bobber. Now you're ready to fish!



How to tie an improved clinch knot:

- **1**. Thread one end of the line through the eye of the hook.
- 2. Wrap the line around itself five times to make five twists. Fishing tackle manufacturers have found that five wraps of the line work best. With fewer than five wraps, fish might pull out the knot. With more than five wraps, the line may break.
- **3.** Take the tag (loose) end of the line and put it through the first twist, near the hook.
- **4**. Notice the new loop you have made. Take the same tag end and pass it through the new loop. (This is the "improved" part of the knot that prevents it from slipping.)
- 5. Drop this end.
- 6. Slide the whole knot down to the hook.
- 7. Gently tug on the end you previously dropped.
- **8.** Neaten the knot. It's important to make sure the knot is "neat," or that the coils are tightly lined up. If there are loose wraps, or wraps on both sides of the eye, the knot may snag and break.
- 9. Voila! There should be neatly stacked coils lined up next to the eye.

MAKE A Pop-an Rig

Another do-it-yourself fishing tool is called a Pop-Can Caster. This soda-pop-can rig will work best for crappies, sunfish, and perch. Gather these supplies:

- Clean, empty pop can with the tab still attached (It must be clean: sugary pop attracts bees!)
- 6- to 8-pound-test fishing line (You need enough for about 50 wraps round the pop can.)
- Fingernail clipper or scissors to cut the line
- Masking tape
- Hook (size 6 or 8)
- Split-shot sinkers
- Bobber.

Build Your Pop-Can Rig

- 1. Tie one end of the line to the tab on the can.
- 2. Securely tape the knot and fishing line near the top of the pop can.
- 3. Wrap the line around the can 50 times and leave 2 feet hanging free.
- 4. Attach the bobber about 2 feet from the free end.
- 5. Attach the split-shot sinker about 1 foot from the end.
- 6. Tie on the hook using the improved clinch knot.

Cast Your Line

- 1. Unwind about two feet of line.
- 2. Hold the top end of the pop can in one hand and the bobber in your other hand. Remember to keep your hand off the line wrapped around the can as you cast.
- 3. Point the bottom of the can at the spot where you want the bobber to fall.
- 4. Toss the bobber underhanded toward the water.
- 5. The rest of the line should unwind and follow.

Reel in Your Fish

If your bobber goes underwater (you've got a bite), give the line a quick jerk to set the hook in the fish's mouth. Then wind the line around the can, keeping it tight until you can grab the fish.

hoose your bait

Worms, grasshoppers, grubs, leeches, and minnows all make great bait for almost every species in Minnesota. The best bait for any fish is one that fits in its mouth. A huge night crawler won't fit in a bluegill's small mouth. A northern pike probably won't go for a grasshopper but would bite on a big minnow.

Dig for Worms

You can find earthworms and night crawlers throughout most of our state. Look for worms under logs, rocks, and old boards. If you have a compost pile, dig there. At night after a rain, you can pick worms off your driveway, sidewalk, or lawn.

Keep worms in a container with holes in the lid. Add loose soil and dry, crumbled leaves from your yard. Store your container in a cool place, such

as your basement or refrigerator, and the worms will survive for weeks. Getting your worm on the hook can be tricky. My dad showed me that if you slap a worm between your slightly cupped hands, it stops wiggling for a few moments so you can get it onto the hook.

Catch a Hopper

To catch grasshoppers in late summer or fall, sweep a bug net through tall grass. Or try picking them off the grass early in the day before they warm up in the sun and start hopping. Or walk through tall grass with an old bed sheet stretched between you and a friend. The 'hoppers will jump onto the sheet where you can easily collect them.

Keep 'hoppers in a dry container with holes in the lid and a few blades of grass for food. To hook one, run the hook under the hard case behind its head.

Capture Crickets

Crickets can be great bait for sunfish! Look for crickets in shady places, such as under logs and next to a basement wall on the shady side of your house. Bread attracts crickets, so try leaving a slice outside in a shady spot and checking it each day. Keep crickets in a cool place in a container with holes in the lid and a piece of bread for food. Hook a cricket under the hard case behind its head.

Try Some Leftovers

Fish use all of their senses to find food. Try attracting them with some things from your home, such as bacon, marshmallows, balls of white bread, cheese, or salami bits. If it will stay on a hook, it might be good fish bait.

Patrol Your Bait

Earthworms aren't native to Minnesota, and worms and other bait can be harmful to native plant and animal communities. It's illegal to discard unused bait into a lake or on the ground. Save extra bait for another day or put it in the trash.

Jishing spors

Catching fish on homemade rigs and hand-collected bait adds to the fun of fishing. So does going with a buddy. Invite your family or friends to head out to one of Minnesota's thousands of great fishing spots. To get started, you might want to fish from a public fishing pier, found on many lakes across the state. Bluegills, crappies, perch, and bullheads often gather under piers because the overhead cover hides them from predators. Largemouth bass and pike also cruise there to prey on the smaller fish. Visit www.mndnr.gov/ lakefind to find a lake near your home with a pier or to learn more about the fish populations in your local lakes.

How to Be a Safe and Respectful Angler

- 1. Respectful anglers fish quietly, so they don't frighten fish or bother people. They don't crowd other people out of a fishing spot.
- 2. Respectful anglers cast carefully, so they don't injure themselves or others. They pick up all fish hooks, so no one steps on them. They pick up all fishing lines, so animals don't get tangled in them.
- 3. Respectful anglers know the size and number of fish that they may legally keep. They know these legal limits provide more chances for more people to catch fish.
- 4. Respectful anglers land fish carefully and release fish back into the water right away if they don't plan to eat them.
- 5. Safe anglers clean their lines and equipment before they leave a fishing spot, so they won't move invasive species or diseases from place to place.
- 6. Safe anglers fish with a buddy and always tell a grownup where they're going, when they're leaving, and how long they expect to be gone.

Get Kids Hooked on Fishing

Are you a youth leader or educator? Get involved and take a kid fishing! Find ideas and events at www.mndnr.gov/takeakidfishing.

Do you want to use fishing as a context for teaching about Minnesota's natural resources? Training is available. Check out www.mndnr.gov/ minnaqua to learn more.

A NOTE TO TEACHERS

Find links to teachers guides to this and other stories online at www.mndnr.gov/ young_naturalists.

 www.mndnr.gov/magazine Watch a lesson in making a pop-can rig.

