



Fish & Fishing Session Outline For the Outdoor Skills Program

- I. Welcome students and ask group what they remember or learned in the last session.

- II. Fish & Fishing Lessons
 - A. Activity: Attract a Fish
 - B. Activity: Lures and Knot Tying
 - C. Activity: Tackle Box and Fishing Plan

- III. Review: Ask the students what they enjoyed most about today's session and what they enjoyed the least. (Another way to ask is "what was your high today, and what was your low? As the weeks progress this can be called "Time for Highs & Lows".)

The Outdoor Skills program is a partnership with Nebraska Games & Parks and the UNL Extension/4-H Youth Development Program to provide hands-on lessons for youth during their afterschool time and school days off. It provides the opportunity to master skills in the areas of hunting, fishing, and exploring the outdoors. This educational program is part of the 20 year plan to recruit, develop and retain hunters, anglers, and outdoor enthusiasts in Nebraska.

Inventory

Activity: Fishing Lures

Kit Materials & Equipment

- Fish anatomy poster
- Fish models (catfish, bluegill, crappie, & bass)
- ID/habitat cards
- Lures displays
- Cabela's Fishing Catalog
- (15) Nebraska Fishing Guide
- (15) NGPC Fish ID Book
- Trilene line
- Knot tying cards
- Knot tying kit (6 shark hooks & 6 lengths of rope)
- (15) Knot-testing weights
- Treble hooks
- Duct tape
- Feathers
- Waterproof glue
- Pliers
- Tackle box with "filling your tackle box" components
- Laminated copy of "Awesome Lures"

Supplies Instructor Provides

- Paperclips
- Pop cans
- Scissors
- Masking tape
- Copies of "Plan Your Trip" worksheet

Materials to be Restocked-After Each Use

- (15) Nebraska Fishing Guide
- (15) NGPC Fish ID Book

Session: Fish and Fishing

Activity: Attract a Fish

Objectives: Participants will

- Identify four Nebraska sport fish species
- Describe habitat preferences
- Identify appropriate bait and fishing techniques.

Method: Students will match the fish models to the corresponding habitat card based on an identification key on the front of the card. They will review the food and habitat preferences for each species and then match each species with the appropriate tackle based on the habitat cards.

Field Day Activity: Students will fish for a species of their choice during the outdoor skills day.

Materials Contained in Kit:

- Fish anatomy poster
- Fish models of catfish, bluegill, crappie, and bass
- ID/Habitat cards
- Lure displays
- Cabela's fishing catalog
- Nebraska Fishing Guide

Duration: 30-45 minutes

Group Size: 12 students, in groups of 3-4

Setting: Indoors or outdoors

Key Terms: habitat, dorsal, nymph, sedentary, cartilaginous ray, barbel

SET Abilities: Observe, Compare

Fair Project: Lures display board

Materials Needed to Conduct Activity:

- Copy of lures matching worksheet for each student or student workbooks
- Pencils

Background:

FISH ID & HABITAT: Identification of fish species and knowledge of habitat is important to consider when planning to go fishing. Fish species respond differently to baits and methods of fishing depending on their natural diets. Fish also occupy a variety of habitats within a body of water, so in order to target a specific kind of fish, knowledge of the preferred habitat for that species is a key to fishing success.

Fish species you are likely to catch when fishing from shore:

Bluegill (*Lepomis macrochirus*):
Identification:

- Deep bodied (body depth is less than 3 X the length of the body)
- Small mouth (mouth does not extend back to the eye)
- Dark spot near the base of the soft dorsal fin
- Dark spot on the ear flap of the operculum
- Vertical bars on sides of body
- Olive-green with emerald and brassy reflections
- Breast and belly yellow or reddish orange
- Rarely over 8 inches in Nebraska reservoirs. A 10-inch bluegill is

considered a “master angler” catch in Nebraska. The state record bluegill weighed in at 2 lbs. 13 oz.

Habitat:

- Prefers clear water; because a bluegill’s primary diet is aquatic insects that are often associated with submerged vegetation, clear water that can support plant life is important. Submerged vegetation also provides cover for bluegill to hide from predators.
- Warm water species
- Seeks submerged vegetation and can be found near underwater structures like flooded timber and brush piles
- Prefers shallow water habitat where light penetrates

Diet:

- Aquatic insects and aquatic nymphs of terrestrial insects (example: caddisfly, dragonfly, mayfly, damselfly)
- Also will prey on small fish, crayfish, snails

Activity:

- Fairly sedentary; sunfish spend much of their time hovering quietly near submerged cover or in the shade of a tree or structure.
- In mid-day found in deeper water or in shade of overhanging trees or under docks
- In morning and evening, feeds in shallows
- Feeds by sight by foraging at the surface, in mid-water, and on the substrate

Crappie (*Poxomis annularis* [white crappie] & *Poxomis nigromaculatus* [black crappie]):

Identification:

- Deep-bodied, slab-sided
 - Large mouth extends to middle of eye, but not beyond eye

- Dorsal coloration is dark-olive, with silvery white sides
- Dark markings on sides either arranged in vertical bars or in irregular blotches
- Spots on anal, dorsal, and tail fins
- Anal-fin is nearly as long as the dorsal fin
- Adult crappie are often larger than 9 inches in Nebraska’s reservoirs, and a healthy adult can be well over a foot long. A 15-inch crappie is considered a “master angler” catch in Nebraska. The largest crappie caught in Nebraska on record was a black crappie that weighed in at 4 ½ lbs.

Habitat:

- Rocky areas
- Coves with brush piles
- Flooded trees
- During spawning in the spring, adults are found in shallower water
- After spawn, adults can be found in deeper water

Diet:

- Primarily small fish
- Also feeds on aquatic insects and crustaceans (especially when young)

Activity:

- Congregates in loose aggregations about submerged trees, boat docks, and other cover
- Fairly sedentary
- Active feeding in the evening and morning, sometimes near the surface
- Will feed during the day in deeper water

Largemouth bass (*Micropterus salmoides*):

Identification:

- Slender-bodied (body depth is 3 X or more the length of body), streamlined
- Very large mouth (mouth extends well past the back of the eye)

- Dorsal fin almost completely separated into two parts: spiny dorsal and soft dorsal (soft dorsal has only cartilaginous rays and no spines)
- Dark horizontal stripe on the mid-side of the body
- Dorsal markings are green, lower sides and belly are white
- Adult bass can grow larger than other sunfishes (the Family Centrarchidae includes, among other species, largemouth bass, bluegill, and crappie). A 20-inch largemouth is considered a “master angler” catch in Nebraska. The state record largemouth weighed in at 10 lbs. 11 oz.

Habitat:

- Flooded timber
- Brush piles
- At the edge of underwater ledges and drop-offs into deeper water
- Largemouth bass are sight feeders, and are most successful at finding prey in clear water

Diet:

- Primarily feeds on other fish (piscivorous)
- Also feeds on crayfish, large insects, frogs, anything that falls in the water or swims and will fit into its mouth

Activity:

- Spends the day in deeper water, lurking about logs, drift piles and other cover
- Moves into the shallows in morning and evening to feed.
- Will feed during the day in deeper water

Channel catfish (*Ictalurus punctatus*):

Identification:

- Elongate, slender bodied
- Smooth, scaleless skin
- Sensory barbels around the mouth
- Small, fatty tissue adipose fin near the tail fin
- Deeply forked tail fin

- Olive-brown to slate-blue coloration with white bellies; smaller fish have black spots on sides

Habitat:

- Occupies a variety of habitats, but can be located underneath structure (fallen trees, cavities in rock piles)
- Relies on taste rather than sight for feeding, so is tolerant of turbid (murky) water

Diet:

- Diet is varied depending on what is most available, includes fish, insects, crayfish, mollusks, and plant material
- Most food is taken from the bottom
- Will feed on decomposing organic matter (dead fish, dead plants, etc.)

Activity:

- Primarily active at night
- During daylight hours, will hide in natural cavities or remain sedentary in deeper pools.

BAIT: The purpose of the bait is to attract the fish to your hook using movement, vibration, color, and/or scent to catch the fish's attention. Lures are designed to resemble and move like prey, and often mimic fish or aquatic invertebrates. Even if they don't look like fish or critters to our eyes, their color patterns, reflections and movements in the water as they are cast and retrieved are designed to mimic living things. Lures in light, natural prey colors like silver and white are useful for clear-water conditions. In murky water, brightly colored lures can be a good choice. Some baits are designed to attract fish with the scents and tastes they release into the water. These are very effective when targeting fish like catfish that don't feed by sight.

The rigging and design of different baits and lures determine how they move in the water, and at what depths. Movement and depth of the bait can be manipulated by the angler to target fish effectively.

Jigs



Jigs are excellent lures many sport fish species. Small jigs can be used for bluegill and crappie, and larger jigs can be used for bass fishing.

A jig is composed of two parts: a weighted hook paired with a body. Jig hooks are made using a mold, which shapes metal to form the jig's head and collar. Most jig heads are made from lead, which gives the lure its weight. Round heads are one of the most popular jig styles, but heads can also be fish head shaped, coned shaped, or oval. The symmetrical head allows it to cut through the water quickly, and sink fast with minimal action on the fall. Collars come in different styles, but often have a small point to keep the jig bodies from sliding down the hook.

There is a wide array of bodies for jigs. The most common is made out of rubber or silicone. These come in many shapes and can resemble a grub, frog, fish, lizard, or different insects. The colors of these can range widely.



A common jig and body combination is a ball head jig with a twister-tail grub. This jig can be used to lure just about any sport fish. The curled tail undulates and emits vibrations when the jig is hopped up off the bottom, and it resembles a baitfish when reeled in.



Tube jigs, soft-plastic hollow bodies with tentacles at the hook-end, are also widely used. On a slack line these baits slowly spiral in a tight circle. When stationary, the tentacles will wave in the water current and when twitched they will pulsate.



Flipping jigs (or bass jigs) work well for catching bass. The body is a skirt of rubber strands that quiver as the jig descends and pulsate when the lure is jigged. These often come with thick plastic bristles called weed guards that help to prevent the hook from getting tangled in underwater vegetation. These jigs will sometimes have rattles in them.

How to fish with a jig:

Jig fishing takes concentration. Unlike many other lures, all the "action" (how a lure moves in the water) comes from you. If you don't do anything the jig just sinks. The classic way to fish a jig is to cast it out, wait until it hits the bottom (you will know it has hit bottom when your line goes slack), then retrieve it in a series of hops. You make it hop by lifting the rod tip, lowering it, and retrieving your line. Try different speeds, big lifts, little hops, twitching until you find what works. Pay attention, though. Detecting

the fish's strike is the hardest thing about jigging.

Jigs can also be fished by "swimming." Simply cast out and begin a slow, steady retrieve. The jig will flow smoothly through the water like a swimming baitfish.

You can also wind the jig in with a pumping action, pumping up and winding down the whole time you are retrieving the jig. As the jig jumps up, it looks like fleeing prey to a predatory fish, then as it falls on the down stroke of the rod, the bait looks like it is weak or resting and most of the time the strike will occur as the jig falls. Make sure you don't let any slack get in the line or you will not feel the strike.



Spinners

Spinners are a great beginner lure because they are so easy to use. Spinners will attract many sport fish. Small spinners can be used for crappie and bluegill. They are essentially a metal shaft with spinning blade. Often the shaft is decorated. The hook can be bare or dressed with hairs or feathers. Dragging a spinner through water causes the blade to spin. The spinning motion of the blade creates sound and vibration that attract fish. This makes spinners an excellent choice for stained or murky water.

How to fish with a spinner

Simple as can be! Cast and retrieve; that's it. As long as the blade is spinning, it's working. You can try speeding up or slowing down your retrieve for variety.

Plugs or crankbaits

A crankbait can best be described as a lure fashioned out of wood or plastic that's meant to resemble a fish (or, in some cases, a crawfish or grasshopper). It can have between one and three sets of hooks protruding from the underside of the body (normally treble hooks). Depending on the design, a plug will wobble, rattle, or gurgle. They come in all sizes, and many of them have a plastic lip that allows them to dive when you pull them through the water. The bigger the lip, the deeper the lure will dive. Crankbaits are available in a variety of body styles, each representing a different type of baitfish. The two most common styles of crankbaits you will encounter are "minnow" styles and "shad" styles.



Shad Body: This style of crankbait mimics the shad. These cranks have a large, rounded head and belly tapering and thinning down to the tail section. Shad baits are generally shorter than minnow baits, and the majority of these baits have two treble hooks hanging from the belly and the tail. A tight wiggle action can be achieved when using this bait, and due to the larger body and head, they give off a greater profile when swimming through the water. Largemouth bass are the main species targeted with shad-style crankbaits. Smallmouth also like a shad style, possibly because the shape and movement looks similar to a crayfish.



Minnow Body: Often referred to as "stickbaits" due to their shape. This crankbait is long and thin, offering a wider wobble than the standard shad style. There are certain species that feed predominantly on thin minnow prey, in which case, a crankbait in this style will be your best bet to use. Walleye, smallmouth bass, pike and muskie can be fished with stickbaits.



Flat Body Baits: This style of crank is thin and flat on both sides and do not have a lip. The tip and tail both form a perfect point and there is no diving lip. Commonly referred to as a "Rattle Trap," these cranks are weighted to sink, and are meant to be reeled in fast. These are considered countdown baits. Countdown baits generally fall one-foot per second; count down how many feet you want your lure to be, then begin your retrieve. Rattles are inserted into the body during the molding process and create a loud and distinct noise when pulled through the water. This acts as both a honing device and as an attractant. Most species of fish will chase down and strike this lure.

How to fish with crankbaits

As the name suggests, crankbaits must be "cranked" or reeled through the water column to give off the desired action. It is also this cranking motion that allows them to dive to the depth that they are manufactured to go. Similar to spinner baits, cast your lure and then reel in with a steady retrieval. You can also vary

the rate of retrieve, causing the lure to stop and start up again. Cranking the reel and stopping will help to impart more action to the plug. Crank baits work great when they retrieved rapidly and allowed to bump and bounce off of underwater structure. This will cause the lure to change direction rapidly, which simulates the action of a bait fish that is being pursued by predators. Although you may catch more fish with this method, be aware that you will lose more crank baits to snags. If the water you fish is crystal clear, or if the fish are "spooky," crankbaits without rattles are often a better bet; if the water is murky, though, tie on a rattling crank.

Spoons

Spoons are among the most widely used of all fishing lures. This is because they will take many species in a broad range of situations. They are extremely effective, versatile lures, and they are easy to use. Spoons' attraction stems from their action. -- pulled through the water or over the surface, these lures rock back and forth like an injured baitfish. Spoons are constructed from brass, copper, steel, lead or plastic. Predators such as bass, crappie, trout, walleyes, pike, muskies, stripers and are aroused by this action.

How to fish with spoons:

Cast it out and reel it back. The only trick is to find the proper retrieve speed. At the right speed, this lure will ride up on one side almost to the rollover point, then swing the opposite direction. If a spoon does roll over and spins through the water, the retrieve is too fast. Slow it down to achieve the right action. In most cases, a steady retrieve is best with a casting spoon. However, if fish are following

this lure without taking it, the fisherman might try lifting the bait or lowering it suddenly while continuing to reel. Sometimes this change in direction and speed makes the fish believe its prey is trying to escape, and this triggers a strike.



Casting spoons: the traditional spoon that runs underwater with a back-and-forth wobble. These lures are oval-shaped and have cupped bodies. Their thickness and weight dictate where and how they should be used. Thin, light casting spoons sink slowly, so they are better for fishing in shallow water and/or over the top of submerged weeds or brush or in cold water. In contrast, thick, heavy casting spoons sink faster and are better in deeper water or swift current. They must be retrieved faster, and this presentation is better suited to warm water and active fish. Casting spoons should be attached with a swivel to allow freedom of movement and keep line twist to a minimum.



Topwater spoons, also called "weedless spoons," are for casting and retrieving over and through aquatic vegetation. When reeled rapidly, these lures rise to the surface and skim over matted cover without snagging. Most feature a single hook welded to the body so it rides with the point turned up and away from snags; the hook is also shielded by a weed guard.. The hook can be adorned with a vinyl, rubber or feather skirt for extra attraction.



Jigging spoons are specialty lures designed to scour deep areas for bottom-hugging fish. They are thick, flat and heavy by design. They may be jigged vertically or cast out, allowed to sink down to bottom, then hopped across structure. Most strikes occur when a jigging spoon is freefalling down.

Spinnerbaits



Spinnerbaits and buzzbaits are awkward looking lures, consisting of a safety-pin like wire attached to a lead head body. The body usually is dressed with a rubber skirt and the arm with one or two metallic blades like those seen on spinners. Spinner baits are popular with bass fishermen.

How to fish with spinnerbaits

The most common way to fish a spinnerbait is to simply cast it out and retrieve it at a moderate speed, keeping the lure at a depth between the surface and five feet.

Soft plastic baits



Plastics encompass a variety of different lures, and can be used to target many sport fish. The classic soft plastic bait is the worm. These baits are created by pouring liquid plastic into a mold and adding dyes, metallic flakes, or even scent. They can resemble natural prey of fish like worms, crawfish, lizards or frogs. The legs, tails, etc. undulate as they move through the water. The soft plastic bodies of these lures encourage fish to hold on to them a little longer before they spit them out, giving the angler a better chance to set the hook.

How to fish with plastics

For the classic worm, a popular technique is the Texas Rig. To rig your worm this way, use a bullet weight above your hook, and insert the hook through the top of the worm's head, then bury the barb into the body of the worm to make it "weedless" (so it will not get hung up on underwater vegetation.) Cast and let it fall to the bottom. Twitch your rod tip a few times. If you don't have a bite, retrieve it in short twitchy hops.



plastic worm (texas rigged)

Live baits

An option for many sport fish species is live bait that can include earthworms (great for bluegill fishing), minnows (great for crappie fishing), crayfish, tadpoles, etc. Some water bodies have regulations against using live fish as bait. If using minnows, make sure that the regulations where you are fishing allow for live bait. Never transfer fish that you caught in one water body to another to use as bait. Transporting live fish to another water body is illegal.

Prepared baits

Dough baits are often used to attract catfish. Many catfish anglers have closely guarded secret recipes for dough baits that combine a variety of tastes and scents. Livers, hotdogs, shrimp, cut pieces of fish and other food items that will disperse a scent in the water are all good catfish attractants.

Resources:

<http://fishingnoob.com/68/types-of-fishing-lures/>

<http://www.learninghowtofish.com/>

http://www.ehow.com/how_4541247_fish-crank-bait.html#ixzz23AT2hFhs

<http://www.fieldandstream.com/photos/gallery/fishing/bass/2006/04/50-greatest-lures-all-time>

Career Focus:

The Activity:

Divide students into two to three groups. Each group will receive a set of fish models and a set of ID cards. Using the characteristics listed on the front of the card, have the groups identify each fish model. Before opening up the cards, ask the students what they might expect these fish to eat and where they might live. Habitat and diet information will be listed inside the cards. Continue the discussion by asking students what might be effective baits for fishing for these species. Have students examine the 'bait boxes' and determine which are the most appropriate for each species. Continue the discussion by asking students to brainstorm other ways to fish for these species.

Example questions to ask to guide the discussion:



Student Notebook:

- If you plan to fish for bluegill, what would you look for when you get to the lake?
- If you arrive at a lake and find that the water is murky, how might that affect your fishing decisions?
(example – you may decide to use a lure that has a noise maker in it, or use a really bright color to make the lure stand out, or you may want to fish for a species that does well in murky water, like a catfish.)
- What are some other fish species that you could catch with these lures and baits?
- How does clear water influence aquatic plant growth? (clear water allows light to penetrate so that plants can photosynthesize)
- Why is it illegal to transport live fish from one body of water to another? (encourages the spread of invasive species)

Wrap up:

Talk about the location of the outdoor skills day with the students and ask them what species they can expect to find in that lake, and what kind of bait they would select to use for fishing at that lake. Use the Nebraska Fishing guide to help answer these questions.

Session: Fish and Fishing

Activity: Lures and Knot Tying

Objectives: Participants will create a fishing lure and learn how to correctly tie lures to fishing line

Method: Students will design and create a spinner style fishing lure from materials provided in the tub. Students will practice knot tying using the kits provided, and then tie their lure to a spool of fishing line and test the knot by hanging a weight from the lure.

Materials Contained in Kit:

- NGPC Fish ID book
- Bass Pro or Cabela's Fishing catalog
- Boxes of Trilene line
- Knot tying cards
- Knot tying kit with 6 shark hooks and 6 lengths of rope
- Knot-testing weight

Duration: 30-45 minutes

Group Size: 12 students, teams of 2

Setting: Indoors

Key Terms: lure, spinner, clinch knot, treble hook

SET Abilities:

Fair Project: Lures Board

Materials Cont.:

For lure construction:

- Paper clips
- Treble hooks
- Swivels
- Pop cans
- Duct tape
- Feathers
- Waterproof glue
- Pliers

Materials Needed for Activity:

- Scissors
- Masking tape

Field Day Activity: Students will attempt to catch a fish with their handmade lures during the outdoor skills day.

Background: The purpose of a lure is to use movement, vibration, color, and/or scent to catch the fish's attention so it bites the hook. Lures are designed to resemble and move like prey, and often mimic fish or aquatic invertebrates. Even if they don't look like fish or critters to our eyes, their color patterns, reflections and movements in the water as they are cast and retrieved are designed to mimic living things.

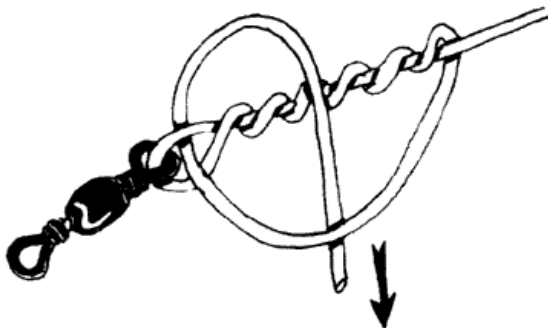
Modern fishing lures were first manufactured commercially in the United States in the early 1900's by the firm of Heddon & Pflueger in Michigan. These lures were often designed from proven lures that were fashioned from

old kitchen spoons or whittled from pieces of wood.

A spinner is a lure with a blade attached around a weighted body. The spinner is designed to spin when cast and retrieved, so the blade rotates and creates vibrations in the water. The attached treble hook (a hook with three points) is sometimes camouflaged with hair- or feather-like materials. Treble hooks are useful when using big lures that may impede a single hook from connecting with and setting in a fish's mouth.

Knot tying is probably the most important skill an angler can learn. A hook tied with a bad knot will come loose when met with resistance (a fish on the hook), and an improper knot can weaken and break the fishing line. The improved clinch knot is one of the simplest and strongest knots used for attaching hooks and lures to a line.

An example of a knot that weakens a line is one that fishermen call a 'wind knot'. To demonstrate this, tie a simple overhand loop in the fishing line. If a significant weight is suspended from a line with a wind knot in it, the line will pinch itself at the knot until it breaks.



Step 1: Insert 4 to 6 inches of line end through the hook eye, making 6 to 7 wraps around the standing part of the line (the part attached to the pole).

Insert the tag end (the free end) through the small loop near the eye, then bring it back through larger loop.



Step 2: Pull on both the swivel/hook/lure and standing line in even opposite directions until knot draws tightly against hook eye. Trim tag end.

Career Focus:

The Activity:

MAKING THE LURE:

Students will work in pairs. Distribute lure making components to each student (pop cans can be shared by a pair).

- Cover the points of the hook with masking tape for safety
- Thread the swivel onto the top of the paper clip
- Thread the treble hook onto other side of the paper clip
- Punch scissors into the aluminum can, and cut out a square, being careful to avoid sharp edges while cutting
- Measure the length of your paperclip and cut a piece of aluminum slightly shorter than the clip and about 3X the width.
- Place the paperclip near the edge of the aluminum piece, and using your fingers, pinch one fold in the aluminum.
- Open the fold and remove the paper clip.

- Line the foil with waterproof glue and place $\frac{1}{2}$ of your feather/hair material on the foil extending out on the side where the hook will be.
- Replace the paperclip and place the rest of the feather/hair material on top of the paperclip
- Using your fingers, fold the aluminum back over the clip, and continue wrap the piece tightly around the clip
- Cut off excess foil once the clip is completely wrapped.
- Use pliers to crimp the foil down over the paperclip, along the entire length of the clip
- Encourage students to be creative with the shape of the lure (for instance, they can bend it slightly with the pliers to put a curve in the body, which will influence the way it moves through the water)
- Students can cut out shapes from reflector tape or use paints to decorate their lure, using the catalog and fish ID book for ideas
- Students can also choose to use the colored side of the pop can (as shown) instead of painting the lure.





Have students discuss what species and sizes of fish they would expect to catch using their lures.

KNOT TYING:

Students will continue to work in pairs.

- Pass out a shark hook and length of rope to each pair, and a knot tying card to each individual.
- Have one student hold the end of the rope and act as the fishing pole as the other student practices making the improved clinch knot using the card as a guide.
- Let both students practice with the rope and shark hook until they feel comfortable.
- Pass out a box of fishing line to each pair.
- Keeping the spool in the box, have students pull enough line out to tie the lure on using the improved clinch knot.
- Before clipping a lure off to free the line for the next student, have the student check the strength of the

knot by hanging the weight from the lure.

- The box of line should be held securely on a table by one student while the other attaches the weight to the lure.

Wrap up:

Ask the students to describe why they chose the colors, shapes they used on their lures.

- Guide a discussion of what other items found around the house or yard could be used to create a lure

Examples:

- Potato chip bag cut into streamers
- Chicken feathers
- Feathers from game birds
- Dog hair
- Old kitchen spoons

Tell students to keep their lures and knot tying cards for future sessions.



Student Notebook

Awesome Lures

Choose lures in sizes made to catch the fish you pursue. It makes sense to buy a monster muskie lure only if you plan to fish for muskies.

Jigs look like insects, small fish, or other natural fish food. A jig has a hook and weighted head, so you don't need to add split shot. Many have a tail made of feathers, hair, or soft plastic. A jig can work for almost any fish species.



Plastic worms

sometimes contain scents to attract fish. Try them in many shapes and sizes for bass, sunfish, and walleye.



Spinners have one or more blades that spin around a metal shaft. Most have tails of soft plastic or animal hair. Trout, bass, and northern pike see the flash of spinning blades and feel vibrations.

Diving lures or crankbaits imitate minnows. The “lips” cause them to dive and wiggle, luring big predators such as bass, walleye, northerns, and muskies.



Surface lures or poppers float like insects or frogs. Try various sizes for all species.

Spoons have a large blade that wobbles like a minnow. Cast one to attract trout, northern pike, walleye, bass, and salmon.



Fresh Bait

Add a live minnow, leech, or worm to your artificial lure to entice fish to bite. Bread and whole-kernel canned corn also work great for many fish species.

Session: Fish and Fishing

Activity: Gather your tackle and get ready to fish

Objectives: Participants will identify the contents of a tackle box and create a plan for an upcoming fishing trip.

Test: students will be equipped to go fishing on the skills day

Method: Explore the contents of a tackle box and through group discussion will identify each item and describe its function and importance. Students will outline a plan for an upcoming fishing trip.

Materials Contained in Kit:

- Tackle box each equipped with the components listed below in “filling your tackle box”
- laminated copy of “Awesome Lures”
- “Plan Your Trip” worksheet

Materials Needed to Conduct Activity:

- Pencils
- Plastic or paper bags
- Copies of “Plan Your Trip” worksheet

Field Day Activity: Students will be equipped to go fishing.

Duration: 30-45 minutes

Group Size: 12 students, in two groups

Setting: Indoors or outdoors

Key Terms: tackle, bobber, sinker, swivel, lure, stringer

SET Abilities:

Fair Project: Tackle box with fishing plan

Background Information:

Tackle - general term that refers to the equipment used by anglers (fishers) when fishing. Almost any equipment or gear used for fishing can be called fishing tackle.

Choosing your tackle box:

If most of your fishing is done from the bank of a lake or stream, a 1 or 2 tray hard plastic box will work well. As you develop more specific fishing interests, you can expand to larger, more complex containers.

- Have enough trays to store lures separately.
- Latch fastens securely.
- Water resistant.
- Sometimes plastic worms can react with the material of the tackle box. If you store plastic worms, keep them in their bags or look for a tackle box that is constructed with non-reactive materials.)

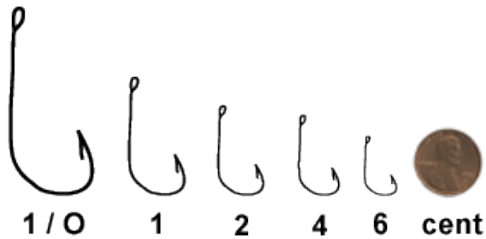
Filling your tackle box:

- **Fishing guide**
 - List public waters of Nebraska
 - Species available to catch
 - Regulations (length limits, bag limits, possession limits)
- **Fish ID book**
- **Fishing permit:** At 16 years old, you are required to purchase a fishing permit if you are going to fish in Nebraska. *(It's handy to keep your permit in your tackle box, safe inside a waterproof sleeve.)*
- **Knot tying card:** Card will help you tie a secure knot so you don't lose your fish.

Hooks

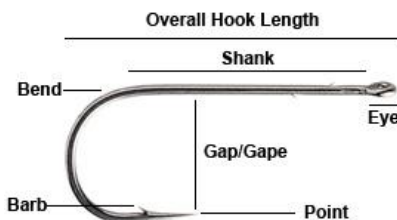
- Hook size - Indicated by a number (2,4,6,8...), and larger numbers indicate smaller hooks. Use when fishing for small species (bluegill & crappie)

Very large hooks are sized differently (1/0, 2/0, 3/0..., read one aught, two aught, three aught), and with this designation, larger numbers indicate larger hooks. Larger species such as walleye and pike.



(These are some common hooks that are a good choice for a tackle box)

- Treble hooks - have 3 points, and are often used with prepared baits such as doughballs or marshmallows.
- Shapes Many have straight shanks, but some are bent to help hold bait, or prevent fish from swallowing the hook.



A note about the barb of the hook: The larger the barb, the more difficult it is for the fish (and likely yourself) to get the hook free. Many catch and release anglers pinch barbs with pliers or file them down for easy hook removal.

- Types of Hooks



Bait Worm Circle Weedless

1. Bait hooks come in a variety of styles and are the white-bread option of hooks. Most feature barbs on the shaft to hold bait in place. Longer shank hooks are good for teaching kids to fish.
2. Worm hooks are used to fish soft-plastic baits. Worm hooks feature a slight bend just below the hook eye and a wide gap; these features help hold the bait secure and help set the hook.
3. Circle hooks have a pronounced circular bend, short shank and an inward bending point. Many fish will swallow bait, resulting in gut hooking with conventional live bait hooks. Circle hooks act differently. When an angler detects a bite, a slow steady pull of the line is all that's needed to move the hook to the side or top of the fish's mouth to prevent gut hooking. This style of hook is an excellent choice for bait fishing and catch and release practices.
4. Weedless hooks feature plastic or wire guards that stand out in front of the hook point. They help keep weeds from snagging the point, letting you fish vegetation a lot easier.

Sinkers

Pieces of metal that provide weight to help cast lightweight baits and help bait sink. It is good to have a variety of sinker types and sizes in your tackle box.



Split shot



Bell sinkers



Slip sinkers

Split shot are small, round sinkers with an opening in the center and usually with wings on the back. They can be crimped on your line with pliers and removed from your line using pliers to pinch the wings open.

Bell sinkers are molded around a shaft with an eye, and fishing line can be threaded through or tied directly to the eye. These sinkers cast well in the wind, and are good for shore fishing. The rounded profile of the sinkers also reduces its chance of snagging.

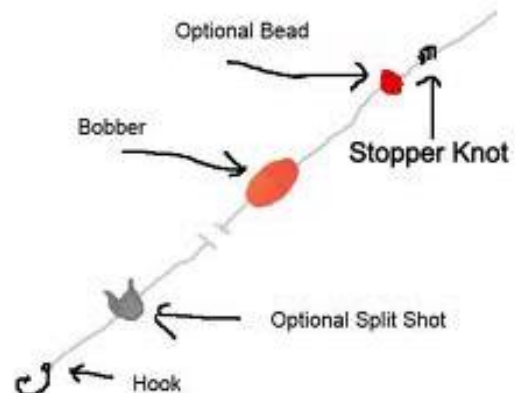
Slip sinkers are threaded onto the line and can slide up and down on the line. They can be round, bullet shaped or egg shaped. Slip sinkers allow the line to slide through the sinker when a fish takes the bait, so it does not feel unnatural pressure from the sinker. This makes it more likely for the fish to keep and swim off with the bait, allowing anglers time to set the hook. Slip sinkers are often held on the line at a distance from the hook using a split shot.

Bobbers

Keep your bait suspended off the bottom, and also provide an indication of when a fish takes your bait.



Clip on bobbers are usually round and have a button on one side that extends a hook to the opposite side so the line can be slipped through. The button can also be depressed exposing a second hook to secure the line to. Clip on bobbers need be no larger than 1 inch. Slip bobbers are designed to slide along the line, allowing the angler more options for setting the depth of the bait. Slip bobbers need to be used with a bobber stop which consists of a round bead that goes above the float and a stopper knot which is positioned above the bead. A split shot can be used to keep the bobber from sliding all the way to the hook.



Swivels

Some lures such as spoons and crankbaits can cause the line to twist as they wobble when retrieved. Attaching a swivel to the line before attaching a lure will prevent line twisting. Swivels can also be used as a stop for slip sinkers or bobbers.



Assorted Lures

Keep an assortment of lures in your tackle box that will allow you to fish for a variety of species.

Needle-Nose Pliers

Useful in helping attach and remove split shot and in helping to remove a hook from a fish's mouth.

Nail Clippers

Handy for cutting excess fishing line after tying a knot.

First Aid

Disinfectant, band-aids, and antibiotic ointment in a zip-lock bag are good to have on hand when dealing with sharp objects (hooks and fish's spines).

Tape Measure

Determine whether a fish is long enough to take home.

Fishing Line

(or an extra reel): Over time, your line will become brittle from twists or nicks. If your line is breaking repeatedly while you are out fishing, it is nice to have a backup reel, or some extra line. It is best to carry a mid-weight (8- to 10-pound test) monofilament line for multipurpose use.

Whistle

A whistle can be heard from greater distances than a person's cry for help. A repetition of three short blasts followed by a pause is the international signal for distress.

Sunscreen & Insect Repellent

Travel size fit in tackle box

Stringer

A stringer is useful if you want to keep the fish you've caught while you continue fishing. The stringer can be threaded through the fish's mouth and secured on the shore, allowing the fish to stay alive, in the water until you are done fishing.



Sources:

- <http://www.wikihow.com/Start-Up-a-Freshwater-Fishing-Tackle-Box>
- www.basspro.com

Career Focus:

Activity:

PART I:

As a group, students will empty the contents of the tackle boxes, creating a pile of 'identified' items and a pile of items they need to learn about. Many items will be easily identified, and the lures should be familiar to the students from the "Attract a Fish" lesson.

Have the group take turns describing items in their 'identified' piles. Guide the discussion so that each item is named and its function is understood.

Point out that hooks, bobbers, and sinkers come in a variety of shapes and sizes (as outlined above) and discuss the differences.

As items are discussed, have students return them to the tackle boxes. Once all 'identified' items are returned to the boxes, have the students take guesses about the functions of the remaining items. Guide them in determining their use and importance as part of the tackle box.

Ask students if they can think of anything else they would include in a tackle box.

Example of questions that can guide discussion:

- What are some features that make a good tackle box?
- When do you need to carry a fishing permit?
- How does the number of a hook indicate its size?
- What is a good hook size to use for a bluegill?
- What are two functions of a sinker?
- Why might you want to use a slip sinker?
- When would it be important to measure a fish?
- What might you catch if you fished with this [insert: jig, crankbait, plastic worm, etc.]?
Use the 'Awesome Lures' handout as a guide. Give students a copy for the student notebook.
- Why is it important to keep a regulations book with you?
Remind students that regulations are not the same on every body of water, and that ignoring regulations when fishing is breaking the law, also that regulations serve an important

purpose to help maintain good fishing opportunities for anglers.

PART II:

Pass out copies of fish ID books and fishing guides to each student. Have students create a fishing plan for an upcoming trip using the "Plan Your Trip" worksheet, fishing guide, fish id book, and knowledge learned from the "Attract a Fish" lesson.

Have them discuss as a group:

- Where I'll fish
- When I'll fish (time of day)
- What I want to fish for
- What I'll use for bait
- What type of habitat I'll target

Wrap Up:

Pass out a bag to each student, and tell students to keep their guides, ID books, and fishing plans with the lures they made to use previously to use during the field trip fishing activity.



Student Notebook:

- Lures Handout
- Fishing Plan Worksheet



Plan your trip

Species:

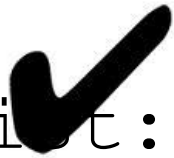
Location:

Time of day:

habitat:

Bait type:

Checklist:



Water

Tackle box

Hooks

Snacks

Fish ID book

Bobbers

Cell phone/camera

Fishing guide

Sinkers

Fishing pole

Fishing permit

Swivels

Lures

Tape measure

Filet knife

Pliers

Extra line or reel

Stringer

Clippers

Whistle

Ice

First aid kit

Sunscreen/bugspray

Ziplock bag