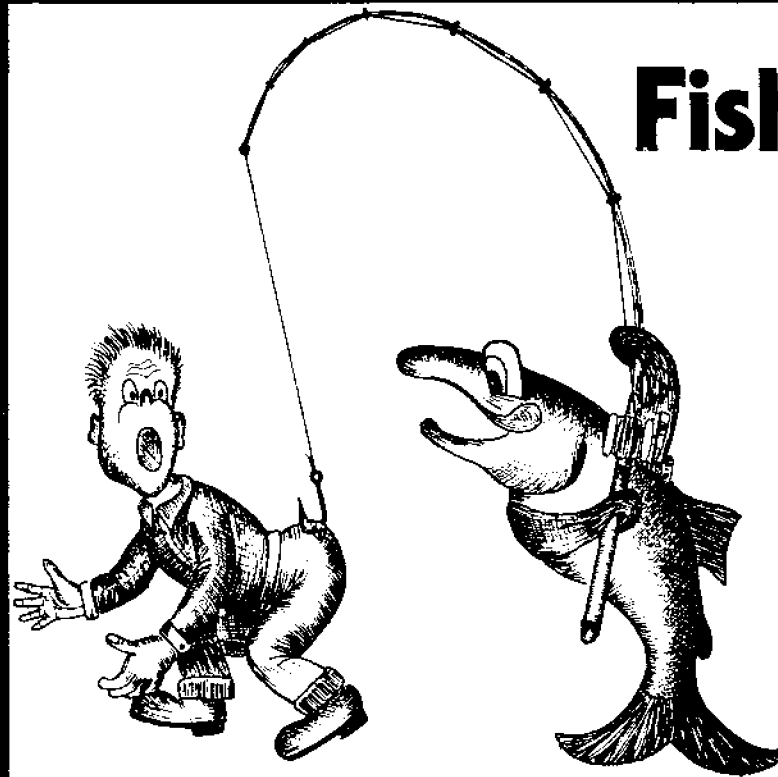


4-H 1057
Marine Science

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Fishing For Fun

Leader / Teacher Guide

4-H — Youth Programs
Cooperative Extension Service
Michigan State University

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LEADER/TEACHER GUIDE

for

FISHING FOR FUN

by

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Leader/Teacher Guide for FISHING FOR FUN

To the Leader/Teacher:

Fishing is one of our most needed and least understood recreational resources. The following materials concerning fishing are contained within this unit:

Information — concepts necessary to the understanding and appreciation of fishing.
Discussion questions.
Optional activities.
Sources for teaching aids and further information.

BEFORE STARTING

1. Read the leader/teacher guide completely.
2. Read the member guide completely.
3. Note the additional resources for the fishing unit. If these resources are desired, prior ordering of materials and scheduling of resource persons are essential.
4. Decide which discussion questions and activity options will be emphasized. (You may wish to involve your class or group in these decisions.)
5. Be ready to further define or discuss any of the vocabulary words which the students may not know.
6. Choose which of the key concepts you will stress and be ready to emphasize these as they are encountered in the text.

OVERALL OBJECTIVES

- To help youth understand and appreciate the value of fishing and fish products to mankind.
- To survey the current status of fishing and future trends in fish resource management.
- To develop skills in fishing.

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KEY CONCEPTS

1. Fishing can be more fun when you know more about it.
2. Michigan offers many kinds of fishing.
3. Knowing about fish is important in identification and in management of the resource.
4. Fishing tackle varies — each has its particular advantages and uses.
5. Learning how to fish can make a big difference in the enjoyment derived from fishing.
6. Knowing fish habitats helps determine where and when to fish.
7. Fish is an excellent source of food protein.
8. Sportsmanship and safety should be the fisherman's guide.

VOCABULARY LIST

acclimatized
aerated
air bladder
annulus
bamboo
barbel
barb
breakwater
bulkhead
cold-blooded
conservation
creel
dacron
dislodged
fingerling

fin
fin ray
fluctuate
fungus
gaff
gill
graphite
habitat
lateral
litter
manual
monofilament
mucous
multisectional
opercles

optimal
pier
polar
scuba
spawn
spin casting
spines
spin fishing
stringer
submerged
telescopic
trolling
tropical
viviparous
warm-blooded

INTRODUCTION

The value of fishing continues to increase as more and more people have more leisure time. Also, higher costs on gasoline and travel have resulted in increased use of fishing opportunities in localized areas. In heavily populated urban areas new fishing opportunities, such as fishing bulkheads, fishing piers, and fish-out ponds, are being developed to satisfy the desire for additional fishing opportunities.

Michigan's Department of Natural Resources is developing a program of recreational fishing which will provide opportunities for urban dwellers as well as those living in the more rural areas. Fishing structures are being built in urban areas to provide fishing opportunities. However, this is only part of the goal to achieve recreational fishing programs. There is great need to provide instruction to young people to enable them to optimize their enjoyment of fishing.

PROJECT ACTIVITY HIGHLIGHTS

I. FISHING IS FUN (page 3)

Fortunately, it isn't necessary to be an expert angler to catch fish. However, it can be very baffling to anyone planning to go fishing for the first time. Assume that the students don't know anything about fishing but are eager to learn. Four things should be stressed about fishing: it is fun, it is relaxing, fish are good to eat, and good fishermen are good sportsmen. To aid in instruction, it is suggested that the leader develop a fishing kit for holding all the teaching materials (see Appendix A, page 8 for details on constructing a kit).

Discuss the abundance of water in Michigan. You may wish to have everybody draw in the land mass of the state inside the water boundary in their booklet to aid in orientation.

Discuss the fishing sites in your neighborhood. Determine:

1. If there is public access to the site. Explain to the students the problems of trespass—that one should ask permission before entering private property. Compare with trespass over the students' own lawns and potential destruction of flowers, shrubbery, and trees. Information on trespass may be obtained from the local sheriff's office or from the Law Division of the Michigan Department of Natural Resources.
2. If it is safe to fish in the area. Discuss safety and stress the buddy system. Also discuss the need to have the parents or guardian know where young people are. You may wish to expand on this point. Red Cross or other safety literature should be obtained.

Talk about litter problems (sportsmanship is the "key"):

1. How much litter costs us (i.e., who pays and if it is fair).
2. Effect of litter on the landowner and his feelings for continuing to allow entrance upon his land. A good question to pose is "How would you like to have someone dump a load of trash on your lawn or, even worse, in your bedroom?" The students' reactions will be sharp. Compare this then to public lands which belong to all of us; stress that no one has the right to mess them up.
3. Find out how a littered public area affects the students and discuss this with them.

Finally, discuss fishing in the neighborhood:

1. Determine what fish are available to be caught.
2. How information can be obtained from local bait and tackle dealers, the local DNR fisheries biologist or conservation officer, by writing the DNR Fisheries Division in Lansing, or by calling the Fisheries Division's fishing hotline at (517) 373-0908.

As a project, each youngster or group of youngsters could be assigned a specific fishing site to determine what fish are available to the angler.

II. KINDS OF FISHING (page 4)

Are all students in the class aware of the number of Great Lakes and how Michigan nestles in between them? Most youngsters will be interested in the vital statistics of these great bodies of water; e.g., depths, surface acres, elevations (in relation to each other) and Michigan's ownership. The 1974 summary report on "Regulation of Great Lakes Water Levels" by the International Joint Commission's Great Lakes Levels Board is a good source for most of this information, or check out your local library for data on the state.

In the member manual, it is stated that there are over 260 public access sites to the Great Lakes Michigan shoreline. The instructor may wish to obtain a copy of the Michigan Anglers' Guide which lists public access to the Great Lakes or a copy of the Michigan DNR's Waterways Launching Directory. This directory lists boat launching sites which are in addition to the public access sites. Inland lakes and streams boat launching information is also listed in this directory. Additional access to inland lakes and streams may be via a road right-of-way, from a state park or other DNR lands, through federal lands, or even through city or county property. Listing all of the types of access will help the student understand what accesses are available and where he or she might fish.

III. WHAT IS A FISH? (page 5)

You may wish to go into more depth on fish types than is covered in the member manual. To a greater or lesser degree, most libraries have books on fish and fishing. Some of the fish around the world, although not common to the Great Lakes, are very unique in shape or form, color, and character. It is important to point out that many of our Great Lakes species are unique. Examples are:

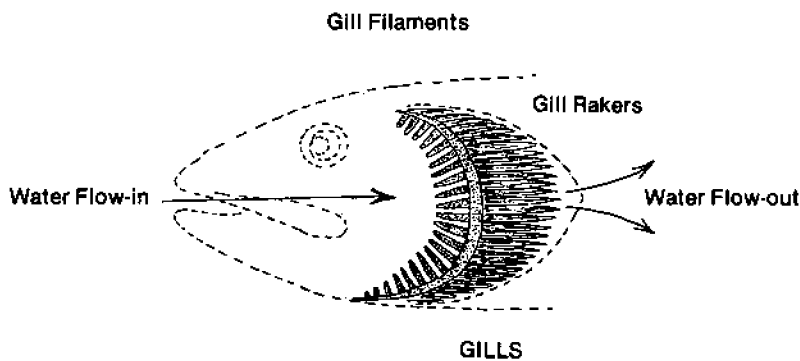
1. The sunfish and catfish families: Males guard the nests and young fish after driving off the females.
2. Stickleback males build unique nests where eggs are guarded by males.
3. Trout and salmon are able to return to home streams which they determine by smell. There they construct nests (called redds) by digging the gravel with their tails. (Eggs in the gravel are left to hatch unguarded.) Adult salmon die after spawning, whereas most trout live to spawn several times.
4. Members of the pike family randomly distribute fertilized eggs over the bottom in shallow water. Young pike or muskies must fend for themselves. It should be pointed out that man's activities of filling low marsh lands around lakes and establishing level water controls has effectively destroyed pike populations in many lakes around Michigan.

These are only a few of the examples one can use. Have each student select a fish to research and report on it. This is a good way for all the group to learn. It is suggested that the selected fish options be one of the common varieties. These are the ones for which the student, as a Michigan fisherman, will be fishing. Two handy books to have are *McClane's Standard Fishing Encyclopedia* and the *Field Book of Ponds and Streams* by Morgan (see library references).

IV. HOW ABOUT A FISH? (page 6)

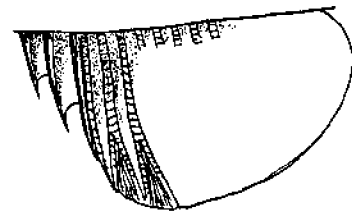
Drawing simple examples or showing the parts of a fish will aid the student in understanding fish. Drawings may be copied from the following page or from other sources.

Examples of Gills and a Fin



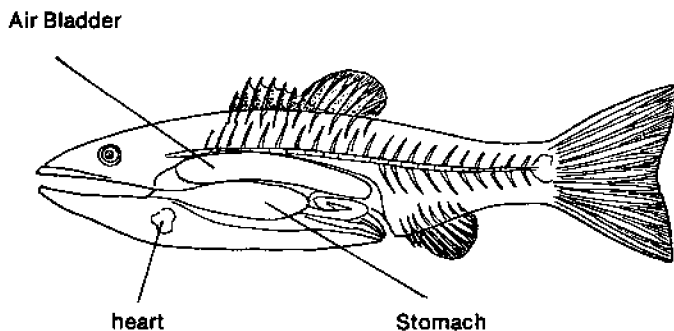
Rays are segmented and soft and may be branched or unbranched

Spines are hard and sharp. Spines are not segmented and are not branched.



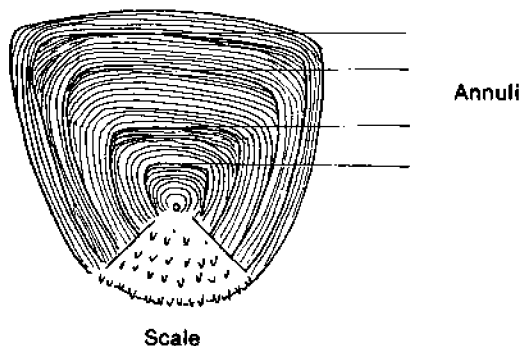
FINS

Gill rakers perform the function of straining debris or food out of the water. Gill rakers, as well as spines and rays, have characteristics which, in some cases, help identify the species of fish.



Not all fish have air bladders—many bottom dwellers, as well as sharks and rays, do not have air bladders. They must swim to stay up in the water.

Fish ages are determined by counting the rings of growth on scales, spine or ray sections, or ear stones. Seasonal temperatures affect fish growth and result in these structures developing what fishery people call annual growth rings or annuli. A typical sunfish scale, characterized below, shows four distinct annuli indicating the fish is four years old.



The student will be interested to know that forward movement by fish is primarily from the tail. The other fins basically help stabilize the fish or are used for up and down or lateral movement. In other words the fins, other than the tail, are similar to the flaps, rudder, and ailerons of an airplane.

V. IDENTIFYING FISH (page 7)

Water is not just water as many persons consider it. It is important that the students understand that different fish require different water characteristics. For example, common tap water from a municipal water supply contains chlorine which is injurious to fish. One should allow the water to stand in bright sunlight a day before putting it into the goldfish bowl. This will allow the chemical properties of the chlorine to be broken down so that it is harmless to fish. Tap water from private wells is quite often low in oxygen. Tap water should be aerated before putting it into the fish tank. A good fisherman will make an effort to determine the preferred habit of the fish he wishes to catch. This will aid him or her to successful angling because he or she will know where the fish might most likely be located.

The instructor could, at this point, see how many pictures in the member manual that the students can identify. Are fishermen in class any better than nonfishermen in identifying fish species? Have them each write the answers. The correct answers are in the back of the member manual.

Discuss some of the habitats of fish. See how many habitats the students can think of. Obvious examples found right at home are the goldfish bowl versus the tropical fish tank. Others include a cold, running trout stream; a slow-moving, deep, warm river; a small, meadow brook; a warm, shallow lake, etc. What fish would inhabit each type of habitat? Students should be aware that correct water temperatures and good water quality are necessary for the good health of most fish. The suggested reference books will provide information on the habitat preferred by each species.

VI. TYPES OF FISHING TACKLE (page 10)

It is desirable that the instructor convey to the students that expensive tackle is not necessary to catch fish but that correct tackle quite often makes the difference between not catching fish and having some on the stringer—correct tackle will enhance fishing opportunities. Several examples are provided to illustrate the point.

- A. A cane pole is good for panfish fishing. However, casting or fly fishing with such a rod doesn't work well.
- B. Stiff, heavy casting rods will not properly cast a very light fishing lure. By the same token, a light, flexible rod will not adequately cast a heavy fishing lure.
- C. Use the correct line with the correct rod and reel. A too heavy line will result in poor, if not impossible, casting and take all the fun out of fishing. Tackle manufacturers usually provide recommendations for line size along with poles and reels.

Discuss the various types of tackle available and its best use; i.e., for bluegills, for sturgeon, or for all-around fishing. A good way to learn about tackle would be to arrange for a field trip to a local tackle store to see what is available.

VII. HOW TO FISH (page 14)

Techniques in fishing could mean the difference as to whether or not a fisherman is successful. Naturally, fishing is much more enjoyable when fish are being caught. Therefore, how to use the tackle, bait the hook, and present the bait becomes very important if one is to be successful in catching fish. Impressing this on the students will increase their chances of catching fish.

It might be interesting to have the students list those baits (both natural and artificial) which they have used for fishing. Discuss the merits of these baits.

Don't forget to adequately cover the rigging and knots. It is suggested that each student be provided a piece of rope to practice tying the clinch, blood or barrel, and the double surgeon knots. Such knots are important in fishing. Not only are they nonslipping, but they also are constructed to take the maximum strain before breaking.

For this section, the instructor may wish to have a local fishing expert talk to the students on the importance of using proper baits and technique.

Landing, keeping, and releasing fish rounds out the techniques for fishing. It should be emphasized that good sportsmen pay close attention to these latter factors.

VIII. WHERE AND WHEN TO FISH (page 17)

This can be a general session on where in the local areas a particular species can be caught. The instructor may wish to coordinate this section with a local fishing derby. Contacts should be made with recreational or parks directors of the local government to determine if a fishing derby will be held. Or you and your group may wish to solicit a sponsor for a fishing derby in your area. For additional activities and suggestions, see 4-H leaflet 334.3A, "A Guide for Leaders and Sponsoring Organizations."

• FISH AS FOOD (page 18)

Many fish are wasted annually by persons having no knowledge of proper care. You, as the instructor, should point out that waste is unsportsmanlike and unnecessary—that **all** fish (yes, even carp) are edible (unless contaminated in some manner by pesticides).

• SPORTSMANSHIP AND SAFETY GUIDE (page 18)

The author wishes to emphasize the importance of this section—for both the safety and the development of sportsmen characters of the students.

LIBRARY REFERENCES

NOTE: These are suggested as minimum references that you may wish your library to obtain for you.

McClane's Standard Fishing Encyclopedia and International Angling Guide. Edited by A. J. McClane. Holt, Rinehart and Winston, Inc. Copyright 1965.

Iowa Fish and Fishing by James R. Harlan and Everett B. Speaker. Iowa State Conservation Commission.

Fishes of the Great Lakes Region by Carl L. Hubbs and Karl F. Lagler. Ann Arbor: The University of Michigan Press. 1958.

Fish and Fishing. Written and illustrated by Maynard Reece, A Better Homes and Garden Book. Meredith Press. 1963.

Field Book of Ponds and Streams by Ann Haven Morgan. NY and London: G. P. Putnam's Sons. 1930.

OTHER SUGGESTED REFERENCES

Title	Source
<i>Michigan Fishing Guide</i> , 1978	Michigan Department of Natural Resources Stevens T. Mason Building P.O. Box 30028 Lansing, MI 48909
<i>Know Your Great Lakes Salmon and Trout</i> by Ned E. Fogle	" "
<i>Michigan Fish and How to Catch Them</i>	" "
<i>Catching Great Lakes Salmon and Trout</i>	" "
<i>Fishing in Michigan</i>	" "
<i>Michigan Boat Launching Directory</i>	" "
<i>Master Angler Awards Form</i>	" "
<i>Michigan's Better Warm Weather Fishing Waters</i>	Michigan Travel Bureau Publications Michigan Department of Commerce Lansing, MI 48913
<i>Regulation of Great Lakes Water Levels, A Summary Report/1974</i>	International Great Lakes Levels Board Chicago, IL

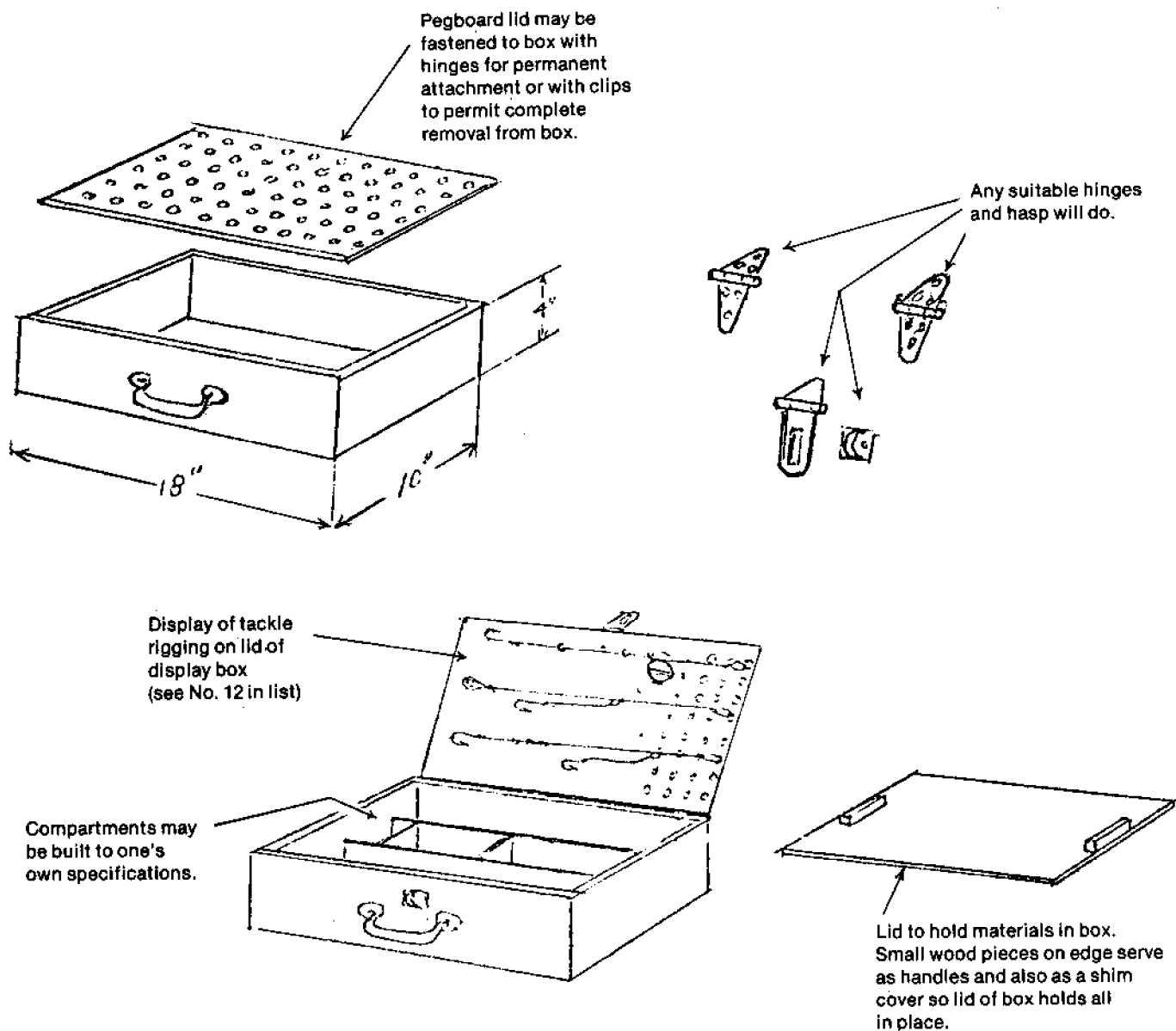
APPENDIX A

FISHING FOR FUN

Teaching Kit

The following are suggested minimum materials for a demonstration kit for teaching the *Fishing For Fun* unit:

1. Container for holding kit materials. The following pictured self-made box is optional but offers certain advantages over other commercially made tackle boxes one may choose.



2. Assortment of hooks (hooks are easily displayed if they are placed on a 3" x 5" index card). Names of hooks can then be written on the card. Minimum *type* hooks include:

Smelt
Jig
Treble

Popping bug
Fly
Egg

Standard (assortment of numbers 12, 6, 2, 2/0, and 4/0 with both long and short shanks)

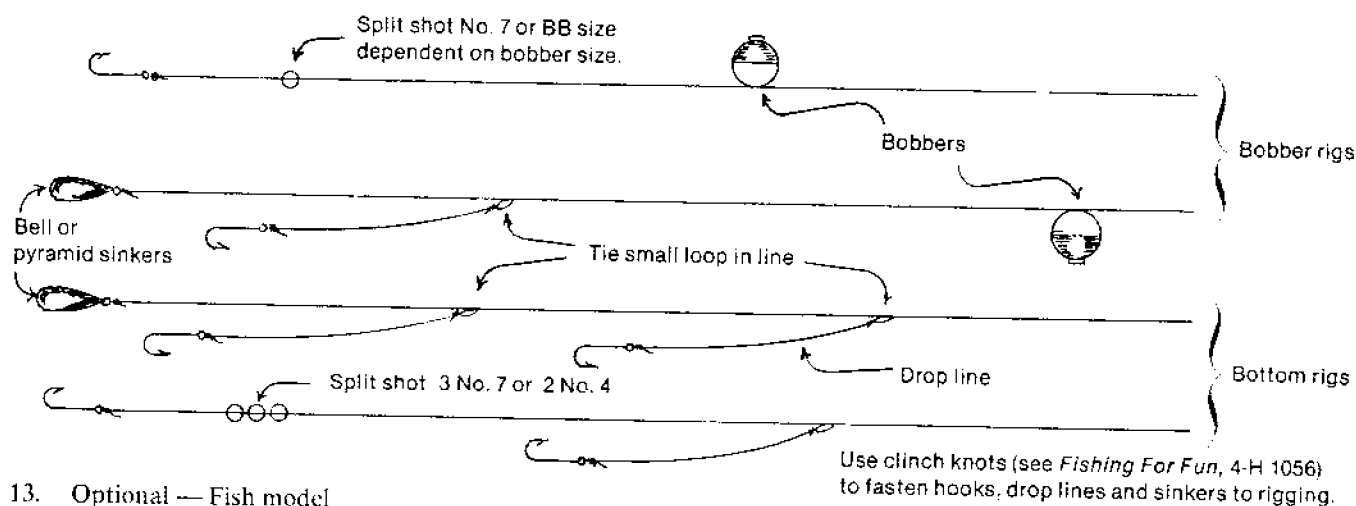
3. Assortment of plastic and wood bobbers — Kit should contain at least 3 or 4 different kinds.
4. Sinkers — Kit should contain a minimum of 3 types:
Bell swivel, clinch-on, split shot.
Other types may be secured if desired.
5. Piece of braided rope to demonstrate common knots. Optional — Mount several common fishermen knots (see *Fishing for Fun*, 4-H 1056) on cards for display.
6. Stringer — Metal or plastic clip and rope types.
7. Small gaff (must be small enough to fit in kit).
8. Fish scales mounted between glass slides to show rings of growth on scales. Fish scales can be obtained at a fish market if one does not have another available source.
9. State map — Showing the land and water boundaries of the State.
10. Assortment of artificial baits. Minimum suggested list includes:

Surface plug
Popping bug
Dry fly

Spinner bait
Lead head jig

Spoon
Rubber worm

11. Several types of line — Fly, monofilament, dacron; mount on 3" x 5" card for display.
12. Tackle rigging — Three or four terminal riggings are suggested as models (see the following drawings). These models should be fastened to the inside of the pegboard lid of the kit, thus making display easy by opening the box.



13. Optional — Fish model
14. Optional — Fish pictures (flash card type)
15. Optional — Reels, rods, tackle boxes, other types of fishing equipment. (Use of optional items depends on the instructor's ability to secure additional types of tackle.)