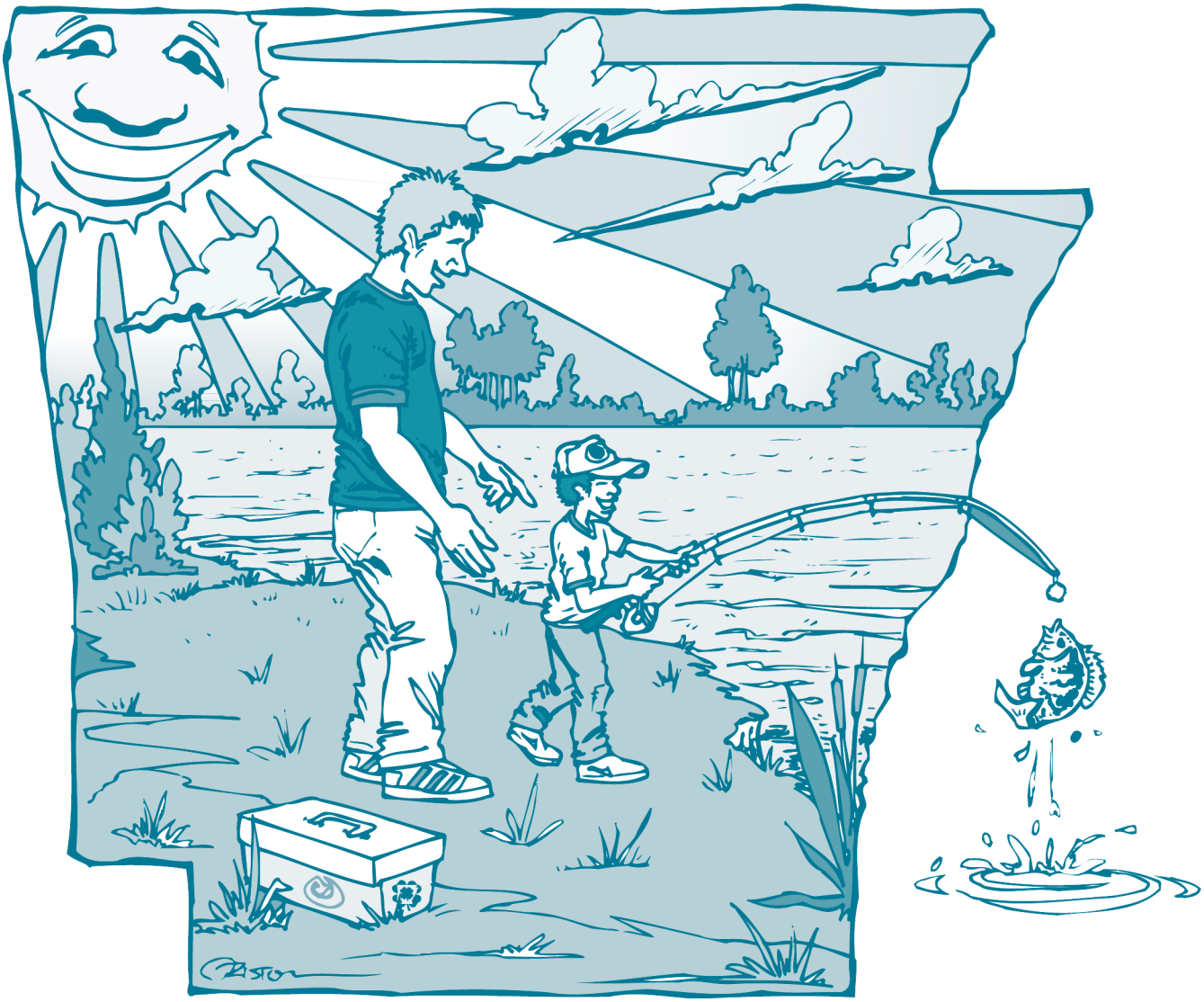
S207

4-H Reel Into Sport Fishing

County, District and State Level Competitions



UNIVERSITY of ARKANSAS AT PINE BLUFF 1873
School of Agriculture, Fisheries and Human Sciences
Cooperative Extension Program

A Cooperative Extension Program, University of Arkansas at Pine Bluff, United States Department of Agriculture and County Governments Cooperating

Arkansas Game & Fish Commission

4-H Reel Into Sport Fishing

County, District and State Level Competitions

Revised 2016 by
George Selden
Extension Specialist - Aquaculture/Fish Health
Department of Aquaculture and Fisheries
University of Arkansas at Pine Bluff
Original text by John R. Jackson, Ph.D.

Table of Contents

Goals and Objectives 4

Fishing Knots 6

4-H County Level Reel Into Fishing Score Sheet 7

Fish Identification 8

Fishing Tackle Identification 9

Fish Habitat 10

Key 11

District and State O-Rama Scoring 12

Juniors and Seniors 13

District and State Contest 14

Key 17

Layout and design by **Laura Goforth**, Associate Designer/Editor, University of Arkansas System Division of Agriculture, Cooperative Extension Service.

Cover design and illustrations by **Ariston Jacks**, Former Communications Specialist - Graphic Artist, University of Arkansas at Pine Bluff. Illustrations on pages 14 and 17 by **Brad Mayhugh**, Graphic Artist, University of Arkansas at Pine Bluff.

The University of Arkansas at Pine Bluff is fully accredited by The Higher Learning Commission, 230 South LaSalle Street, Suite 7-500, Chicago, IL 60604, 1-800-621-7440/FAX: 312-263-7462.

Goals and Objectives

Arkansas has more than 9,700 miles of streams and rivers and more than 300,000 ponds and lakes. This provides a great many opportunities to fish! In 2011, more than 555,000 people enjoyed fishing activities that generated nearly $500 million for the Arkansas economy (USFWS, 2011).

Fishing is not only an activity that can be enjoyed for a lifetime but can also lead to a career. Whether as a biologist for the Arkansas Game and Fish Commission, fisheries or aquaculture researcher, or a fishing guide, there are many opportunities available to turn an interest in fishing into lifetime employment.

The activities associated with "4-H Reel Into Sport Fishing" are designed to generate excitement and interest in fishing. A basic knowledge of fishing techniques, tackle, fish identification and fish habitat are keys to having a successful and enjoyable time catching fish. Through the activities in this booklet, participants will be given an opportunity to show their knowledge and skills in knot tying, fish and tackle identification (juniors and seniors) and fish habitat (seniors only). 4-H'ers will also have opportunities to ask questions and learn about educational and career opportunities in the fields of fisheries management and aquatic sciences.

Objectives:

- Targeted life skills: responsible citizenship, healthy lifestyle choices and environmental education.
- Create interest in recreational fishing.
- Improve knowledge of fishing techniques and fish habitat.
- Introduce educational and career opportunities in the fields of fisheries management and aquatic sciences.
- Provide an opportunity for 4-H'ers to learn about educational and career opportunities in the fields of fisheries management and aquatic sciences. At the District and State O-Ramas, representatives from universities and state agencies will be available to visit with participants and answer questions.

Eligibility

Each county may enter one junior and one senior 4-H member at the District 4-H O-Rama. The top five senior 4-H'ers from each District O-Rama will be eligible to participate in the State O-Rama.

Judging

This event will be conducted in four sections: angling skills, tackle skills, aquatic ecology and fish identification. Contestants will be judged based on answering questions, such as multiple choice, matching, fill-in-the-blank and drawing a diagram. The contestants should use the resources listed below. For the District and State contests, page 13 of this booklet provides the page numbers to find answers to specific contest questions.

County Level Contest

Each contestant will be judged on tackle identification and knot tying. The contestant judge will select the five tackle items to be identified. In addition, seniors will be required to identify five common Arkansas fish species and determine the best location (habitat) to catch each fish.

District and State Contest

Each contestant will be judged on tackle and fish identification, water safety, aquatic ecology and knot tying. In addition, seniors will also be required to know information about specific Arkansas fish species and determine the best location (habitat) and equipment to catch each type of fish. An explanation of District and State O-Rama scoring is included within this booklet.

Awards

Ribbons for first, second, third, fourth and fifth place will be awarded for the Junior and Senior division at District 4-H O-Ramas and the State 4-H O-Rama. No ribbons will be awarded for zero scores. Fishing tackle donated by the Arkansas Game and Fish Commission will be given as prizes to first-, second- and third-place participants in the Junior and Senior divisions at the District competition and the Senior division at the State competition.

Resources to Study for County, District and State Level Competition

The three 4-H sportfishing project activity guide books are great for a 4-H project idea, especially if you enjoy the outdoors and love to fish. The level one 4-H sportfishing project activity guide, *Take the Bait*, and the AGFC publication *Beginners Fishing Guide* supply the content for this event at the County, District and State 4-H O-Ramas.

Both Junior and Senior level activities at the county, district and state level will be based on information in the level one 4-H sportfishing project activity guide, *Take the Bait*. Every county office was delivered a set of sportfishing project activity guides when they were issued in 2001. Additional copies of this book are available from the National 4-H Cooperative Curriculum System website, www.n4hccs.org. Specific information found in the book, such as fishing methods, safety and aquatic ecology, will be suitable material for the competitions.

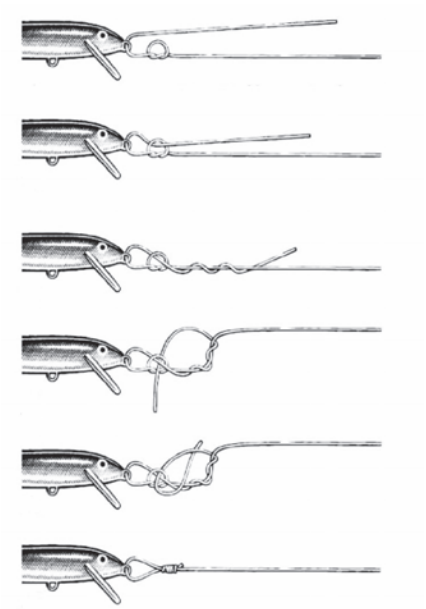
The Arkansas Game and Fish Commission also has available the *Beginners Fishing Guide* and *Arkansas Sport Fish Identification Pocket Guide*, both available at 501-676-9506. The *Beginners Fishing Guide* can be downloaded at http://www.agfc.com/resources/publications/beginnersfishingguide.pdf.

Additional information is also available on-line. TakeMeFishing.org is one of the better sites and contains a great many useful tips on fishing and equipment.

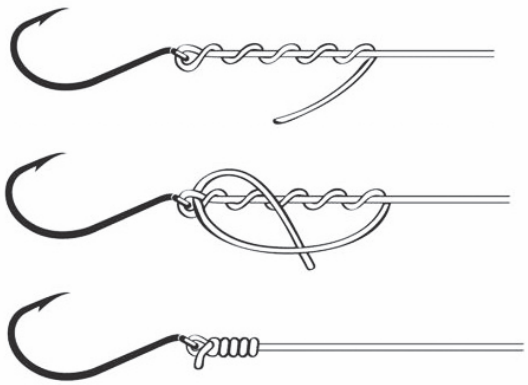
These are by no means the only sources of information. Many books, magazines and other on-line resources abound, and only need to be searched for.

Fishing Knots

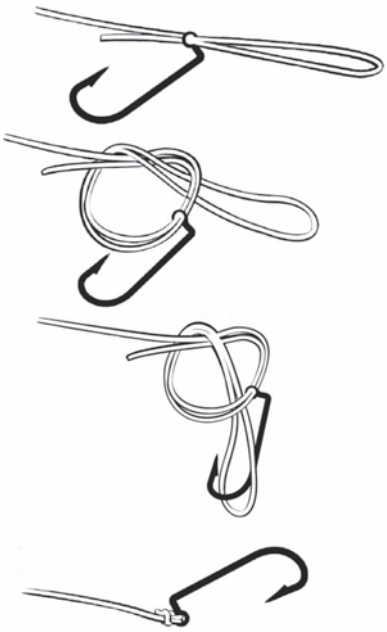
Rapala Knot



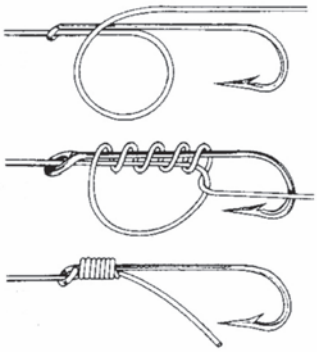
Improved Clinch Knot



Palomar Knot



Snell Knot



Some illustrations used with permission of Rapala, Inc., and the National 4-H Cooperative Curriculum System, Inc.

4-H County Level Reel Into Fishing Score Sheet

Name _____ County _____

Junior or Senior (circle one)

Fishing Knots

Juniors and Seniors:
Maximum Points = 10 points/knot = 20 points **Score**_____

Fish Identification

Juniors and Seniors:
Maximum Points = 5 points/fish = 25 points **Score**_____

Fishing Tackle Identification

Juniors and Seniors:
Maximum Points = 5 points each = 50 points **Score**_____

Fish Habitat

Seniors Only:
Maximum Points = 10 points each = 50 points **Score**_____

Grand Total Points

Total possible points = 95 *(Juniors)* and 145 *(Seniors)* **Total Score** _____

Fishing Knots

Using a piece of fishing line, string or similar material, contestants will tie two of the following four knots: Palomar Knot, Rapala Knot, Snell Knot, Improved Clinch Knot. The contestant can select which knots they choose to tie. Judges can use diagrams on page 6 to facilitate scoring.

Fish Identification

Participants will be required to identify common Arkansas fish species (largemouth bass, white crappie, channel catfish, bluegill, rainbow trout) from pictures or live specimens. Connect the fish name to its picture with a line.

1. Largemouth Bass **A**

2. White Crappie **B**

3. Channel Catfish **C**

4. Bluegill **D**

5. Rainbow Trout **E**

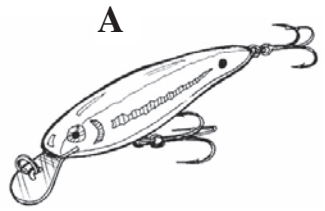
All pictures courtesy of U.S. Fish and Wildlife Service, National Conservation Training Center – Publications and Training Materials, Creator – Duane Raver.

Fishing Tackle Identification

Participants will be required to identify the five selected common fishing tackle items. Match the fishing tackle by placing the correct letter next to the drawing (5 points for each correct answer).

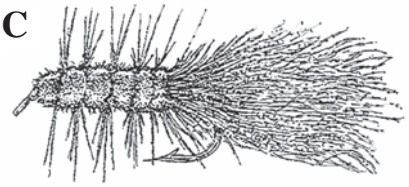
1. Jig _____
2. Spinning Reel _____
3. Spinner Bait _____
4. Bait Casting Reel _____
5. Crankbait _____
6. Bobber or Float _____
7. Closed Face Spin Casting Reel _____
8. Plastic Worm _____
9. Fly Reel _____
10. Artificial Fly _____

A

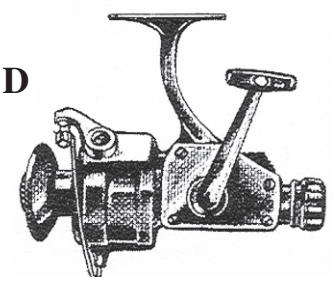


B

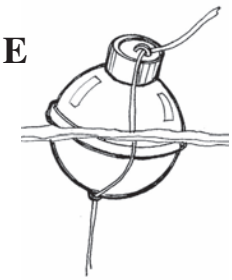
C



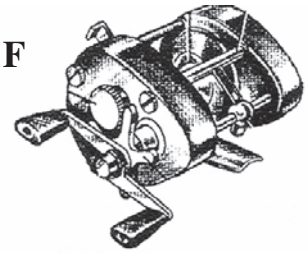
D



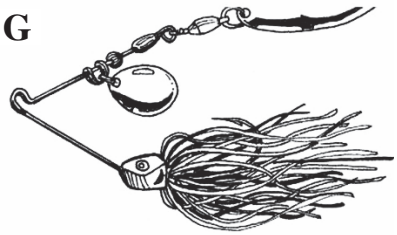
E



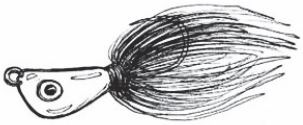
F



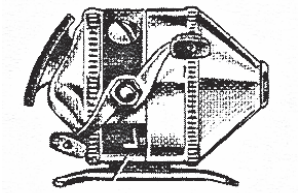
G



I



J



Some pictures are reprinted from level 3 sportfishing project activity guide, *Cast Into the Future*, with permission of the National 4-H Cooperative Curriculum System, Inc. © (2005) 4-HCCS. Some pictures are reprinted courtesy of the Recreational Boating and Fishing Foundation.

Fish Habitat

Directions: Match the fish species to its habitat by placing the correct letter next to the fish name (10 points for each correct answer).

1. Largemouth Bass _____

2. White Crappie _____

3. Channel Catfish _____

4. Bluegill _____

5. Rainbow Trout _____

A. This fish is found in cold-water streams and deep, cool reservoirs. It is often found behind obstructions, like rocks and fallen trees, to keep out of the strong current, or in deep holes. It prefers water temperatures that range from 55-62° F and will start to die at temperatures above 70° F. This fish can be caught using earthworms, wax worms, minnows, whole kernel corn, salmon eggs, artificial flies, small crankbaits, jigs and spinners.

B. This fish is found in lakes, ponds and streams. It prefers waters with submerged vegetation, flooded timber and brush. It prefers water temperatures that range from 68-78° F. This popular game fish can be caught using a variety of live bait (crayfish, earthworms, minnows) and artificial lures (spinner baits, crankbaits, plastic worms).

C. This fish is found in lakes and large slow-moving streams/rivers. It is found near drop-offs, stumps and brush. It prefers water temperatures that range between 70-75° F. It is often found in schools and is easily caught in the spring with jigs, small spinner baits or minnows.

D. This fish is found in rivers, lakes and ponds. It spawns in cavities in hollow logs and holes in undercut banks. This popular fish can be caught with a variety of baits, including worms, cutbait, liver, stink bait and minnows. It prefers water temperatures between 75-80° F. This fish does not have any scales.

E. This popular sport fish is found in lakes and ponds. It is often found near vegetation or other structure. It spawns in colonies every 28 days in shallow water that is between 67-70° F, and its preferred temperature ranges between 75-80° F. It can be caught with worms, crickets, small jigs and small spinner baits. This fish is also called a “bream.”

Key

Fish Identification

1) C
2) E
3) A
4) B
5) D

Fish Tackle

1) J
2) F
3) B
4) D
5) H
6) G
7) I
8) E
9) A
10) C

Fish Habitat

1) B, page 20 –B*eginners Fishing Guide*
2) C, page 9 – *Beginners Fishing Guide*
3) D, page 17 – *Beginners Fishing Guide*
4) E, page 13 – *Beginners Fishing Guide*
5) A, page 4 – *Beginners Fishing Guide*

District and State O-Rama Scoring

1) **Angling Skill**

Knots	40 points (10 points each knot)
Rigging	10 points (5 points each rig diagram)
Total Points	50 points

2) **Tackle Skills**

Tackle ID	25 points (5 points for each of five tackle questions)
Survival Kit	10 points (2 points for each of five survival items listed)
Total Points	35 points

3) **Aquatic Ecology**

Water Temp and Fish	25 points (5 points for each of five questions)
Water Cycle	10 points (2 points for each of five questions)
Parts of a Fish	10 points (2 points for each part of a fish correctly identified)
Total Points	45 points

4) **Fish ID** 25 points (5 points for each of five fish correctly identified)

Total Points 25 points

Grand Total *(Juniors)* 155 points

Seniors Only:

5) **Know Your Fish** 50 points (10 points for each of five questions)

50 points

Grand Total *(Seniors)* 205 points

Juniors and Seniors

Angling Skills

1) Fishing line requires special knots to hold the hook, lure, swivel sinker or other piece of tackle securely. Learn to tie the four knots: Palomar Knot, Turtle Knot, Snell Knot, Improved Cinch Knot. Diagrams for these knots can be found on page 9 of *Take the Bait* and 28-29 of the *Beginners Fishing Guide*. Diagrams and instructions for many knots can also be found on-line at http://www.netknots.com/.
2) Be prepared to diagram a bobber fishing rig (page 20 of the *Beginners Fishing Guide*) and a bottom-fishing rig (page 17 of the *Beginners Fishing Guide*).
3) Be prepared to diagram one of the three correct ways to rig a live minnow as bait (page 20 of *Beginners Fishing Guide*).

Tackle Skills

1) Be prepared to identify five specific tackle and describe their uses while fishing.
   - Study and learn the various tackle and their uses (page 16 of *Take the Bait* and pages 9, 13, 21 and 25-27 of the *Beginners Fishing Guide*).
   - Another excellent resource can be found at the TakeMeFishing.org website, in particular the article titled Fishing Terminology at http://fishandboat.com/education/learning/fish_funda/tmf_terminology.pdf.
2) Learn about building you own survival kit described in "Fishing Deeper" on page 19. Be prepared to identify or list five articles found in a survival kit.

Aquatic Ecology

1) Be prepared to answer questions about water temperature and fish as described in "Water Temperatures and Fish" on page 23 of *Take the Bait* and pages 10 and 13 of *Beginners Fishing Guide*.
2) Study and learn the "Parts of a Fish" found on page 33 of *Take the Bait*.
3) Be prepared to answer five questions about the water cycle based on information in "Water Cycle" found on page 27 of *Take the Bait*.

Fish Identification

1) Be able to identify five Arkansas fish that are presented either live, preserved, as replicas or in pictures. The Arkansas Game and Fish Aquarium will be at many of the District and State O-Ramas, and you may be asked to identify five fish in the aquarium at the competition. A good resource for fish identification is the *Arkansas Sport Fish Identification Pocket Guide*, available from the Arkansas Game and Fish Commission (1-877-676-6963).

Seniors Only: Know Your Fish

Seniors will answer five questions about specific fish and fishing. Be familiar with specific fish as described in "Know Your Fish" at the bottom of pages 12 and 20 of *Take the Bait* and pages 4, 10, 14, 18, 22, and 30 of the *Beginners Fishing Guide*.

4-H Reel Into Sport Fishing

District and State Contest

NAME _____ COUNTY: _____

District: Ozark Ouachita Delta State Junior or Senior (circle one)

Angling Skills: Rigging (5 points/diagram) Score: _____

Draw a diagram below of a bobber fishing rig – bottom-fishing rig:
(Judge will designate which diagram is needed prior to test.)

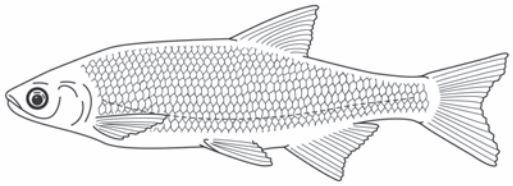
_____

water surface

_____

pond bottom

Diagram one of three correct positions to hook a live minnow when rigging it for use as live bait.



Angling Skills: Knots (10 points/knot) Score: _____

1) Palomar Knot _____

2) Rapala Knot _____

3) Snell Knot _____

4) Improved Cinch Knot _____

Tackle Identification (5 points/question) Score: _____

1) Name of tackle item: _____

2) Name of tackle item: _____

3) Name of tackle item: _____

4) Name of tackle item: _____

5) Name of tackle item: _____

Water Temperatures and Fish (5 points/question) Score: _____
(Circle the correct answers.)

1) What type of water system will have a different water temperature at the surface and the bottom?
   a) Deep Water Lake b) Stream

2) Which temperature is in the preferred water temperature range for smallmouth bass?
   a) 62° F b) 68° F c) 74° F

3) Which temperature is in the preferred water temperature range for channel catfish?
   a) 52° F b) 84° F c) 75° F

4) The maximum daily water temperature (a hot day in the summer) is the _____ important restriction on what types of fish can be found in a pond/lake/river.
   a) least b) most

5) Cool water fish prefer water temperatures _____.
   a) below 70° F b) between 70-75° F c) above 75° F

Fish Anatomy (5 questions/5 points each) Score: _____

1) The caudal fin is used for _____ A - stability to prevent rolling
2) The pelvic fins are used for _____ B - fine movement backward and forward
3) The pectoral fins are used for _____ C - propulsion forward
4) These blind, finger-like projections are found at the lower end of stomach and aid in digestion.
   a) Esophagus b) Gills c) Pyloric Caeca d) Air Bladder
5) This organ lies below the spine and is sometimes called the mud or blood line
   a) Liver b) Pancreas c) Kidney d) Spleen

Water Cycle (10 points each) Score: _____

1) Is water recycled?
   Yes No

2) The average person could go how many days without water?
   a) 1 day b) 3 days c) 5 days d) one week

3) What percentage of the earth's water is <u>fresh</u> water? (within 5 percent) _____

Fish ID (5 fish at 10 points each) Score: _____

1) _____ (Tie Breaking) _____

2) _____ _____

3) _____ _____

4) _____ _____

5) _____ _____

Know Your Fish ((5 questions worth 5 points each) Score: _____

1) What is the average size (range) of a Crappie, in pounds? _____

2) What time of day is best to fish?

a) just before sunrise b) noon 3) two hours before sunset

3) Which fish has the reputation as Arkansas's tastiest fish?

a) Channel Catfish b) Crappie c) Rainbow Trout 4) Largemouth Bass

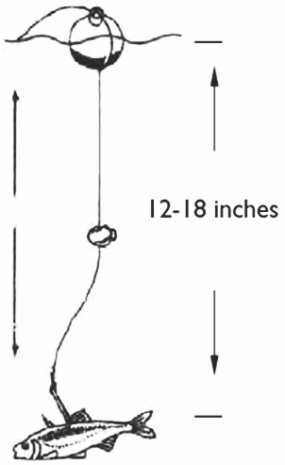
4) What is the average size (in inches) of Bluegill? _____

5) List one type of natural/live bait for Largemouth Bass? _____

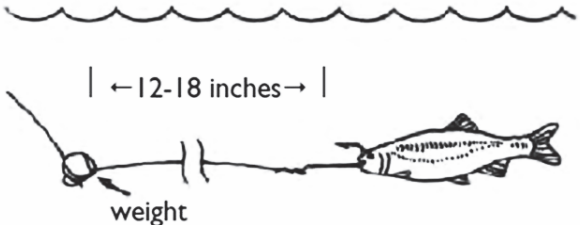
TOTAL SCORE _____

Key

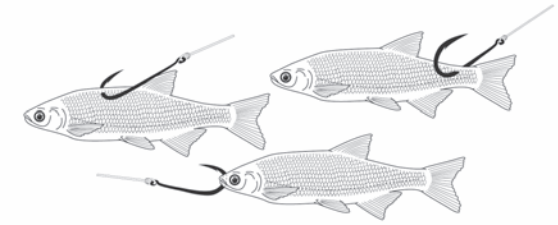
Rigging



Bobber Fishing Rig



Bottom-Fishing Rig



Live Minnow Rigging

Knots: Page

Water Temperature and Fish

1) A - Deep Water Lake
2) B - 68° F
3) C - 75° F
4) B - most
5) B - between 70-75° F

Water Cycle

1) Yes
2) b - 3 days
3) 3 percent

Fish Anatomy

1) C - propulsion forward
2) A - stability to prevent rolling
3) B - fine movement backward and forward
4) C - Pyloric Caeca
5) C - Kidney

Know Your Fish

1) ½ to 1½ pounds
2) a - just before sunrise
3) b - crappie
4) 6-7 inches
5) minnows, earthworms, crayfish, small fish and frogs

What Is 4-H Work?

4-H work is that part of the program of the Cooperative Extension System of the University of Arkansas which serves youth. Young people between the ages of 5 and 19 organize themselves into a 4-H club with their own officers, adult leaders and local programs. The primary purpose of 4-H work is to develop in boys and girls leadership, initiative, citizenship and character, and to teach them certain subject matter.

The 4-H Club Pledge

I pledge:
my Head to clearer thinking,
my Heart to greater loyalty,
my Hands to larger service,
my Health to better living,
for my club, my community
my country and my world.

The 4-H Club Motto

To Make the Best Better.

The 4-H Club Emblem

The 4-H emblem is a four-leaf clover with the letter "H" on each leaf. The four "H's" stand for Head, Heart, Hands and Health.

The 4-H Club Colors

GREEN: Nature's most common color is emblematic of springtime, life and youth.
WHITE: Symbolizes purity and high ideals.

This publication was provided to you through the Cooperative Extension System of the University of Arkansas, represented in your county by your county Extension agents.

*18 U.S.C.707

UNIVERSITY of ARKANSAS AT PINE BLUFF 1873

School of Agriculture, Fisheries and Human Sciences

Cooperative Extension Program

4-H is the youth development program of the Cooperative Extension System, University of Arkansas.

Issued in furtherance of Extension work, Act of September 29, 1977, in cooperation with the U.S. Department of Agriculture, Dr. Edmund R. Buckner, interim dean/director, 1890 Research and Extension Programs, Cooperative Extension Program, University of Arkansas at Pine Bluff. The University of Arkansas at Pine Bluff School of Agriculture, Fisheries and Human Sciences offers its programs to all eligible persons regardless of race, color, sex, gender identity, sexual orientation, national origin, religion, age, disability, marital or veteran status, genetic information, or any other legally protected status, and is an Affirmative Action/Equal Opportunity Employer.

S207-PD-9-2016RV

Printed by the University of Arkansas Cooperative Extension Service Printing Services.