

Pop Can Casting



Summary:

Students make fishing rigs out of pop cans and practice casting at targets.

Objectives:

Students will...

- learn to tie a clinch knot
- make a fishing rig from a pop can
- demonstrate how to accurately cast a line

Materials:

- copies of *Tying a Clinch Knot* and *Making a Pop Can Caster*, one per student
- four to seven hula-hoops
- quarter-inch thick rope or cord cut in two-foot lengths – five pieces per hula-hoop
- one clean pop can for each student
- six-pound test monofilament line – enough for each student to wrap pop can 50 times
- masking tape
- nail clippers
- one casting plug or heavy sinker per student
- if actually fishing with pop can caster:
 - #6 or #8 hooks
 - bobbers
 - split shot sinkers
 - needle-nosed pliers
 - bait

Grade Level

2-12

Subject Areas

Language Arts, Physical Education

Time

Part One – Knot Tying: 15 - 20 minutes

Part Two – Making Pop Can Casters: 15 - 20 minutes

Part Three – Practice Casting: 25 minutes

Vocabulary

casting plug, clinch knot, fishing line

Background

Traditionally, native peoples have fished for subsistence. Fishing was a way to feed families. The survival of many ancient civilizations depended on fishing skills. Sport fishing, or fishing for recreation and enjoyment, began in medieval times.

Many techniques for harvesting fish have been developed over the centuries. Techniques include: catching fish with bare hands, hooks and lines, spears, nets, and traps. In many parts of the world, people still catch fish by hand with a hook and line. The rod and reel assembly used by most modern anglers was first documented in the fifteenth century.

Today people can purchase many different fishing rods and types of gear, but expensive high-tech gear is not necessary to catch a fish or enjoy fishing. People have long used everyday materials to make fishing gear. In this lesson, students will learn to tie a basic clinch knot, make a casting rig out of a pop can and practice casting.

Procedure

Part One – Tying a Clinch Knot:

1. Ask students to think about native peoples, early explorers and settlers in Idaho. Were fish an important source of food for these early residents of our state? Discuss the different methods these people may have used to catch fish. What materials did they use and where did they find their materials?
2. Where do we get materials for fishing gear today? Do we need expensive equipment to catch fish? Tell students that if they know how to rig a line, they can use everyday materials to catch fish.
3. The first step is to learn how to tie a good knot. Without a sturdy knot, you may lose your fish. Pass out the instruction sheet for tying a clinch knot. Using a hula-hoop and piece of rope, demonstrate how to tie the clinch knot. The hula-hoop represents the eye of the fishing plug or hook; the rope represents the fishing line.

4. Untie the knot and have the students talk you through the steps and tie the knot.
5. Divide the class into groups of four to five students. Give each group a hula-hoop and each student a piece of rope. Ask the students to practice tying the knot onto the hula-hoop. The students can sit around the hula-hoop and talk each other through the steps. Assist students as needed and encourage those who tie the knot successfully to help others.
6. Once everyone has mastered the knot, gather up the hula-hoops and pieces of rope.

Part Two – Making Pop Can Casters:

1. Set up empty pop cans, masking tape, fishing line, clippers and casting plugs on tables around the room.
2. Hand out instructions for making a pop can caster. Demonstrate how to make a pop can caster to the class.
3. Have students follow the steps on the sheet and assist where needed.

Part Three – Practice Casting :

1. Set up a casting area outside or in the gym. Draw or use a line on the ground for students to stand while casting. Place hula-hoops about 10 to 20 feet away from the casting line to use as targets.
2. Demonstrate how to cast the fishing line with the pop can caster.
 - a. Unwind the line from the can about four feet.
 - b. Hold the top end of the pop can in one hand and the fishing plug in the other hand. Remember not to cover the line wrapped on the pop can with your hand or fingers as you cast.
 - c. Point the bottom end of the pop can at the center of a hula-hoop.
 - d. Toss the fishing plug underhand toward the hula-hoop.
 - e. The rest of the line should unwind and follow.
 - f. To reel in the line, just wrap it around the can, keeping the line tight. Secure the line with a piece of tape when not in use.
 - g. After all the students have practiced casting, bring the students back together and discuss how things went. Did they find a technique that worked best? Remind students that they don't need expensive equipment to go fishing. Once

they know how to tie a clinch knot, they can attach a hook, sinker and bobber to their pop can caster and go fishing at their local ponds.

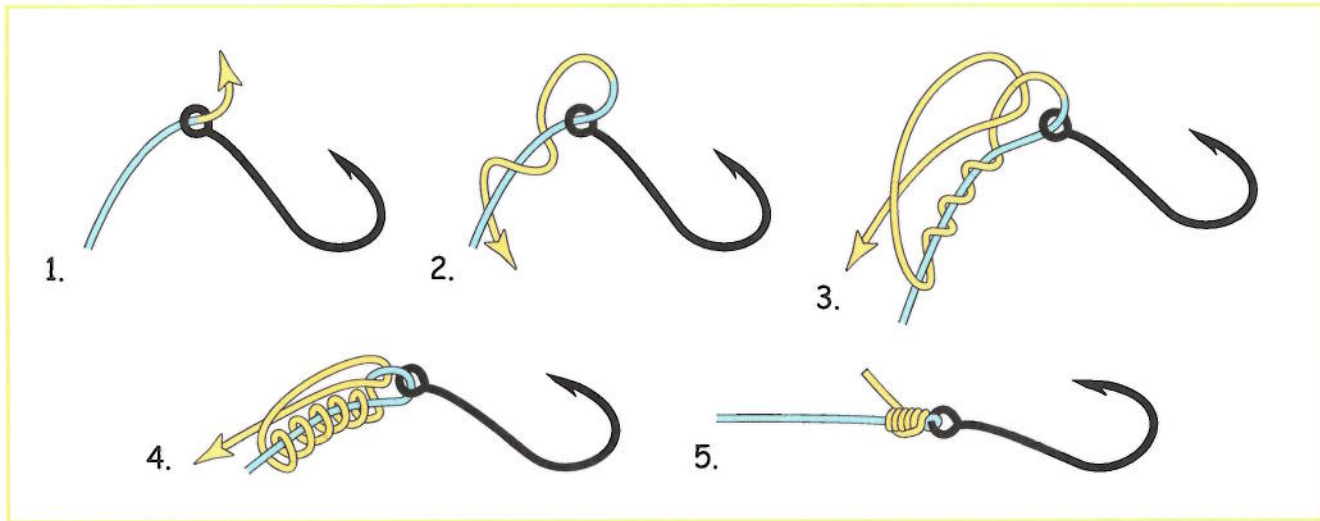
3. If taking the class fishing, this set up will work well for a pond.
 - a. Remove the fishing plug with clippers.
 - b. Have the students pull a two-foot length of line from the pop can.
 - c. Tie a hook onto the end on the line using a clinch knot. It is helpful to tape the hook to the top of a table or desk with the eye exposed over the edge. The sharp hook is safely secured, and the students then have both hands free for tying the knot.
 - d. Using needle-nosed pliers, attach a split shot sinker about six inches above the hook.
 - e. Attach a bobber about eight to ten inches above the sinker.
 - f. To cast this set up, use the same method as the plug, but pinch the top of the hook with the thumb and pointer finger and hold the bobber on the palm of the hand. Toss bobber and hook underhand the same way as the fishing plug.
 - g. This pop can rig works best when fishing for crappie, bluegill or perch.

Evaluation

1. Have each student demonstrate how to tie a clinch knot and cast for accuracy using their pop can casters.
2. Ask students to write step-by-step instructions for tying a clinch knot and describe why this type of knot is popular with anglers.
3. Have students write a paragraph or two on their experiences casting and fishing with their pop can casters.

Tying a Clinch Knot

The clinch knot is one of the most popular fishing knots. When properly tied, it is very strong and will not slip. You can use this knot to attach fishing plugs, hooks and lures to your fishing line.



1. Thread the line through the eye on the fishing plug or hook.
2. Wrap the line around itself five times to make five twists. With fewer than five wraps, fish might pull out the knot. With more than five wraps, the line may break.
3. Take the loose end of the line and put it through the loop made by the first wrap near the fishing plug or hook.
4. Notice the new loop you have made? Pass the line through the new loop.
5. Pull gently on the line and slide the whole knot down to the fishing plug or hook. It helps to wet the line to make it slide easier and make a tight knot. Make sure that the coils are tightly lined up. If there are loose wraps, or wraps on each side of the eye, the knot may snag and break. There should be neatly stacked coils lined up next to the eye. Using clippers, cut off the loose end close to the knot.

Making a Pop Can Caster



You don't need expensive equipment to fish. Once you know how to tie a clinch knot, you can make your own pole and reel from an empty, clean pop can! With a fishing plug, you have a great rig for practicing casting. Add a hook, sinker and bobber to your pop can caster, and you can catch fish in a pond!

What You Need:

- One empty, clean pop can (Make sure the can is clean. You don't want to attract bees!)
- Masking tape
- 6 pound test fishing line (enough for 50 wraps)
- Fingernail clippers
- Fishing plug

To Build Your Pop Can Caster to Practice Casting:

1. Tie the fishing line to the tab on the pop can.
2. Securely tape the fishing line near the top of the pop can.
3. Wrap the fishing line around the can 50 times. Tape the line down, leaving about 2 feet of line loose from the can.
4. Attach a fishing plug to the line using a clinch knot.

To Cast Your Pop Can Caster:

1. Unwind about four feet of line from the can.
2. Hold the top end of the pop can in one hand and the fishing plug in the other hand. Remember not to cover the line wrapped on the pop can with your hand or fingers as you cast.
3. Point the bottom end of the pop can where you want your line to go and toss the fishing plug underhanded. The rest of the line should unwind and follow.
4. To reel in the line, just wrap it around the can, keeping the line tight. Secure the line with a piece of tape when not in use.

To Go Fishing:

1. Cut the plug off of the line with clippers.
2. Tie a hook to the end of the line using a clinch knot. It is helpful to tape the hook to the top of a table or desk with the eye exposed over the edge. This way the sharp hook is secure, and you have both hands free for tying the knot.
3. Using needle-nosed pliers, attach a split shot sinker about 6 inches above the hook.
4. Attach a bobber about 8 to 10 inches above the sinker.
5. To cast, use the same method as the plug, but pinch the top of the hook with the thumb and pointer finger and hold the bobber on the palm of the hand. Carefully toss bobber and hook together underhanded.

Tackling Your Tackle Box

Summary

Students go “shopping” for fishing tackle for a particular species of fish. Without any information on their species, students choose tackle from a price list, figure their total spent and change from \$20. After receiving information about their species, students then go “shopping” for tackle again. Shopping lists are compared to see if knowledge about the species helped them make better shopping choices.

Objectives

Students will:

- select tackle appropriate for catching a particular type of fish
- describe how knowledge of fish characteristics leads to economical and effective choices of tackle box items
- use addition, subtraction and multiplication while working with decimals (money)
- work cooperatively in small groups

Materials

- tackle box full of various items (hooks, lines, bobbers, split shot sinkers, bait, jigs, etc.)
- *Tackling Your Tackle Box Price List*, two for each group of three or four students
- *Fish Information Cards*, one card for each group of students
- *Tackle Information Cards*, one card for each group of students to go with the appropriate fish card

Background

Anglers have a huge assortment of tackle options available at sporting goods stores. There are as many choices in tackle as there are types and sizes of fish. Making smart purchases can save an angler money and frustration when out enjoying a day fishing. It is helpful to learn a few things about the fish that you are hoping to catch – mouth size, food preferences, where it may be located in its habitat, and its typical size. Knowing these things will help in selecting the proper gear. No one item can guarantee that you will catch a fish, but proper gear can make a fishing trip more pleasant and successful. Here is some information on the tackle students will “shop” for in this activity.

Hooks: Hooks come in a variety of sizes and styles. Hooks need to be large enough to hold the bait, but small enough to fit in the fish’s mouth. Hook size 10, 8 and 6 work well for smaller-mouthed fish, such as

Grade Level

4-12

Subject Areas

Math, Science

Time

40-50 minutes

Vocabulary

bait, crankbait, fishing line, hook, jig, lure, spinner, spinnerbait, tackle

bluegill and trout. Larger hooks such as 2, 1, and 1/0, are required for larger fish such as walleye, northern pike and largemouth bass.

Fishing line: 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 bluegill, trout and perch. The line won’t break unless there is four pounds or more of pull on the line. Fishing for northern pike calls for 12-pound test or higher. The line is stronger and more durable than lower test line that could break if tugged by larger fish.

Artificial Lures: Selecting fishing lures can be overwhelming with many different types. Each lure style comes in a dazzling variety of shapes, sizes and colors. Some of the more popular lures are listed below.

- **Jigs and jig heads** have a weighed head 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 are lifted and lowered near the bottom. Feather jigs are used to catch smaller fish, like panfish. Twistertail jigs are used to catch all species.
- **Plastic worms** are commonly used to catch bass but other fish will also bite them. They are made of soft plastic and come in many shapes and sizes. Some contain scents attractive to fish. They don’t have hooks, so they are threaded onto a basic hook or another lure attached to a 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 are attracted to the flash and vibration of the revolving blades. 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 and 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 predatory fish that swim in deeper areas, such as northern pike, walleye and bass.
- **Surface lures** float on the surface of the water. They resemble insects or frogs and can be used for all species, especially sunfish, bass and northern pike. Some, called poppers, have flat or scooped-out fronts that splash as they are jerked across the water.
- **Live bait** can be worms purchased at the store or grasshoppers caught along the edge of a stream. Some live bait listed in this activity may be illegal or have restrictions in Idaho. Please check regulations before using live baits.

Procedure

1. Ask students what they think they would need if they wanted to go fishing. Brainstorm a list of items with your students. Write the list on the board. The list might include worms, fish eggs, fishing line, fishing rod, hooks, fishing lures, fish stringer, tackle box, etc.
2. Show the students a tackle box full of items. Display and describe what some of the items are called and their uses. A helpful hint—the larger the number size of a fish hook, the smaller the hook size. A size 1 hook is actually much larger than a size 10 hook.
3. Divide students into groups of three or four. Tell the students that they will be “shopping” for items to fill a tackle box. In particular, they will be shopping for hooks, line, live bait and fishing lures.
4. Give each group of students a *Tackling Your Tackle Box Price List* sheet. Tell the students that they have \$20.00 to spend on their tackle items. Each group needs to decide which items on the list to purchase to help them catch their target fish.
5. Assign each group a fish (bluegill, yellow perch, black crappie, rainbow trout, bullhead, walleye, smallmouth bass, largemouth bass, catfish, or northern pike). Have the students write down the fish species on the *Tackling Your Tackle Box Price List* sheet.
6. Have the students 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. They need to write the reason for the purchase in the space provided.
7. Remind students to add up the total cost of their purchases from each page and figure the change left over from their \$20.00.
8. Ask a spokesperson from each group to present what they purchased, what it cost and how much money they had left over. How did the group decide on which items to purchase? How were they sure of their decisions? Have the students set aside the worksheets to refer to them later.
9. Ask the students what fish species they were targeting for their fishing trip. Would knowing some information about their fish have been helpful in purchasing the correct tackle items? Hand out the appropriate *Fish Information Card* to each group of students. Have them read the information within their group.
10. Hand out a second *Tackling Your Tackle Box Price List* to each group. Have the students repeat the shopping exercise with the information on their fish species in mind, again with \$20.00 to spend.
11. Have each group compare the second price list to their first price list. How do the shopping lists differ? Was it easier to decide what to buy with information on the fish species?
12. Tell the students that you have information on the tackle recommended for catching each species. Hand out the appropriate *Tackle Information Card* to each group.
13. Ask the students to compare what they purchased with the items on the *Fish Tackle Card*. How did they do? Did they spend their money more wisely on the first shopping trip or the second shopping trip? Have each group report to the class about their experiences.

Evaluation

1. Evaluate each group’s presentation after the second shopping trip. Presentations should include:
 - Name of fish species they were buying tackle for
 - Differences in what was purchased after receiving more information about their species
 - List any items purchased and money spent on tackle not suited to their species
2. Collect price list forms and check for correct computations.







Adapted from: MinnAqua, Minnesota DNR © 2010






Names: _____

Fish Species: _____

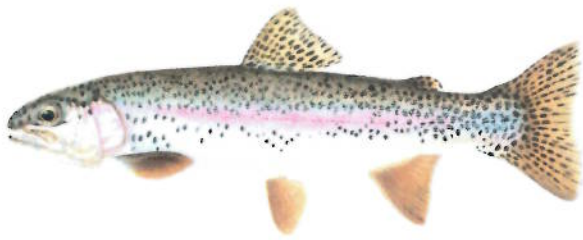
Tackling Your Tackle Box Price List

Item	Price	Number	Total 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 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 				
Jig Head, 1/16 oz.	\$0.25			
Jig Head, 3/8 oz.	\$0.25			
Jig Head, 1 oz.	\$0.25			
				
Jig Tail, 2 inches	\$0.20			
Jig Tail, 3 inches	\$0.20			
Jig Tail, 4 inches	\$0.20			
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			
Total Cost Page 1				

Item	Price	Number	Total Cost	Why did you choose this item?
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 1/2 inches, 3/8 oz.	\$3.50			
Surface Lure, 7 1/2 inches, 2 1/2 oz.	\$5.50			
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			
Cricket, 1 dozen	\$2.80			
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 2				
Total Cost Page 2				
+ Total Cost Page 1				
= Total Cost Both Pages				
Amount of Change Left Over from \$20.00				

Fish Information Card

Rainbow 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 Card

Black Crappie



Mouth Size: Small to medium

Fish Weight: Light

Fish Length: Short

Primary Habitat: Shallow to mid-deep streams

Food Preferences: Small fish, worms

Fish Information Card

Yellow Perch



Mouth Size: Small

Fish Weight: Light

Fish Length: Short

Primary Habitat: Shallow to mid-deep streams, lakes

Food Preferences: Small fish, worms, leeches, insects

Fish Information Card

Bluegill



Mouth Size: Small

Fish Weight: Light

Fish Length: Short

Primary Habitat: Shallow water

Food Preferences: Insects, worms, leeches

Fish Information Card

Bullhead



Mouth Size: Small to medium

Fish Weight: Light

Fish Length: Short to medium

Primary Habitat: Shallow to mid-deep water, likes bottoms

Food Preferences: Insects, worms, leeches, crayfish, snails

Fish Information Card

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

Fish Information Card

Smallmouth Bass



Mouth Size: Medium

Fish Weight: Medium

Fish Length: Medium

Primary Habitat: Medium to deep water

Food Preferences: Medium fish, insects, crayfish

Fish Information Card

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 Card

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

Fish Information Card

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

Tackle Information Card

Walleye



Hook Size: 2

Line Size: 6-pound test

Lures: Jig, crankbait, spoon

Lure Size: $\frac{3}{8}$ oz. jig with 3-inch tail, 4-inch deep diver crankbait, $\frac{3}{4}$ oz. spoon

Live Bait: Nightcrawlers, leeches, 2-4 inch minnows

Tackle Information Card

Northern Pike



Hook Size: 1/0 or larger

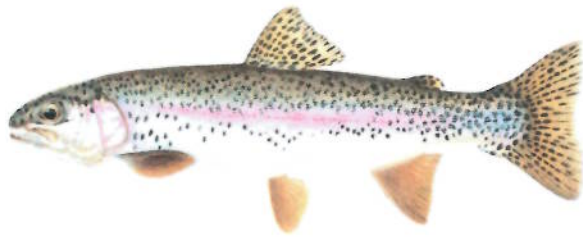
Line Size: 12-pound test or higher

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

Lure Size: 1 oz. jig with 4-inch tail, 1 oz. spinnerbait, 7-inch deep runner crankbait, $2\frac{1}{2}$ oz. surface lure, $3\frac{1}{4}$ oz. spoon

Live Bait: 6-12 inch minnows

Tackle Information Card Rainbow Trout



Hook Size: 6

Line Size: 4-pound test

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

Lure Size: $\frac{1}{16}$ oz. jig with 2-inch tail, size 0 spinner, 2-inch shallow runner crankbait, $\frac{3}{16}$ oz. spoon

Live Bait: Worms, hellgrammites

Tackle Information Card Black Crappie



Hook Size: 6

Line Size: 4-pound test

Lures: Jig, spinnerbait

Lure Size: $\frac{1}{16}$ oz. jig with 2-inch tail, $\frac{1}{16}$ oz. spinnerbait

Live Bait: Small minnows, wax worms

Tackle Information Card Yellow Perch



Hook Size: 8

Line Size: 4-pound test

Lures: Jig, spinnerbait

Lure Size: $\frac{1}{16}$ oz. jig with 2-inch tail, $\frac{1}{16}$ oz. spinnerbait

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

Tackle Information Card Bluegill



Hook Size: 10

Line Size: 4-pound test

Lures: Jig, spinnerbait

Lure Size: $\frac{1}{16}$ oz. jig with 2-inch tail, $\frac{1}{16}$ oz. spinnerbait

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

Tackle Information Card Bullhead



Hook Size: 2

Line Size: 4-pound test

Lures: Not usually used

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

Tackle Information Card Catfish



Hook Size: 1/0

Line Size: 10-pound test or higher

Lures: Not usually used

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

Tackle Information Card Smallmouth Bass



Hook Size: 1

Line Size: 6-pound test

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

Lure Size: $\frac{3}{8}$ oz. jig with 3-inch tail, hook with 4-inch plastic tail, $\frac{3}{8}$ oz. spinnerbait, 3-inch shallow or deep runner crankbait, $\frac{3}{8}$ oz. surface lure

Live Bait: Crayfish, 2-4-inch minnows, nightcrawlers, hellgrammites

Tackle Information Card Largemouth Bass



Hook Size: 1/0

Line Size: 10-pound test or higher

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

Lure Size: $\frac{3}{8}$ oz. jig with 3-inch tail, hook with 4-inch plastic tail, $\frac{3}{8}$ oz. spinnerbait, 3-inch shallow or deep runner crankbait, $\frac{3}{8}$ oz. surface lure

Live Bait: Frogs, 3-6-inch minnows, crayfish, nightcrawlers

Fishing T-Shirt

Subjects: Art & Language Arts

Objectives:

Art: Gain a basic understanding of design concepts.

Language Arts: Write in a variety of formats to record, generate and reflect upon ideas.

Materials:

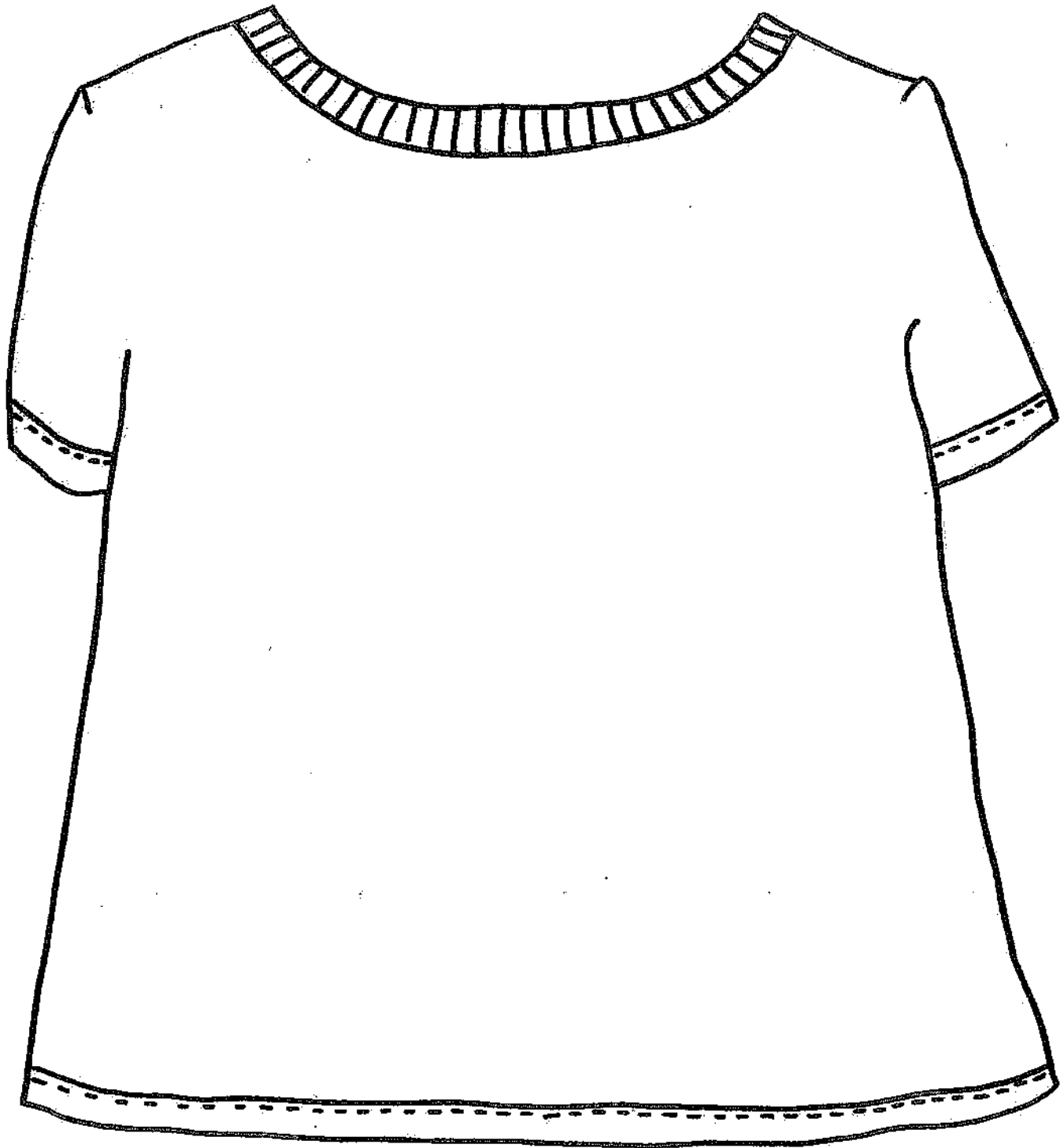
- Fishing T-shirt, one copy per student
- Colored pencils or markers

Procedure:

1. Discuss t-shirt logos that students have seen before.
2. Instruct students to design a t-shirt supporting fishing with a logo and picture.
3. When the students' rough drafts meet with your approval, give them the t-shirt worksheet.
4. Students color the t-shirt and cut it out.
5. Hang the t-shirts in the hall, maybe even on a piece of clothesline.



FISHING T-SHIRT



Design a t-shirt with a slogan and picture in support of fishing!

