

Fire Safety Quiz

	YES	NO
Before the heating season begins, do you have your heating system inspected and serviced?	_____	_____
Are all flue pipes, vent connectors, gas vents and chimneys inspected each fall, and cleaned and repaired as necessary?	_____	_____
Have you eliminated all vent connectors and flue pipes that pass through attics, floors and ceilings?	_____	_____
Are walls, ceilings and partitions near heating and cooking equipment either adequately separated from these sources of heat or protected by noncombustible insulation?	_____	_____
Are wood floors under stoves and heaters protected by insulation or ventilated air space?	_____	_____
Is your stove, including oven and broiler, kept clean of grease?	_____	_____
Are curtains near stoves and heating equipment arranged so as not to blow over them?	_____	_____
Are all heaters set level, and placed out of the way of traffic?	_____	_____
Do you always turn out portable oil or gas heaters when you go to bed?	_____	_____
Since gas and oil heaters use up oxygen as they burn, do you always keep a door or window slightly open in any room where such a heater is being used?	_____	_____
Do you always refill the fuel tank of you oil heaters and oil stoves outdoors and in daylight?	_____	_____
Do you see that any portable heater is placed well away from curtains bedding, furniture and other combustible materials?	_____	_____
Are the gas connections for portable heaters or other gas appliances made of metal?	_____	_____
Is your inside basement door at the head of the stairs properly fitted and kept closed at night?	_____	_____
Has everyone in the family been warned never to use kerosene, or other flammable liquids, to start a fire in the stove, fireplace or furnace?	_____	_____
Is every fireplace equipped with a sturdy metal fire screen?	_____	_____

FIRE SAFETY QUIZ - Yard and Garage Hazards

	YES	NO
Do you keep your yard cleared of leaves, debris and combustible rubbish?	_____	_____
If any of the surrounding property is vacant, have weeds, dry leaves and rubbish been cleared off?	_____	_____
If you keep gasoline for use in a power mower or outboard motor, is it stored in a strong, metal safety-type can with self-closing caps on the opening?	_____	_____
If your garage is attached to the house, is it separated by a tight fitting door which is kept closed?	_____	_____
<u>Special for Parents</u>		
Do you keep matches out of the reach of children?	_____	_____
Do you leave a responsible person with your children when you go out, even for a little while?	_____	_____
When you employ baby-sitters, do you instruct them carefully on what to do in case of fire?	_____	_____
<u>IMPORTANT: A child learns by example as well as by instruction. In regard to fire safety, do you always set a good example?</u>		
<u>In Case of Fire</u>		
Do you know the location of the fire alarm box nearest your home?	_____	_____
Do you know how to turn in a fire alarm?	_____	_____
Do you know the telephone number of the Fire department?	_____	_____
Have you worked out a plan of escape from every room in your home, especially the bedrooms?	_____	_____
Have you practiced that escape plan by holding fire drills in your home?	_____	_____

Every NO check points to a fire hazard. Correct it immediately.





OUTDOORSMAN ACTIVITY BADGE

Many people say that Webelos Scouting is the bridge between Cub Scouting and Scouting. If this is true, than the Scouting end of the bridge must be supported by Outdoorsman Activity Badge. In this badge, the Webelos Scout will receive a preview of the fun he will have in Scouting.

The best way to work on this badge is on a Parent-Son overnight campout. Policies of the Boy Scouts of America encourage campouts during the Webelos years. This is not full-fledged Scout camping ... only a taste of what is to come when the boy joins a troop. After a boy becomes a Scout he will become proficient in handling himself in the woods. As a Webelos Scout, he should not be expected to master any of these skills beyond entry level Boy Scout skills. He should have a good time in the woods while getting ready to graduate up to Boy Scouting.

Den Activities:

1. Make an improvised sleeping bag or bed.
2. Teach campfire safety and prepare the safety water and sand buckets. Remember, NO flame lights in tests and NO liquid fire starters.
3. Teach fire laying for regular wood or charcoal fires.
4. Learn aluminum foil cooking techniques. Have a den cookout.
5. Review and learn knot-tying used in camping.
6. Set up a tent like the type to be used on an overnight campout. Have the boys become familiar with this type of tent.
8. Invite a Boy Scout to visit the den and explain how he prepares a backpack.
9. With the boys plan an overnight campout. Prepare a list of items needed for a overnight campout and for backyard camping.
10. Discuss the "Outdoor Code" and use as a den closing.

Related Boy Scout Merit Badge Books:

Camping - Campsite selection and layout, dish washing, proper clothing, packs and packing, equipment, menus, tent pitching, ground bed, fireplaces, fire building, fire safety.

Cooking - Menus, equipment preparation and clean-up, fire building, grills, charcoal cooking.

Firemanship - Outdoor fire safety.

Forestry - Outdoor fire safety.

Wilderness Survival - Primitive fire building, clothing, supplies.

Boy Scout Camping Skill Book



OUTDOOR CODE

BOY SCOUTS OF AMERICA

AS AN AMERICAN, I WILL DO MY BEST TO:

BE CLEAN IN MY OUTDOOR MANNERS

I WILL TREAT THE OUTDOORS AS A HERITAGE TO BE IMPROVED FOR OUR GREATER ENJOYMENT. I WILL KEEP MY TRASH AND GARBAGE OUT OF AMERICA'S WATERS, FIELDS, WOODS AND ROADWAYS.

BE CAREFUL WITH FIRE

I WILL PREVENT WILD FIRE. I WILL BUILD MY FIRE IN A SAFE PLACE, AND BE SURE IT IS DEAD OUT BEFORE I LEAVE.

BE CONSIDERATE IN THE OUTDOORS

I WILL TREAT PUBLIC AND PRIVATE PROPERTY WITH RESPECT. I WILL REMEMBER THAT USE OF THE OUTDOORS IS A PRIVILEGE I CAN LOSE BY ABUSE.

BE CONSERVATION-MINDED

I WILL LEARN HOW TO PRACTICE GOOD CONSERVATION OF SOIL, WATERS, FORESTS, MINERALS, GRASSLANDS, AND WILD LIFE; AND I WILL URGE OTHERS TO DO THE SAME. I WILL USE SPORTSMAN-LIKE METHODS IN ALL MY OUTDOOR ACTIVITIES.



DEN GAMES

KNOTS GALORE: Give the team captains a 24 inch length of rope. At a signal, the captains tie a knot in one end of the rope, the second player ties a knot near the first, and so on down the line, There should be a knot for every player on the team. After all knots are tied and number checked, it goes down the line again, with each player untying a knot until the rope is returned to its original shape. First team to finish wins.

TENT UP AND TENT DOWN: This is a good game for practice by dividing the den up into teams or can be played a father-son event during the overnight campout. The object of the game is to see which team can set up their tent in the fastest time. (The tent has to stay up!)

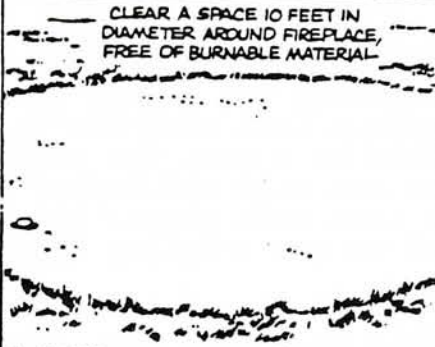
FIREWOODS

WOOD	Fire Rating		Value As:			REMARKS
	Green	Dead & Dry	Tinder	Kindling	Fuel	
HARDWOODS						
Hickory	Very Good	Excellent		X	X	"Best"
Oak - White		Very Good		Twigs	X	
Oak - Black		Excellent		Twigs	X	Fine Coals
Oak - Red	Poor	Good		Twigs	X	
Ash - White	Very Good	Good			X	
Dogwood		Very Good			X	
Beech	Fair	Good		Twigs	X	
Sugar Maple	Fair	Good		X	X	
Elm - American		Fairly Good		Twigs	X	
Cherry		Fair to Good			X	
Birch - Yellow	Very Good	Good	Bark	X	X	
Birch - White	Poor to Fair	Good	Bark	X	X	
Ironwood		Very Good		Twigs	X	
Sycamore	No good	Fair to Good				
SOFTWOODS						
Pine - White	No good	Fairly Good		X	X	Soot
Pine - Norway		Fairly Good		X		Soot
Pine - Pitch	No good	Good	X	X		Full of Soot
Balsam Fir	No good	Fair to Good		Twigs		Crackler
Spruce		Fair	Twigs	X	X	Crackler
Hemlock		Fair to Good	Twigs	X	Bark	Spitfire
Cedar - Red		Fairly Good	Bark	X		Spitfire
Cedar - Arbor Vitae		Good	Bark	X		Spitfire
Tamarack	No Good	Fair to Good		X	X	Spitfire
Maple - Red	Fair	Good		X	X	
Tulip	No good	Fair		∴	X	
Poplar (General)	Poor	Very Good	Bark	X	X	No coals
Sassafras	No Good	Fair		Twigs	∴	Spitfire

How To Build a FIRE



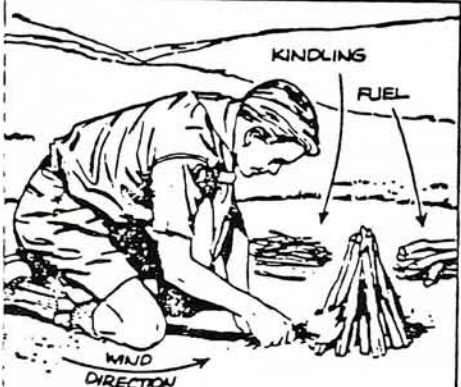
THERE ARE FOUR SIMPLE STEPS IN BUILDING A GOOD FIRE. HERE THEY ARE...



1. CLEAR A FIRE SITE... IN A SAFE PLACE AWAY FROM TREES, BRUSH, OVERHANGING BRANCHES.



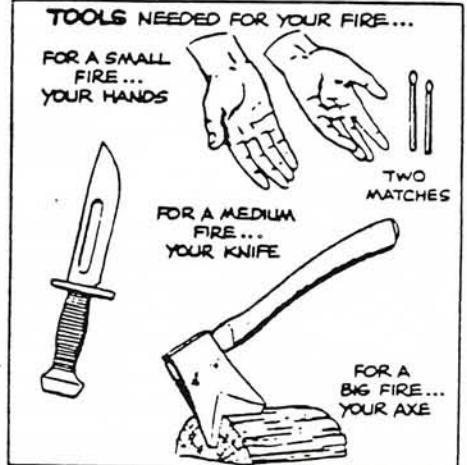
2. GATHER ALL YOUR MATERIALS. GET PLENTY OF TINDER, KINDLING, FUEL—AND LAY 'EM WITHIN EASY REACHING DISTANCE OF YOUR FIREPLACE.



3. LIGHT YOUR FIRE FROM WINDWARD SIDE. "MULTIPLY YOUR MATCH" BY LIGHTING A HANDFUL OF TINDER. USE THIS "TORCH" TO IGNITE FIRE.



4. FEED YOUR FIRE FROM THE LEE SIDE... KINDLING FIRST, LARGER FUEL NEXT... THAT'S WHY YOU WANT YOUR MATERIALS HANDY!



TOOLS NEEDED FOR YOUR FIRE...
 FOR A SMALL FIRE... YOUR HANDS
 TWO MATCHES
 FOR A MEDIUM FIRE... YOUR KNIFE
 FOR A BIG FIRE... YOUR AXE

THERE'S A RIGHT FIRE FOR EVERY PURPOSE!

COOKING

HIKE FIRE
 USE ALMOST ANY KIND OF WOOD... KEEP IT SMALL.

HUNTER'S FIRE
 USE LOGS FOR SIDES... LINE UP WITH WIND

ROCK FIRE
 ONE OF THE BEST TYPES OF FIRES—ESPECIALLY FOR SEMI-FIXED CAMP

TRENCH FIRE
 FINE FOR WINDY PLACES OR AREAS OF FIRE DANGER. DRAWBACK... FLOODS EASILY.

WARMTH

SCOUT FIRE... SIMPLE, QUICKLY BUILT AND EFFICIENT. ARRANGE AS TEPEE, ADD FUEL IN CRISS-CROSS FASHION.

ROCK REFLECTOR— AN EXCELLENT HEATING FIRE. ROCK CONTINUES TO RADIATE HEAT AFTER FIRE DIES DOWN.

LOG REFLECTOR FIRE
 MAKES A GOOD WINDBREAK. CHINK LOGS WITH MUD SO THEY WILL ROT BURN TOO FAST.

FELLOWSHIP

BACK-LOG FIRE
 A GOOD COUNCIL FIRE FOR A SMALL GROUP. ALSO FINE FOR COOKING AND HEATING. USE BIG SEASONED LOG FOR BACK-LOG.

COUNCIL FIRE
 THE BEST TYPE OF FELLOWSHIP FIRE. BUILD IT SOLIDLY... NOT AS A HOLLOW "LOG CABIN"! PLACE TINDER AND KINDLING HIGH... LIGHT THIS FIRE NEAR TOP.

WHEN YOU'RE FINISHED WITH ANY FIRE, DROWN IT!

FIRE-MAKING

HINTS

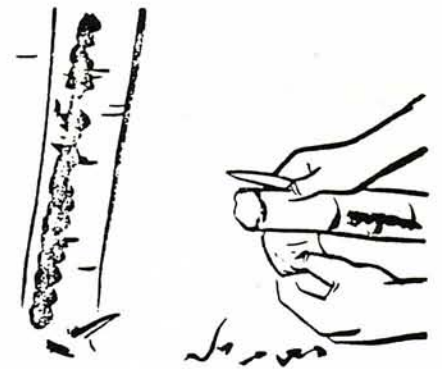
FOR EASY FIREMAKING
MAKE USE OF THESE TRICKS

LEARN TO MAKE your fire building as simple as possible. Here are tricks used by seasoned campers to make their job easy:

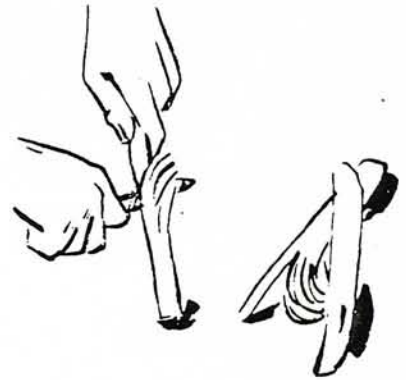
- • Bring two sets of matches to camp: your usual supply and a reserve supply to be used in case of emergency only . . .
- • Waterproof reserve matches with two coats of ordinary nail polish and keep them in waterproof container . . .
- • Candle stumps are good fire starters for rainy days. So are one-inch squares of wall-board soaked in paraffin, wax paper, or a "Heatab" . . .
- • Get into the true woodman's habit of putting out your match: Blow it out, break it in two between your fingers, put it in your pocket. If it isn't out, you'll know it . . .
- • Pick dead down-wood that is off the ground. Even better is "squaw wood"—dead

branches still on the tree. "If you can't snap it, SCRAP IT" . . .

- • Split wood burns easier than round sticks . . .
- • Collect all wood you need for cooking the complete meal before starting fire . . .
- • Put a supply of dry wood in your tent at night in case of rain or heavy dew . . .
- • It's against the law to leave the camp-fire unattended, even for a short time . . .
- • Before you put pots over the fire, smear the outside of them with a paste made from soap powder or soap flakes with a little water—makes cleaning easier afterwards . . .
- • Keep your camp kitchen clean. "Make no mess, and you have no mess" . . .
- • When you've finished using your fire, put it out COMPLETELY: "Always drown, before you go, every spark with H₂O!"



Birch bark is one of the best fire starters. Peel a small strip off an old, DEAD tree trunk.



The fuzz-stick fire starter is made by whittling a dead stick, leaving all of the slivers attached.








"Squaw wood" is the camper's term for dead branches still on the tree. They should snap easily.



Collect wood for all your meals in advance, and stack it in a neat pile, according to use and size.

FIRE-MAKING MATERIALS

1. FIRE STARTERS	2. TINDER	3. KINDLING	4. FUEL
<p>MATCHES KITCHEN SIZE ARE BEST. WATERPROOF WITH PARAFFIN, NAIL POLISH, OR SHELLAC OUT 50-50 WITH ALCOHOL.</p> <p>FLINT AND STEEL ANY QUARTZ-CONTAINING STONE IS GOOD. FOR STEEL USE BACK OF KNIFE BLADE OR FILE WITH BURR GROUND OFF</p> <p>FIRE BY FRICTION COTTONWOOD, CEDAR, ELM, OR BASSWOOD FOR BOARD AND SPINDLE</p> <p>BURNING GLASS MAGNIFYING GLASS OR LENS OF BINOCULARS OR CAMERA</p>  	<p>GRASS FINE, DRY—UP OFF THE GROUND.</p> <p>WEEDTOPS GOLDENROD, ASTER, ETC.</p> <p>DRY LEAVES STILL ON THE TREE</p> <p>FINE TWIGGS "SQUAW WOOD" FROM STANDING TREES</p> <p>BARK CEDAR OR BIRCH OR PALMETTO—PICKED FROM DEAD STANDING TREES WITH YOUR FINGERNAILS</p> <p>BIRDS' NESTS FROM LAST SEASON</p> <p>MICE NESTS ANY SEASON</p> <p>"FAT" PINE FULL OF PITCH</p> <p>FOUR SHAVINGS OF DRY WOOD</p> <p>PAPER</p> <p>CANDLES PARAFFIN AND PAPER OR STRING</p> <p>COMMERCIAL STARTERS STERNO META TABLETS FIRE FLARES ETC.</p>	<p>TWIGGS DEAD, DRY "SQUAW WOOD" FROM STANDING TREES.</p> <p>WEED STEMS MEDIUM AND HEAVY STEMS</p> <p>SPLIT WOOD ALWAYS GOOD AS LONG AS IT IS:</p> <ol style="list-style-type: none"> 1) DRY 2) SPLIT FINE ENOUGH 3) MORE THAN YOU THINK YOU NEED 	<p>WOOD ANY SIZE. BETTER SPLIT IT IF YOUR LOG IS MORE THAN 3 INCHES IN DIAMETER.</p> <p>CHARCOAL IN "NATURAL" STICKS OR PRESSED BRIQUETS.</p> <p>COAL SOFT OR HARD</p>   <p>"SQUAW WOOD" THE FINE TWIGGS AND BRANCHES THAT A SQUAW CAN GET FROM A STANDING TREE WITHOUT USING ANY TOOL OTHER THAN HER HANDS</p> <p>PETROLEUM PRODUCTS ARE USED ONLY IF YOU'RE VERY DESPERATE OR VERY DUMB. GASOLINE—NEVER!</p>

Reprinted from

BOYS' LIFE

Web-Out-5
for all boys



Prevent FIRES!



FALL, WHEN THE LEAVES ARE DRY, IS ONE OF THE MOST DANGEROUS TIMES OF THE YEAR FOR FOREST FIRES. **ONLY YOU CAN PREVENT FIRES!** LEARN THESE SIMPLE OUTDOOR FIRE PREVENTION STEPS SO THAT YOU DO THEM AUTOMATICALLY WHEN YOU'RE IN THE WOODS.

MATCHES



ALWAYS BREAK IN TWO AFTER USING

COOKING FIRES



KEEP WOODPILE AWAY FROM FIRE

KEEP FIRE TOOLS HANDY. (LOOSE DIRT FOR SMOTHERING FIRE, POINTED STICK FOR STIRRING ASHES, CAMP-MADE BROOM FOR BEATING OUT SPARKS.)

CLEAR A SPACE 10 FEET IN DIAMETER OF ALL FLAMMABLE MATERIAL.

PUTTING OUT WITH WATER



SPRINKLE WITH BACKS OF FINGERS

SPREAD STICKS AND COALS



SPRINKLE AGAIN. DON'T LEAVE IT UNTIL THE COALS ARE COOL ENOUGH TO PUT YOUR HANDS ON.



PUTTING OUT WITHOUT WATER

SPREAD STICKS AND COALS



SCRAPE BURNING EMBERS FROM LARGE LOGS AND STICKS.



COVER WITH DIRT



CHECK AND BE SURE THE FIRE IS DEAD OUT.



ALUMINUM FOIL COOKING

In cooking over a fire, the coals are to be red hot and never flaming. The most important thing is to carefully wrap the food tightly in aluminum foil. Foods that require different cooking times should be wrapped separately. The following are typical cooking times.

Hamburger	8 - 12 minutes
Beef 1" cubes	20 - 30 minutes
Chicken pieces	20 - 30 minutes
Frankfurters	5 - 10 minutes
Pork Chops	30 - 40 minutes
Whole Fish	15 - 20 minutes
Carrots	15 - 20 minutes
Corn ears	6 - 10 minutes
Potatoes, whole	45 - 60 minutes
Potatoes, sliced	20 - 25 minutes
Apples, whole	20 - 30 minutes
Bananas, in skin	8 - 10 minutes

FRYING ON FOIL: For an emergency frying pan, make it out of foil. Cover a forked stick or a coat hanger shaped like a diamond or circle, with foil. Grease top of foil before frying (except when cooking bacon.)

POPULAR RECIPES

BOILED DINNER: Lay a large flat hamburger patty or pork chop on a sheet of heavy-duty aluminum foil; cover with slices of raw potato, onion, and carrots; season with butter, salt and pepper; wrap food with foil. Cook for about 20 minutes over hot coals, turning twice.

HOBO POPCORN: Serves eight. 8 squares of heavy-duty aluminum foil each 6 x 6 inches; 8 teaspoons cooking oil; 1/2 cup popcorn, string. In center of each foil square place one teaspoon of cooking oil and one tablespoon of popcorn, bring foil corners together to make a pouch. Seal the edges by folding but allow room for popcorn to pop. Shake constantly until all corn has popped. Season with margarine.

COBBLER: Use canned biscuits. Wrap one biscuit around a stick, hold over fire to bake. Pull out the stick and pour your favorite jelly in the hole.

S'MORES: Roast marshmallow over fire. Immediately put on graham cracker square, top with piece of Hershey's chocolate bar and add another graham cracker square.

RECIPES

Bundle Supper: Use 1/4 lb. ground beef; 1/2 thinly sliced carrot; 1/2 thinly sliced potato; slice of onion, salt, pepper, 1 tablespoon water. Add salt and pepper to beef and shape into pattie. Place on 10" square of heavy foil. Place vegetables on top. Add water and more salt. Seal packet. Cook about 20 minutes.

Baked Apples with Raisins: Use apples, cinnamon, raisins, sugar. Wash and core each apple. Fill hole with 2 tablespoons sugar, a dash of cinnamon (or a few redhot candies) and raisins. Wrap in buttered foil. Fold foil and twist ends. Bake 30 mins.

Campfire Cocoa: (This recipe makes 40-50 cups) 1 lb. Quick; 1 lb. powdered sugar; 1 lb. dry non-dairy creamer (such as Pream); 1 8-quart box powdered milk. Mix all ingredients together and store in large container. Fill cup 1/2 full of mixture, then add hot water to top. Stir and serve.

Hamburger With Gravy: (For 2) 1/2 lb. hamburger, 1 can mushroom soup, instant rice. Crumble beef and brown in skillet. Pour off excess grease. Add 1 can mushroom soup and 1/2 can water. Simmer for a few minutes and serve on cooked rice.

Corn on the Cob: Select a good ear of corn and cut off the top end to where it can be inspected. Leave the husk and silk on. Wrap securely and place on grill or coals. Turn corn frequently. Cook about 30 minutes. Husk and serve with salt, pepper and butter.

Fruit Cobbler: (Serves 8-10) Use three #303 cans sliced peaches or 5 regular cans sour cherries (sweetened cherries with 2 cups sugar); 1/2 box white or yellow cake mix; 1 stick margarine. Place peaches or sweetened cherries in dutch oven. Add cake mix, sprinkling it over top of fruit. Do not stir. Slice margarine in thin slices and dot the top of the cake mix. Place lid on dutch oven and put in hot coals. Shovel some coals onto the lid. Bake about 30 minutes.

Jerky: (Make up your own at home. It's delicious to nibble on) 1 flank steak (about 1 1/2 pounds); 1 teasp. seasoned salt, liquid smoke or barbeque salt; 1/3 teasp. garlic powder; 1/3 teasp. black pepper; 1 teasp. Accent; 1 teasp. onion powder; 1/4 cup Worcestershire sauce; 1/4 cup soy sauce. Trim fat off steak. Semi-freeze it so you can slice it with the grain into 1/8" slices. Marinate overnight in glass dish in sauce, covered. Lay strips of meat on oven rack with foil underneath to catch drips. With oven door open slightly, roast at low temperature (125° to 140°) for 8 to 12 hours. Makes 1/2 lb. jerky.

Favorite Recipe: Use 1 Elephant (medium size), 2 Rabbits (optional), salt, pepper. Cut the elephant into bite size pieces. This will take about 2 months, so plan ahead. Brown. Add enough brown gravy stock to cover meat. Cook uncovered at 465° for about 4 weeks, adding more liquid if necessary. This recipe serves 38,000 people. If more people are expected, add the two rabbits, but only if necessary, because most people don't like to find a hare in their stew.

CAMPSITE SELECTION AND PREPARATION

THE IDEAL SITE

- Nearby forest for shade and shield from wind.
- Higher ground for drainage and gentle breezes.
- Grass-covered ground.
- Nearby water.
- Plenty of sunlight in the winter.
- Plenty of shade in the summer.
- Level to slightly sloping ground at the tent site.
- A great view of the countryside!

SITE PREPARATION

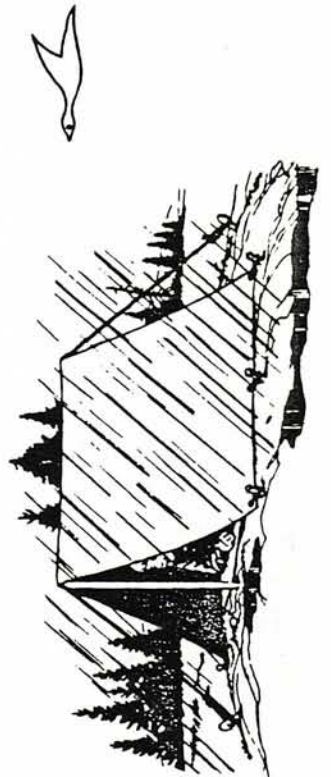
- Get permission from the landowner.
- Clear away large rocks and limbs.
- Upwind from fire and latrine.
- Face tent away from wind.
- If possible, layers of dried leaves or pine needles add to comfort.

Web 9

FEW DON'TS

- Don't pitch directly under a tree - lightning is dangerous, as well as falling limbs, and dripping after a rain is a problem.
- Don't select a lone hill that may attract lightning.
- Don't pitch the tent on steep ground. In the morning you may find yourself outside the tent.
- Don't pitch where water may flow during a rain.
- Don't select a site unprotected from wind.
- Don't pitch the tent where falling rocks might occur.
- Don't select a site that might be infested by mosquitoes, poison ivy, or other nuisances.
- If possible, don't pitch the tent in direct sunlight in summer.
- Don't pitch the tent on trails.

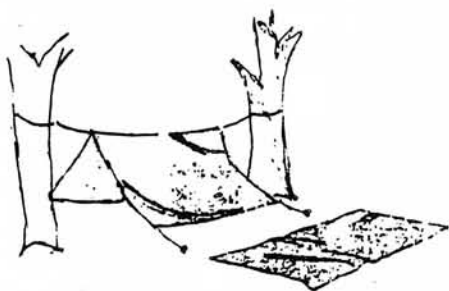
WHEREVER YOU CAMP, MAKE THE BEST OF YOUR CAMPSITE AND LEAVE IT LIKE YOU FOUND IT.



TENT HINTS

- * Each tent should have its own bag and should be labeled.
- * Never pull a stake out by pulling on the gromet or canvas.
- * Never leave a stake in the ground without a rope.
- * If tents must be packed wet, be sure to set them up to dry out as soon as possible.
- * Loosen ropes when canvas is wet so the canvas won't tear while drying.
- * Water proofing solutions are available through Sears, Army Surplus, and other distributors of tent and awnings.
- * How many hammers have you lost? Try a bowling pin to drive stakes with.
- * Use a ground cloth under your tent but be sure to tuck the edges all the way under the tent's floor.

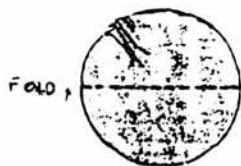




Use a big plastic sheet as a ground cloth, rain fly, or a two-man tarp tent.



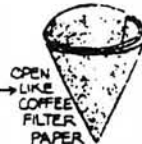
A slit cut in the middle of a big piece of plastic quickly turns it into a poncho.



FOLD



FOLD



OPEN LIKE COFFEE FILTER PAPER

A small square or round piece of plastic carried in your pocket can easily be folded. Presto—you have an instant drinking cup.



FOLD

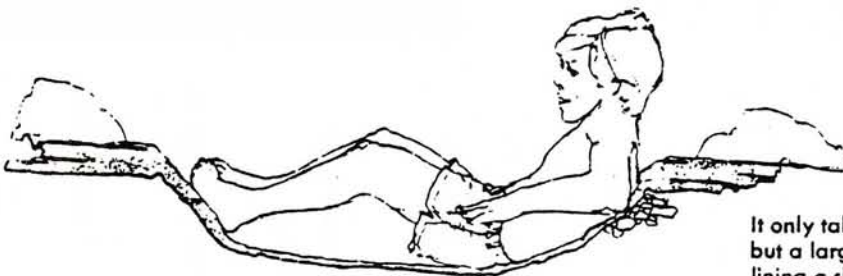


FOLD

FOLD



FOLD DOWN



It only takes a few minutes, but a large piece of plastic lining a shallow hole in the ground makes a handy basin—or even a bathtub.

Webelos Activity: OUTDOORSMAN

Pack Some Plastic

Campers like equipment that packs small and is light in weight—like a big sheet of plastic.

This page shows some ways to use plastic sheets. You may find other uses, too.

The best kind of plastic is *polyethylene*. It is sold in many hardware and garden-supply stores. Maybe Mom and Dad have used plastic sheet in your house or garden.

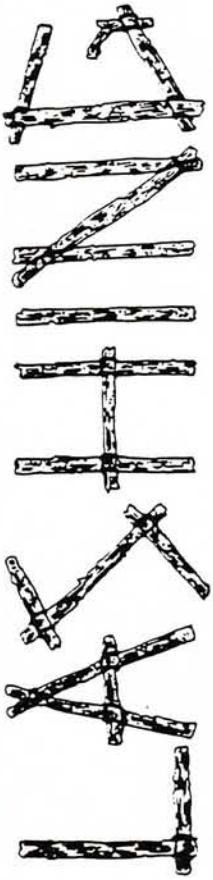
Plastic sheets come in different thicknesses. For some things, 2-mil may be strong enough. But 4-mil (stronger) or 6-mil (strongest) is better for rough wear.

The plastic can be made stronger

with fiberglass strapping tape. Place the tape along edges that might tear or around cutouts, like the neck slit in a plastic poncho.

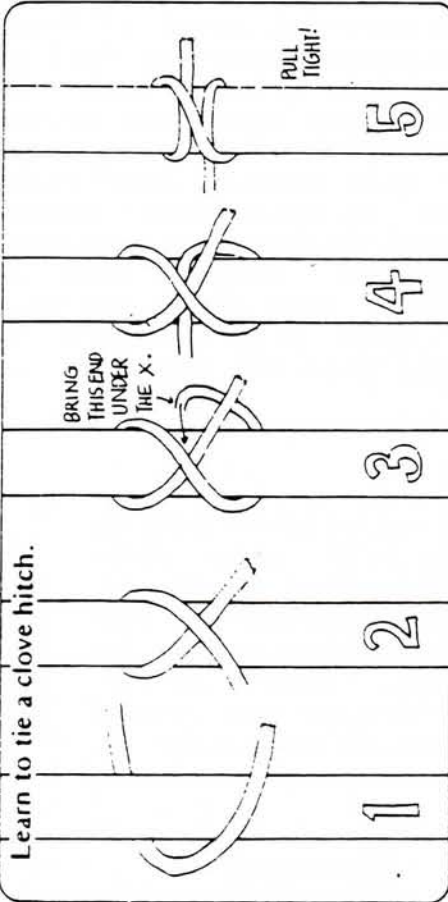
Before sticking tape to it, wash your plastic with soap and warm water. Let it dry. If you use plastic for drinking, washing or collecting water, wash it before and after using it.

After your camping trip, bring *all* your plastic home. If a big piece tears, cut it into smaller pieces for other uses. If you can't use it, put it into a trash can. A good outdoorsman leaves only his footprints in the great outdoors. ❖

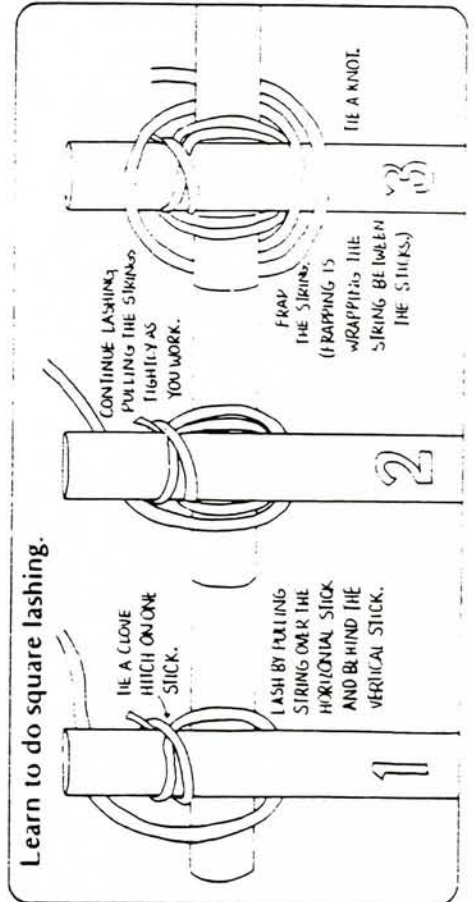


Lashing — a way to fasten items together without the use of nails or glue — is easy to do and loads of fun! All you need is string or twine and sticks, branches or twigs.

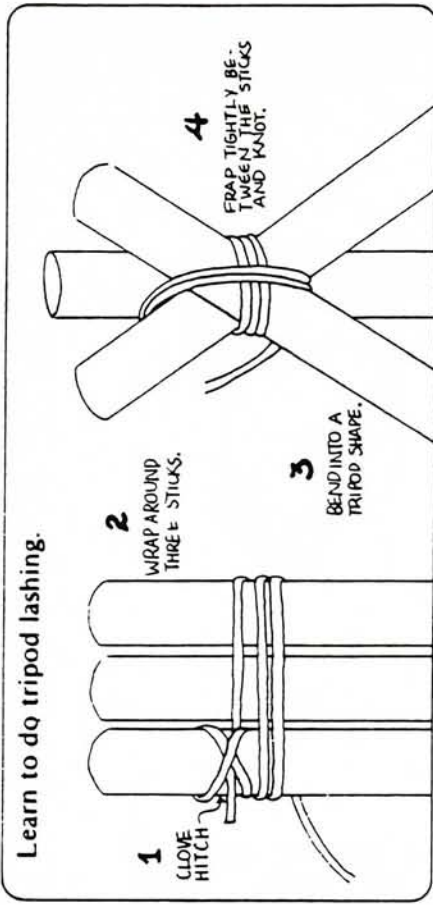
First, you need to learn a few basic techniques:



This secures the string to the stick or branch before you begin to lash.

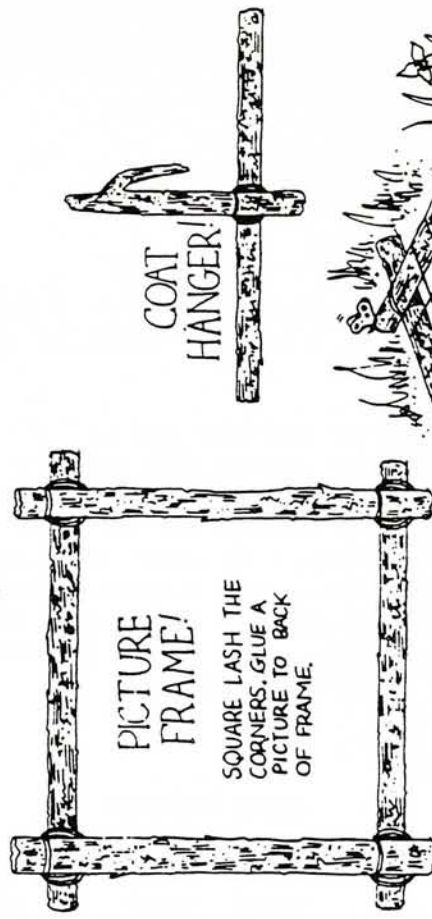


Learn to do tripod lashing.

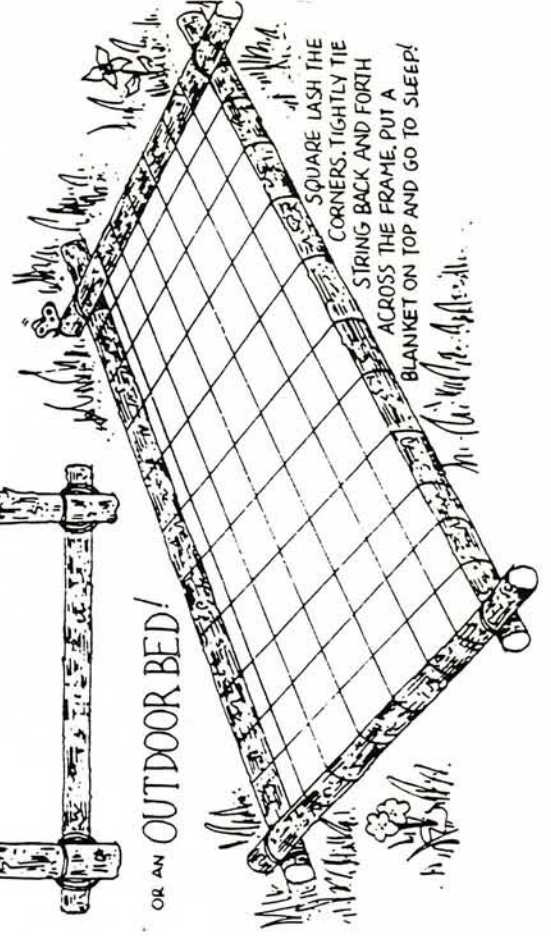


Now that you have perfected these techniques, it is time to go on to bigger and better things!

With the square lashing technique, you can make a rustic-looking —



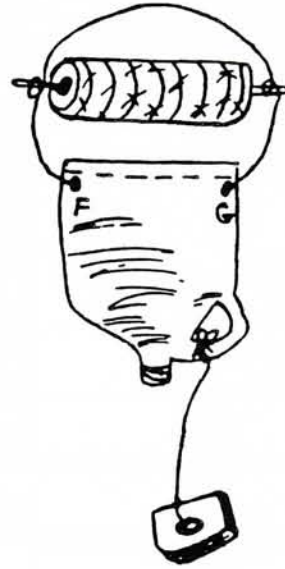
OR AN OUTDOOR BED!



HANDWASHER

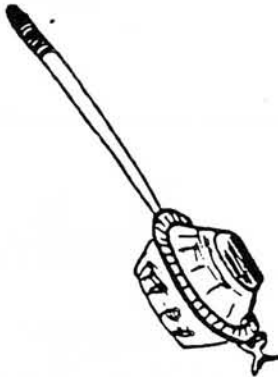
Materials - 1 large bleach bottle, 1 bar of soap, string, knife, 1 stick, roll of paper towels

Cut the bottom edge of bottle until 1" lip holds bottom. (This is where the jug is filled and the reclosed to keep water clean.) Punch hole in soap and attach to string. Tie string to handle of jug. Attach string to holes in bottom of jug. Put paper towels on stick and loop string around ends of stick. Hang jug from tree limb. To use: loosen cap a little and water will run out.



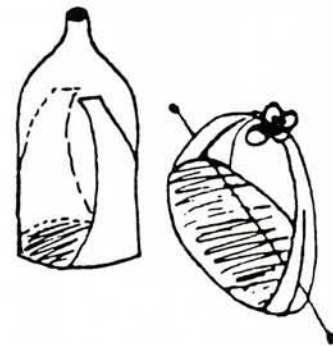
CORN POPPER

With its long handle this popper can be used over an open grill to make small individual servings of popcorn. For the handle, remove the hook from a wire coat hanger and straighten the remaining wire. Bend this wire in half; bend the ends of the wire out about 1" from each end. For the popper, use two foil pans. Place them together, rim to rim. Using fine wire, attach the bent ends of the handle to one side of the popper as shown. Punch holes for wire through both rims; twist ends of wire to hold handle securely. To hold popper closed while in use, secure rims opposite handle with a metal spring clamp. Tape other end of handle and wrap it with pipe cleaners to protect the hands from the heat.



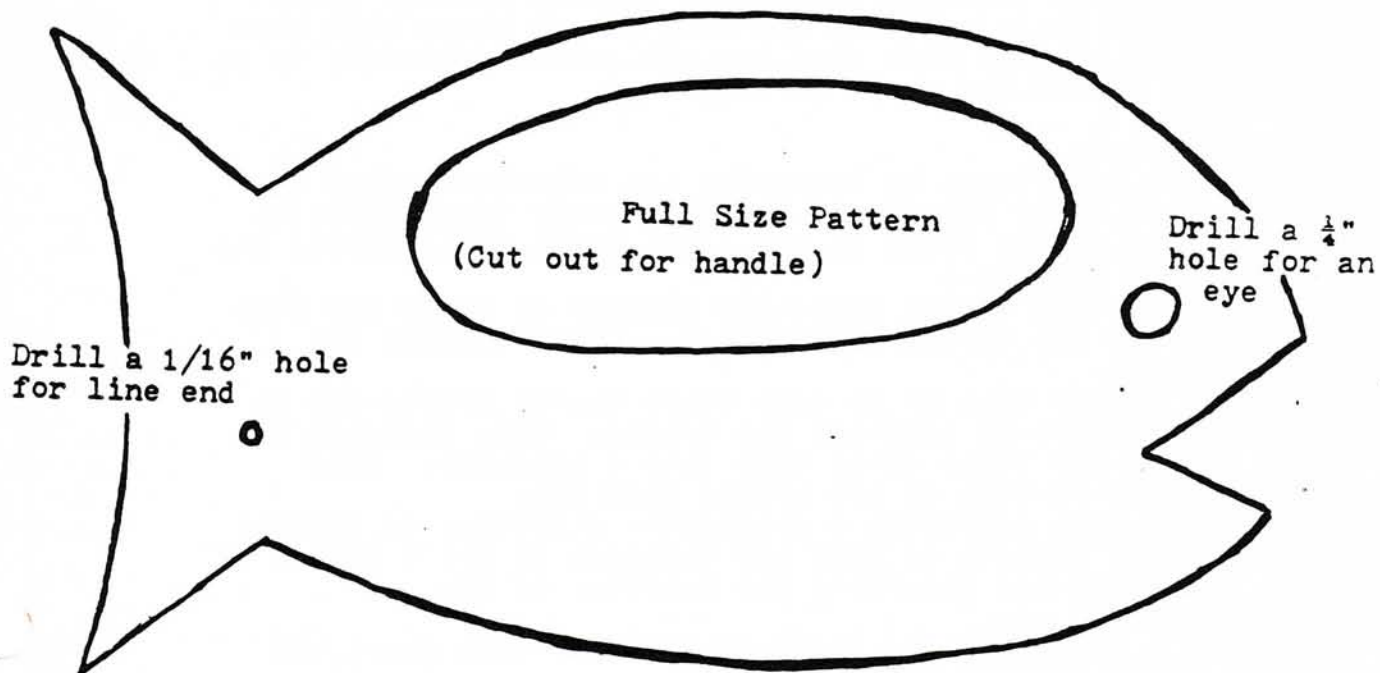
NAPKIN HOLDER

For the holder, cut a gallon plastic bottle as shown. Cut a slot about 1/8" wide down each side of the holder, starting about 2" from the top. Staple ends together at top covering the staple with decorative tape. To keep the napkins from blowing, insert an 8" piece of coat hanger wire through the slots for a bar. Cover each end of wire with a bead. Raise the bar to insert napkins.



PACKSACK FISH KIT

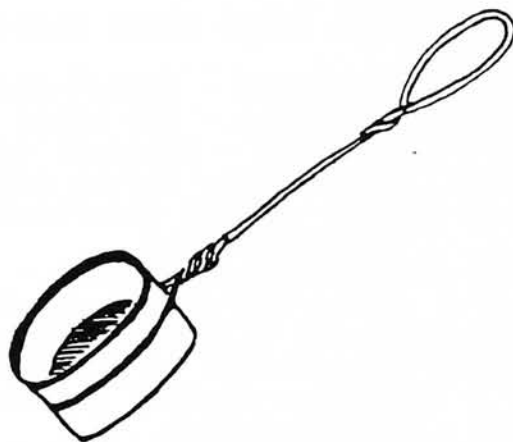
Using carbon paper, trace the pattern on a piece of 5/32" wall paneling. Cut out with a coping saw. Smooth edges with fine sandpaper. To finish, apply a coat or two of spray paint to the back of the fish reel to protect it from moisture. Attache a 30-foot length of fishing line equipped with a float, weight, and sinker, to the hole in the fish's tail and wind line around fish from tail to mouth.

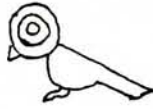


MINI FRYING PAN

A mini frying pan made from a small can (such as from tuna) and a coat hanger is ideal for cookouts. The long handle keeps the hand at a nice, safe distance from the heat.

To make the frying pan, simply twist a coat hanger wire around the top edge of a washed and label-free can. It is now ready to use.





NATURALIST ACTIVITY BADGE

The Naturalist Activity Badge is one which the average boy will take an interest in, since most boys are naturally curious concerning wild animals and insects. All that is necessary is a little stimulus, and the boys work quite diligently at this achievement badge. You can capture their imagination by explaining to them that the turtle that they find looks about the same as turtles did 200 million years ago, and that it is probably the only living thing that boys will come in contact with that has not evolved recently in so far as the age of the earth is concerned.

Den Activities:

1. Have the boys learn to recognize the different types of reptiles and their benefit to mankind. Study identification of poisonous snakes found in the area; learn their habits and how to avoid attacks.
2. Take an outing during migration flights of birds and keep a list of all the species identified. Study flyways for these species.
3. Take a nature hike to an area where animal tracks can be located. Attempt to identify the tracks. Make sketches of these tracks and later enter them into a notebook. Make plaster casts of some of the better examples.
4. Have the boys construct a terrarium, anthouse, or similar structure for insects or bugs and maintain it for a period of time, observing and recording the behavior of the inhabitants.
5. Invite a naturalist to visit the den and talk about the animals found in this area.

Related Boy Scout Merit Badge Books:

Agriculture - Insect pests with drawings.

Bee-Keeping - Bee types

Bird Study - Habitat, species, migration, bird-watching techniques, flyway maps.

Botany - Field observation techniques, plant identification

Environmental Science - Food cycles, plant succession, plant and animal observations in habitat.

Fish and Wildlife Management - Plant and animal observation in habitat.

Fishing - Feeding and other habits, pictures of numerous types of fish.

Forestry - Value of forest, tree identification key.

General Science - Insect zoo construction, bud-to-flower-to-seed observations.

Insect Life - Insect identification, structure, life cycles, capturing/collecting procedures, insect zoo construction including preferred food lists.

Mammals - Mammal and track identification, observation, habitats, habits.

Nature - Wildlife communities, plant succession, bird identification, mammal types and observation, reptile and amphibian collection and food lists, insect collecting, brief terrarium description, seed and leaf collecting.

Plant Science - Weed identification

Reptile Study - Reptile identification and uses, poisonous snake and reptile pictures, range maps, identification methods, habits, keeping reptile aquarium-terrariums.

Boy Scout Environment Skill Book
Boy Scout Conservation Skill Book

Local Resources;

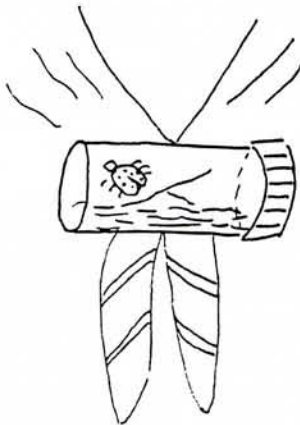
Ruffner Mountain Nature Center
1214 81st. Street South (East Lake)
Phone: 833-8112
Monday-Saturday 10 - 5
Sunday 1-5
Tours arranged upon request.

Oak Mountain State Park
Cahaba Valley Road Exit, I-65 South
Phone: 663-6783
Naturalist Brian Phillips will arrange tours with 2 weeks advance notice.

STAGE A CRITTER RACE

A critter crawl is always a popular event with boys. Have each Webelos Scout catch a bug or beetle type "critter" and keep it in a bug cage or similar container. Lay out a circle about 6 feet in diameter on the ground with a 1 foot circle in the center. On signal, all insects are freed in the small circle. The boys then must stand outside the larger circle and urge their charges to victory from there. The first "critter" who makes it across the outside circle is the winner.

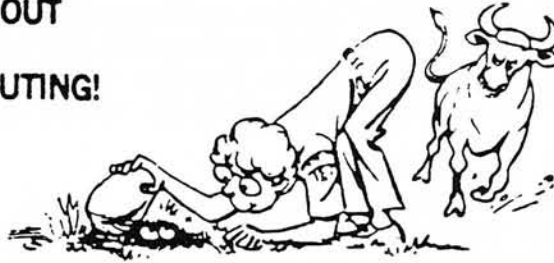
INSECT CASE TIE SLIDE



Use clear plastic pill bottle with snap on lid. Using pliers, hold a nail over a flame until it is hot. Use hot nail to punch 2 holes on one side of the bottle 1/2 " apart. Make a 3 1/2" ring from a pipe cleaner and insert in holes. Twist pipe cleaner on inside to secure. Then with a hot needle, punch air holes in the lid. Put in a little sand and a twig. Add your critter.



ALL OUT
FOR
SCOUTING!



NATURE CHALLENGE GAMES

FUN FOR PATROL VS. PATROL
AND SCOUT VS. SCOUT!



◀ LEAF MATCHING

EQUIPMENT: GROUND CLOTH,
ONE PATROL ON NORTH, OTHER ON
SOUTH SIDE.

ACTION: PATROLS COLLECT ONE LEAF
ONLY FROM AS MANY DIFFERENT TYPES
OF TREES AS THEY CAN WITHIN 3
MINUTES. NORTH PATROL SCOUT HOLDS
UP A LEAF, SCORES 10 POINTS IF HE
IDENTIFIES IT. SOUTH PATROL SCOUT
HOLDS UP LEAF FROM SAME TYPE OF
TREE, SCORES 5 POINTS. CONTINUE
ALTERNATELY UNTIL ALL LEAVES HAVE
BEEN IDENTIFIED AND ALL SCOUTS
HAVE PLAYED.

NO SCORE FOR A TEAM INCORRECTLY
IDENTIFYING A LEAF - BUT OTHER
TEAM GETS 10 POINTS FOR CORRECT
IDENTIFICATION. IF A TEAM CANNOT
MATCH ITS OPPONENT'S LEAF, IT MISSES
THAT TURN. HIGHEST TEAM SCORE WINS.

▶ FREAK PLANT HUNT

EQUIPMENT: PAD AND
PENCIL FOR EACH PATROL; ITEMS FOR
"DOCTORING UP" PLANTS.

ACTION: IN A GIVEN AREA, "DOCTOR
UP" A NUMBER OF DIFFERENT
TREES AND PLANTS - TYING ASH
LEAVES ON A TULIP TREE, HAVING
AN ORANGE "GROW" ON AN OAK,
MAKING DAISIES "BLOOM" ON A
BUSH, ETC. (LET YOUR IMAGINATION
RUN WILD). PATROLS ARE THEN
TOLD HOW TO FIND "DOCTORED"
AREA, AND GIVEN 10 MINUTES TO
LOCATE THESE "FREAKS OF NATURE."
PATROL REPORTING GREATEST NUMBER
OF "FREAKS" WINS.

NATURE MEMORY HUNT

EQUIPMENT: ON A GROUND
CLOTH, SPREAD OUT A
NATURE DISPLAY OF
ABOUT 20 ITEMS, SUCH
AS: ACORN CUPS • BIRD
FEATHER • SMALL ROCK •
DANDELION LEAF • LARGE
BURDOCK LEAF • BUNDLE
OF PINE NEEDLES • BROKEN
WILD BIRD'S EGG • FERN
FROND • LOCAL WILD BERRY
OR NUT • ETC.

ACTION: PATROL HAS 5
MINUTES TO STUDY DISPLAY,
IN SILENCE, TO MEMORIZE
ITEMS. AFTER A HUDDLE,
SCOUTS SCATTER FOR 10
MINUTES TO COLLECT ITEMS
CORRESPONDING TO DIS-
PLAY AND PLACE THEM
ALONGSIDE ORIGINALS.
PATROL WITH MOST ITEMS
WITHIN TIME LIMIT WINS.



NATURE SCAVENGER HUNT

EQUIPMENT: SEALED LETTER FOR EACH PATROL.

ACTION: READ LETTER, WHICH SAYS: "GREETINGS,
MY FRIENDS! YOUR SENIOR PATROL LEADER IS
SUFFERING FROM A TERRIBLE DISEASE, ACUTE
MOGIGRAPHIA. ONLY THE MAGIC ANTIMOSIGRAPHIA
FORMULA WILL SAVE HIM. BRING ME EVERYTHING
ON THIS LIST WITHIN AN HOUR FROM THE MOMENT
YOU READ THIS, OR ALL HOPE IS LOST. (LIST 12 TO
20 ITEMS FITTING THE LOCALE AND SEASON, SUCH AS
12 PINE NEEDLES, BIRD FEATHER, DANDELION SEEDS,
FIVE DEAD FLIES, ETC.) GOOD LUCK AND GOOD
HUNTING! (SIGNED) THE SORCERER'S APPRENTICE."
PATROL BRINGING IN THE MOST ITEMS IN ONE HOUR WINS.



BIRDHOUSE

Tempt some of those birds you have fed all winter to nest in your garden and help eliminate some of the insects.

After all, it's the least they can do for your feeding them.

Before you rush out to the garden store or to your carpenter shop with visions of grand birdhouses in mind, be aware that many birds are very specific in choosing their location, size of entry hole and even the type of house. For example, it is a waste of a birdhouse to place a blue bird nest box in town. Although blue birds are year-around Oklahoma residents in most parts of the state, they prefer large open areas with scattered trees, such as pastures, abandoned orchards and cemeteries, and countryside.

House sparrows and starlings are the persistent threat to hole-nesting young birds. Frequently, they will destroy the eggs or young of the desirable occupants and drive the resident parents away. You can control these pests by removing their nests, eggs and chicks when they occur as neither is protected by law.

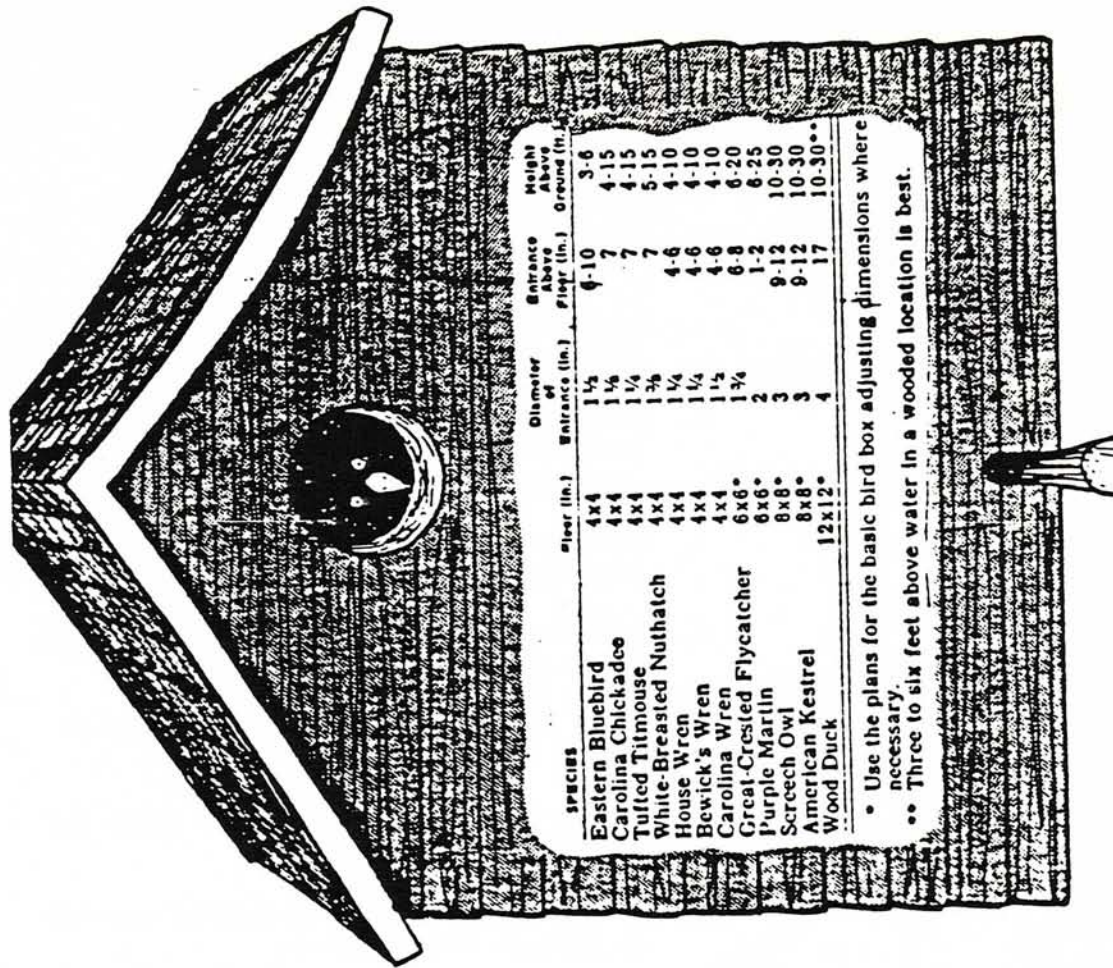
Some basic ground rules to follow in setting up nesting boxes:

1. Purchase or construct your nest box for a specific species. The hole size, box dimensions and depth are critical for many birds.
2. Use aged wood or a subdued color and simple designed house. Do not select houses with frills or bright colors.
3. Use or select a house constructed of weather-resistant materials. It is important that the interior remain dry inside. For the health of the young and the adults, the house needs to be somewhat insulated to be warm on cool days and cool on warm days. Wood is a good insulator.
4. Mount your house so that it is strong and secure. Most birds will not accept houses that sway or move. Nail or screw the house on a mounting and attach to a tree or pole.
5. Position the entrance hole away from prevailing winds and position the house so that the entrance will not collect rain.
6. Only purple martins will use duplexes or multiplex housing. Other birds are too territorial and will not permit others of their kind in the immediate area.

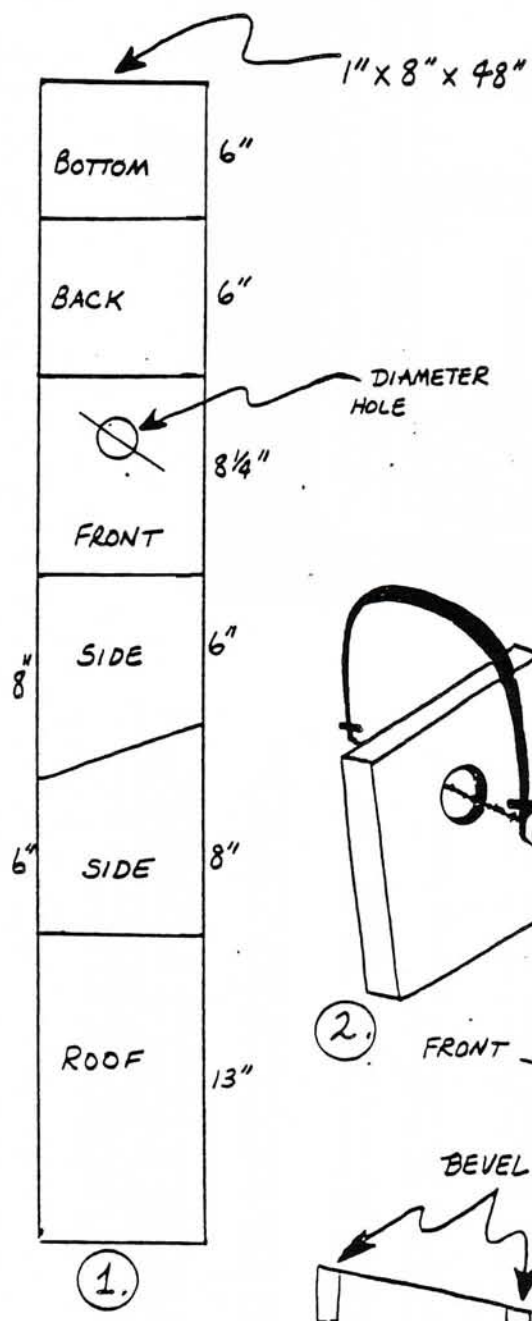
The table of specifications (found on the following page) is from the Oklahoma State University "Nest boxes for Cavity-Nesting Birds in Oklahoma," fact sheet 9005.

Additional information is available from Ortho's "How to Attract Birds," "Nest Boxes for Cavity-Nesting Birds in Oklahoma" OSU fact sheet 9005, and "Cavity-Nesting Birds of North America," 1977 U.S. Department of Agriculture Handbook 511 from Superintendent of Documents, Government Printing Office, Washington, D.C. 22402, Stock No. 001-000-0372609, price \$4.50.

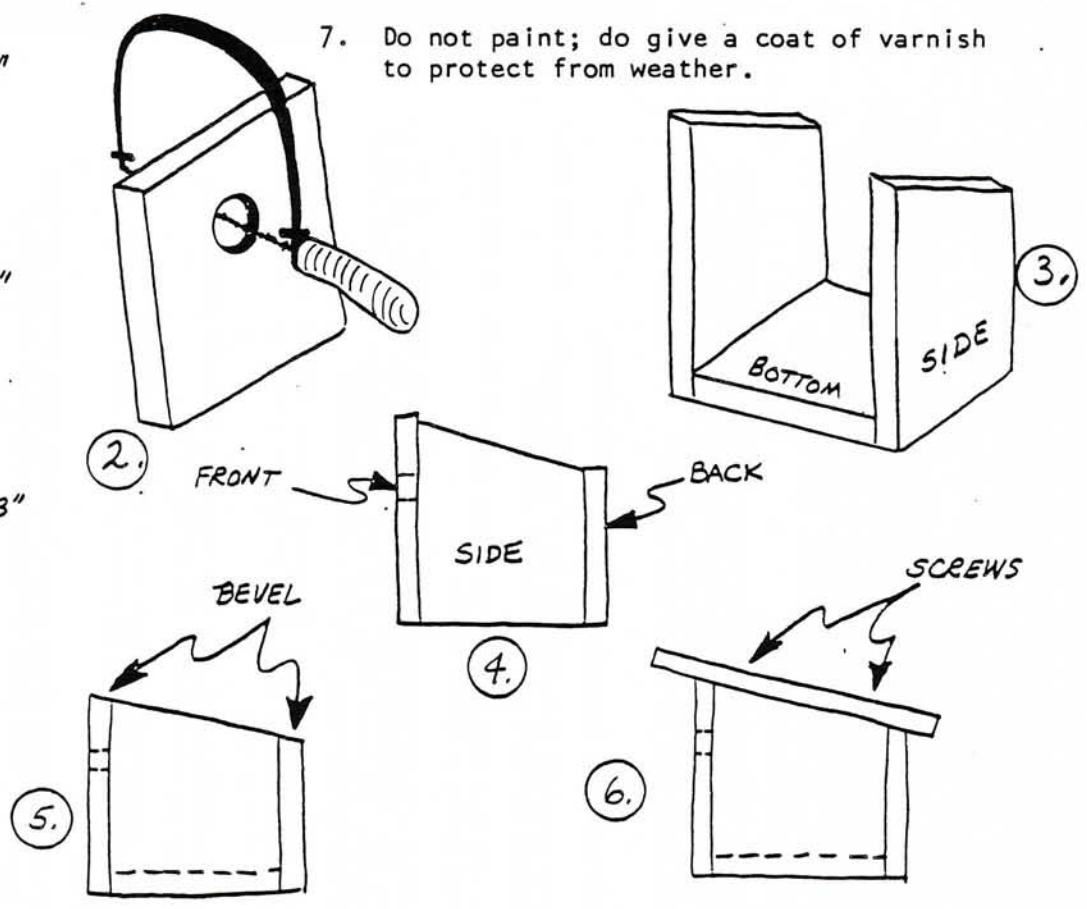
BIRDHOUSE



ONE BOARD BIRDHOUSE



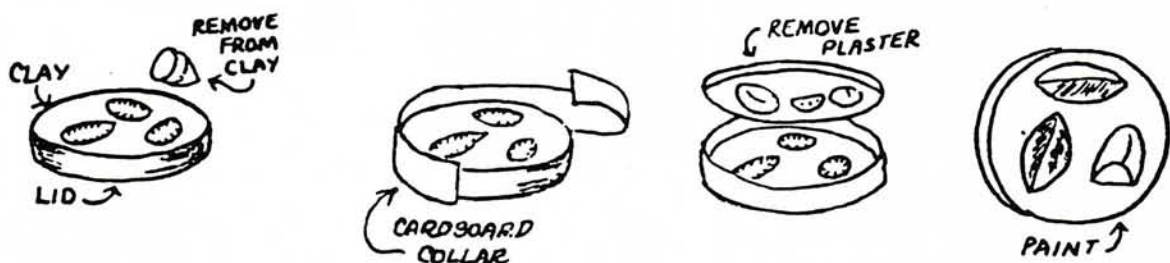
1. Cut all pieces - bottom first, roof last (as shown)
2. Cut entrance hole in front. (hole size depends on what type bird you wanting to attract)
3. Nail side to bottom. (for extra strength use wood glue as well)
4. Nail front and back to sides and bottom. (also use glue)
5. Bevel front and back to match slope of sides.
6. Fasten roof on with screws or hinge for ease of cleaning.
7. Do not paint; do give a coat of varnish to protect from weather.



PLASTER NATURE PLAQUES

Plaster Leaf Prints - make plaster leaf print molds in plastic lids. Grease or oil lid and leaf to be printed. Place the leaf vein side up in the bottom of the greased mold. Pour plaster in gently. When it is thoroughly set, take it out of the mold and remove the leaf. Wash off the grease and paint the recessed impression with tempera.

Embossed or Raised Design - Fill lid with clay first. Press nuts and evergreens into the clay in an artistic manner. Do not break through the bottom of the clay. Try to keep the surface level by paring off the clay that is pushed up as you press in the nuts. Carefully remove the nuts or other items, leaving an impression in the clay. Make a cardboard collar to fit around the mold. Grease the collar and pour in plaster to desired thickness. When plaster is set remove the cardboard collar, mold, and clay. You will have a plaque with raised design which can be painted with tempera.



Plaster Footprints - Interesting animal footprints are sometimes found on beaches, near streams and on muddy banks. Plaster casts of these footprints will make permanent displays for your den meeting room. Try to locate distinct, deeply sunk tracks. Sprinkle lightly with talcum powder. Make a fence around the tracks with cardboard strips (a collar fastened with paper clips). Mix plaster and fill to top of cardboard fence. Pour gently and let harden. Allow plaster to dry thoroughly, then scrub off mud and dirt.

If you wish the cast to appear as though the original footprint is in the plaster, grease the cast just made, place a cardboard collar around it, and pour in more plaster to make a reverse print.

Ant Farm

You will need a quart or gallon size jar and a can that fits inside the jar and leaves space for the sandy soil (see illustration). Fill the jar about half full of the slightly moist soil. Now you are ready to hunt for your ants. For this you will need a piece of white cloth or paper about 2 feet square, two large-mouth bottles or jars with caps (preferably plastic), a piece of cardboard, and a garden trowel. Now find an anthill or an ant nest under some rocks.

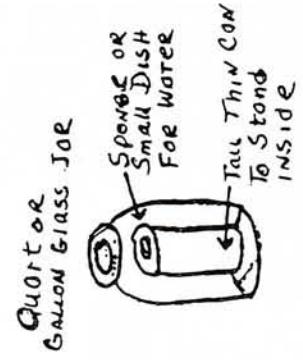
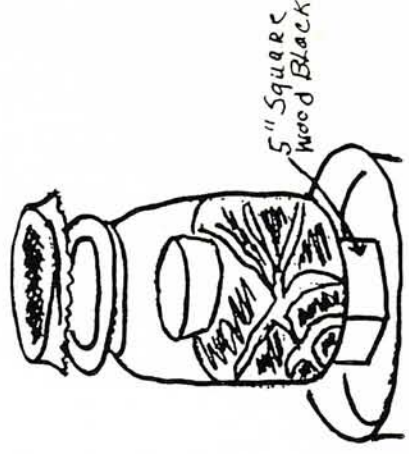
After you find the anthill, stir it up with your trowel and as the ants come out to investigate, guide them onto the cardboard and into one of the bottles. After you have collected about a hundred, screw the cap back on. You need the queen and this requires some digging. You have to dig as much as a foot to find the queen. Take the dirt you dig and spread it out on the white cloth or paper. One ant larger than the rest will probably show up against the white. This is the queen. It is best to guide her into the second bottle so you don't lose her.

Carry some soil from the anthill nest back with you and put it into your nest. Fill most of the space left between the jar and the can. Put the ants and queen into the nest and close the jar with a cheese cloth or screen. Fasten dark paper around the jar with rubber bands. Ants like the dark. They will build their tunnels close to the glass, where you can observe them, if the glass is covered with dark paper.

Feed the ants by putting different kinds of food on top of the soil. Try bread, cake crumbs, bits of meat, honey, small pieces of vegetables, dead insects. Always remove unused food before adding new food. Keep the dish on top of the can filled with water. If soil gets very dry, moisten it with an eye dropper.

Place jar in a warm place but not in direct sunlight. After a couple of days the ants will have settled down to their new home.

Watch the tunnel building, egg and larvae moving. Try some experiments. Take some ants out of the nest for a few days; then put them back in and see what happens. Introduce some new ants from out-of-doors, and see what happens. Set up a regular feeding time, and see how soon they learn when it is. Think of other experiments.



MAKING A TERRARIUM:

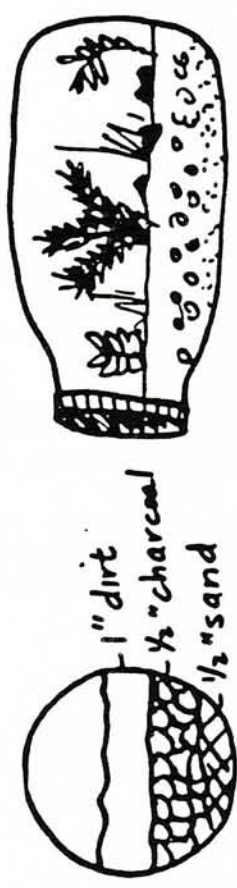
A terrarium is a small garden sealed in a glass container. Rich soil and moisture inside the jar make the garden grow quickly. In planting the garden, use wild ferns, violets, moss, small cuttings of evergreen, ivy, or any houseplant which will grow in water.

Materials needed:

- A clear, wide-mouth glass gallon jar and lid
- Sand or bird gravel
- A piece of burned wood or charcoal
- A variety of plants

To Assemble:

1. Place the jar, thoroughly clean, on its side on a wooden base.
2. Put a half-inch layer of sand or bird gravel in the bottom of the jar, as it lies on its side.
3. Crush a piece of charcoal or burned wood between newspapers and sprinkle a layer of charcoal over the seed.
4. Add a layer of rich dirt. The garden can be higher at the back side of the jar, but be sure that the dirt is smoothed away from the mouth of the jar, so it will not spill out.
5. Set your plants at least an inch deep in the soil.
6. Spray the garden with water. Do not get the dirt too wet.
7. Seal the jar with the lid and set the tiny greenhouse in a spot where it will get some sunlight each day.
8. Watch the garden daily for a day or two. It appears to be too wet, take off the jar lid for a day or more until it dries out some.
9. The garden will grow for two or three months without having to be opened.



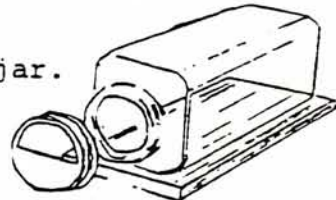
Insect Zoo Lab

This simple laboratory will allow you to: study the activities of ants; see the miracle of metamorphosis; get acquainted with the web makers; or observe burrowers at work.

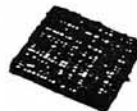
Materials needed: Square-type, 2 quart glass jar with metal screw lid.



Fine metal or cloth screen.
Board slightly larger than side of jar.
Epoxy.
Wire.



Cut a semi-circle in the jar lid for ventilation.
Use a wire to hold the screen tightly in place over the jar lid.
Glue the jar to the board with epoxy.



Preparing the Lab

FOR ANTS: Put a layer of pebbles on the bottom, then sand, then ordinary soil. Plant some moss and insert a twig. A ketchup bottle cap makes a good dish for water.

FOR CATERPILLARS: Prepare the bottom the same way as for ants. Include the same kind of leaves as those you found the caterpillar eating when you captured it. Leaves must be fresh and plentiful.

FOR SPIDERS: Prepare the bottom the same as before, but use less soil. Give a spider a larger twig for spinning his web.

FOR EARTHWORMS: Same preparation as before but soil must be rich and slightly damp.

When not observing ants or worms, keep the jar covered with dark paper or cloth.

What Insects Eat

ANTS: Honey or sugar in water.

SPIDERS: Live flies or other small insects, live inch worms.

EARTHWORMS: Corn meal, leaf mold, grass cuttings.

CRICKETS: Bits of bread soaked in water, lettuce, peanut butter.

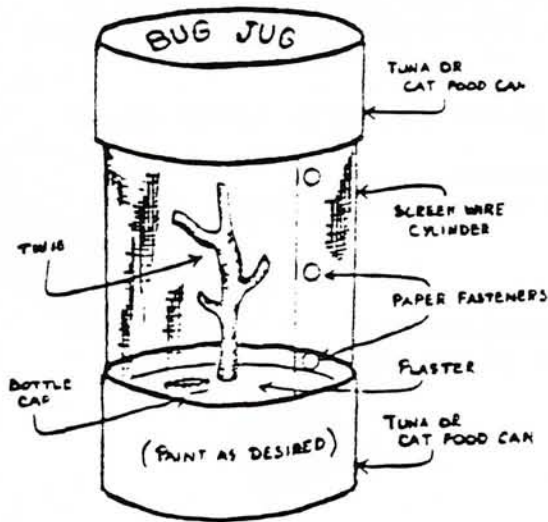
PRAYING MANTIS: Flies or other small insects, small pieces of raw meat on a toothpick.

GRASSHOPPERS AND WALKING STICKS: Put grass sod in bottom of cage and water grass from time to time. Be sure to include a dish of water.

MEAL WORMS: Oatmeal or bran meal with small pieces of potato or apple.

LIZARDS: Most all insects and water.

BUG JUG



MATERIALS

- 2 TUNA OR CAT FOOD CANS 1 PIECE SCREEN 8" X 10 1/2"
 1 POP BOTTLE CAP 3 ROUND HEAD PAPER FASTENERS
 CASTING PLASTER
 PAINT
1. SET ONE TUNA CAN (OPEN SIDE UP) ON WORK TABLE. MIX ENOUGH PLASTER TO FILL CAN TO WITHIN 1/4" FROM TOP.
 2. ROLL SCREEN WIRE INTO TUBE 8" HIGH AND AS BIG AROUND AS THE INSIDE OF THE CAN. SET SCREEN DOWN INTO WET PLASTER.
 3. PUSH SMALL BRANCH INTO PLASTER IN CENTER.
 4. PUSH BOTTLE CAP, OPEN SIDE UP, INTO PLASTER TO MAKE A 'WATERING HOLE' FOR BUGS.
 5. USE THE PAPER FASTENERS TO SECURE THE SCREEN WIRE SHUT.
 6. THE OTHER LID SERVES AS THE LID FOR THE 'JUG'.
 7. IF DESIRED, THE CANS CAN BE PAINTED BEFORE ASSEMBLING THE BUG JUG. AND A WIRE HANDLE CAN BE ADDED AT TOP, ATTACHED TO SCREEN, FOR EASY CARRYING. THE LID SETS ON TOP SO IS EASILY REMOVABLE.

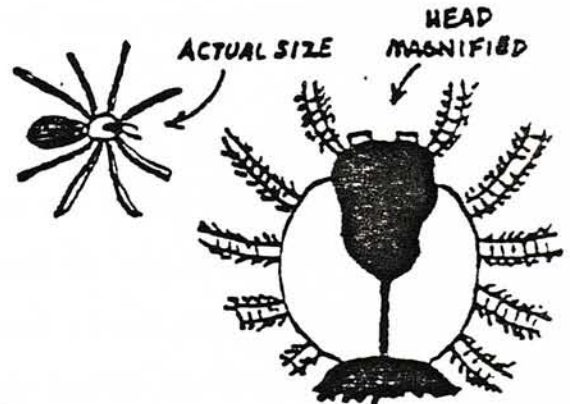
NATURE OBSERVATION CALENDAR

1981 NATURE OBSERVATION CALENDAR April						
Sun	Mon	Tues	Wed	Thurs	Fri	Sat
			1 GRASS IS TURNING GREEN	2 BIRD SPRAWLED ON FROG	3 ICE IS MELTING UP	4 HAD A SMALL SNOWSTORM
5 CAUGHT TADPOLES	6 FOUND SMALL SHELL IN WOODS	7 JAMBOES COMING UP	8 LOCATED BIG DIPPER	9 BIRD GUPPIE HAD FE BABIES	10 SAW DEER TRACKS	11 COCOON FOUND ON TREE
12 WHITE PINE	13 SAW A CARP IN SQUARE	14 FOUND BLACK BIRD FEATHER	15 SAW FIRST ROBIN	16 SAW SPIDER FROM SUGAR MAPLE	17 FOUND FOSSIL IN CAVE	18 COLLECTED ROCKS
19 SAW FOX ON TV	20 SAW RED BOTS IN BLOOD	21 COLLECTED LEAVES	22 TULIPS COMING UP	23 ROE BIRD IS RUNNING	24 SAW SPIDER	25 WENT TO LAKE
26 FOUND TRACKS ON BEACH	27 COLLECTED CRAYFISH	28 WENT FISHING	29 SAW GEESE FLYING SOUTH	30 SAW A FALLING STAR		

HAVE EACH BOY MAKE A CALENDAR ON A 10" X 12" PIECE OF HEAVY PAPER OR CARDBOARD. LETTERS AND NUMBERS CAN BE DRAWN WITH MARKING PEN.

ASK THEM TO RECORD THE NATURE OBJECTS THEY SEE EACH DAY, AND DRAW PICTURES TO ILLUSTRATE THE CALENDAR.

DISPLAY CALENDARS AT PACK MEETING.



BROWN RECLUSE SPIDER

THIS SPIDER IS SOMETIMES CALLED THE 'VIOLIN SPIDER' BECAUSE OF THE DISTINCTIVE MARK, SHAPED LIKE A FIDDLE ON ITS BACK. IT IS LIGHT YELLOW TO DARK BROWN IN COLOR. IT IS MORE POISONOUS THAN THE INFAMOUS BLACK WIDOW SPIDER. IT IS FOUND IN DARK PLACES SUCH AS CLOSETS, ATTICS, STOREROOMS, BEHIND AND UNDER FURNITURE. IT IS FOUND IN OLD TRASH PILES AND DEBRIS OUTDOORS. THERE IS LITTLE CHANCE OF BEING BITTEN BY A BROWN RECLUSE, BUT THE BITE IS DANGEROUS BECAUSE THERE IS NO QUICK ANTIDOTE FOR ITS VENOM. APPLY ICE PACKS AND CALL A DOCTOR IMMEDIATELY. SOMETIMES HOSPITALIZATION IS REQUIRED. IF POSSIBLE, KILL AND SAVE THE SPIDER FOR IDENTIFICATION. THE EFFECT OF THE BITE MAY NOT BE FELT FOR FROM TWO TO EIGHT HOURS, WHEN THERE IS PAIN, FOLLOWED BY BLISTERS AND SWELLING. SOME PEOPLE SUFFER NAUSEA, JAUNDICE, CHILLS, FEVER, OR CRAMPS.

Migration of Birds

Using your Webelos book as a guide, draw the four most heavily used flyways for bird migration in North America.





GEOLOGIST ACTIVITY BADGE

Without realizing it, most boys have been collectors of rocks since the time they first became old enough to wear pants with pockets. The Geologist Activity Badge gives the leader the opportunity to capitalize on this natural interest and present the material in a manner that will create enthusiasm in the boys. Geology, like Scouting, begins out under the open sky where the geologist looks for rocks and minerals.

Look for specimens where they may be naturally exposed in your locality: in outcrops, in cliffs and ridges, in valleys where rivers or streams have eroded deep gashes into the banks. Even dried up old streambeds may contain gravel and pebbles and rocks that may prove of interest - after all just such a location provided the discovery place for gold in California. A quarry gives you a chance to find rocks and to study rock formations.

Next to natural locations, look for places where rocks and minerals may be exposed through the work of people, such as where hills are being bulldozed for the making of a new highway, or where the foundations are being prepared for a new building.

SUGGESTED DEN ACTIVITIES

1. Visit a geology exhibit or a meeting of rock hounds. Red Mountain Museum features geological formations and information for this area.
2. Make a fossil study. Locate a site in your area where fossils can be found and take the boys on a fossil search. Bring fossils to the den meeting and have the boys attempt to identify the original creature or plant that was the origin of the fossil.
3. Build a model of a volcano and discuss the cause of volcanic action.
4. Discuss the cause of earthquakes and the effect they have on the earth's surface. Research the devastation caused by earthquakes.
5. Put together a collection of books and magazines on rocks and minerals. Many of these have identified color pictures and denote locations where the particular specimen can be found. Strive to get pictures of rocks and minerals which are prevalent in the local area.
7. Invite a lapidary expert to den meeting to discuss rock identification and uses. Contact the Alabama Mineral and Lapidary Society at the Red Mountain Museum: 933-4154

Related Boy Scout Merit Badge Books:

Geology - Volcano and geyser explanations, mountain forming, elaborate charts of mineral and rock uses, including those for home-building, a mineral hardness scale, rock types. Metals Engineering - metal containing rocks.

Nature - Basic rock types.

LET'S GO ROCK COLLECTING...

CLOTHES: Wear the type of clothes you would wear hiking or hunting. Old clothes that are comfortable and servicable are best. Ankle high hiking shoes will help prevent bruises from contact with sharp stones.

COLLECTING BAG: A knapsack type collecting bag is ideal. Use one with pockets to hold maps, notebook, small tools and labels. Use lunch-size brown paper bags to hold specimens. Take along newspapers to wrap the rocks in first.

FIELD NOTEBOOKS & LABELS: As you collect each specimen, give it a number. Put the label on the rock before you wrap it up. In a small pocket notebook list the following information:

Name_____

Location_____

Date_____

Collector_____

Later at home you can enter the information into your permanent records.

BIG & LITTLE HAMMERS: An eight-to-ten pound sledge hammer is useful to break up large rocks into a smaller size. A geologist's hammer weighing one and a half to two pounds is the most practical hammer to take along on your expeditions.

CHISELS: One or more good steel chisels are essential collecting tools. Do not use wood working chisels, as they become dull and nicked quickly.

GOGGLES & FACE SHIELDS: These are important equipment to use while hammering. Your eyes will thank you.

MAGNIFIERS: A good hand lens or pocket magnifier will help you identify many characteristics of rocks.

COMPASS: A good compass is an invaluable tool. Learn how to use one to keep from getting lost.

FIRST AID KIT: Any trip away from home requires a First-Aid kit. Keep one handy.

REMEMBER:

1. Ask for permission before going on private property.
2. Don't meddle with tools, machinery or domestic animals.
3. Leave gates as you found them.
4. Stay on roads, don't walk or drive over growing crops.
5. Take only what you will use for yourself or trading, leave something for others after you.
6. Be courteous and considerate of the rights of others, and as much as possible, leave things as you found them.

MAKE YOUR OWN FOSSILS

The shells and bones of many prehistoric animals have been preserved as casts and molds. In this type of preservation, the original shell or bone has been destroyed, but it left behind a trace of its presence. Suppose that the shell of a prehistoric clam was pressed down into the ocean floor before the sediments hardened. This produced an impression of the exterior of the shell. As time passed, the sediments turned to rock, and the shell became completely encased in stone. Then, some time later, the shell decayed or was dissolved by water. This left behind a cavity called a mold.

A mold formed in this way shows the nature of the exterior of the shell and is called an external mold. If at some later time this mold became filled with minerals or other sediment, a cast was produced in the mold. The cast would be a reproduction of the original shell from which the mold was originally formed.

Materials needed:

A small cardboard box	Plaster
Clay	small clam or snail shell

1. Cover the bottom of the cardboard box with modeling clay to a depth of several inches. This represents the soft mud found on the ancient sea floor.
2. Press the shell firmly into the clay. Lift out the shell carefully so a clear imprint remains. You now have a mold.
3. Mix a small amount of plaster with water in a paper cup. Stir it with a wood stick or spoon. When it is the consistency of thick cream, fill the mold.
4. After the plaster has thoroughly hardened, carefully remove it from the mold. You will now have a cast of the original shell.
5. Compare the original shell with the plaster cast. Notice that even some of the more delicate markings on the shell have been preserved in the plaster.

The paleontologist uses this same technique in reconstructing the shells of long-dead animals. Casts are especially useful in working with fossil footprints.

#####

IGNEOUS ROCKS are formed from molten material or magma from the inside of the earth's crust. EX: granite, diorite, lava, basalt

SEDIMENTARY ROCKS are formed from other rocks that have been weathered or worn down. EX: sandstone, limestone, shale

METAMORPHIC ROCKS are formed from existing rocks by heat or pressure. EX: sandstone changes to quartzite; limestone to marble; shale to slate.

FOSSILS are remains, prints or other indications of former plant or animal life found naturally buried in rock. The fossils have been used to establish the age of the rock which encloses them. Fossils show that many thousands of kinds of plants and animals, common in the past, no longer exist, and that most of those living today resemble strongly the fossil forms found in relatively recent rocks.

In addition to telling the details of life in the past and the story of such unique animals as giant dinosaurs, the fossils also tell of past climates. Corals found in Greenland rocks attest to warmer conditions in the past than today, and imprints to fir and spruce in unconsolidated clays near the surface record the penetration of glacial cold far to the south.

Fossils are preserved in many ways. The simplest is the intact preservation of the hard parts of a plant or an animal.

In another type of fossilization, buried plant or animal materials decompose, leaving a residual film of carbon behind. On a large scale this process is responsible for our great deposits of coal.

Probably the most spectacular of all replacements is that of wood by agate or opal as a result of the action of hot, silica-bearing waters. This forms petrified wood. The replacement may be so minute and complete that even the details of cellular structure are preserved. The best-known example are preserved in the Petrified Forest of Arizona.



CARBONIZED FERN LEAF
Illinois

PETRIFIED WOOD
Arizona



cell
structure
(enlarged)



CAST OF SHELL
in pyrite
western Illinois



Arrowheads found buried offer evidence of human life. At left, an ancient folsom point from New Mexico. At right, marine fossils found along Lake Champlain, N. Y., show that this lake was once an arm of the sea.

HOW A WELL WORKS

1. Roll a piece of wire window screening around a pencil to make a cylinder. Enlarge the cylinder so it is about 1/4 inch across and fasten a piece of wire around it to keep it from unrolling.



2. Place the cylinder upright in a glass with sand, keeping the sand out of the cylinder.



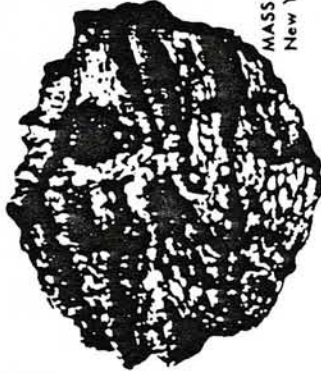
3. Pour water into the sand. The sand will take up the water but the water will also go into the cylinder....your well.



4. If you remove water from inside the cylinder with an eye dropper, additional water will go into it from the sand, but the level of water in your well will be lower than at first.

5. You can raise the level of water again by pouring more water into the sand. If you don't add water and still pump out of the well, your well will run dry.

GRAPHITE is one of the world's softest minerals. Diamond is the hardest. Both are carbon. Graphite occurs in igneous and metamorphic rocks -- schists and marbles. It may form when high temperature veins cut coal deposits, and an artificial form is made in electric furnaces. Graphite is earthy, or forms scaly or flaky crystals with a metallic luster, greasy and flexible. Graphite is used for dry and wet lubrication and for electrical and chemical purposes. Its best known use is as 'lead' in pencils, where it is usually mixed with other materials to give various degrees of hardness. Graphite is a strategic mineral. Its latest use is as a moderator to slow down neutrons in atomic piles.



MASSIVE GRAPHITE
New York



crucible



motor brushes



pencils



lubricant

TITANIUM is a metal with a future and its minerals will be of increasing importance. Light weight and a high melting point give it importance in rocket construction. Now used in steel alloys, as a cutting tool (titanium carbide) and in white paint.

Titanium is abundant, making up 0.6 per cent of the earth's crust. Its ores are found principally in southeastern United States and Arkansas.

Ilmenite is the more common ore of titanium found in many magnetite deposits; associated with gneisses and metamorphic rocks generally. Found as thin sheets, flecks, tabular crystals, grains, or massive. Black in color; opaque.

Titanium alloys used in rockets



Ilmenite, Cumberland, R.I.



Ilmenite crystal

WEBELOS



A Mineral Hardness Kit

By ALAN WHEELER

Mineral study is a scientific hobby. Like any good scientist, a mineral collector must do some homework before he can identify his specimens.

The would-be collector who dashes out to his local landslide, canyon, alp (or vacant lot) and loads his pack with 50 pounds of interesting rocks may be disappointed if he hasn't done a little studying beforehand. He may be left with nothing more than 50 pounds of odd-shaped paperweights.

To gain the most enjoyment from the study of minerals—the science of mineralogy—a collector should learn all the important methods of identifying a mineral once he has found it.

One useful clue to a mineral's identity is its hardness. A hardness scratch test is simple enough to be performed easily in the field. Many experienced mineral collectors carry a hardness testing kit on their "rockhounding" trips.

Just knowing the hardness of a particular mineral is not the complete key to its identity, but knowing that fact will help you figure it out. The hardness number is always included in the scientific description of a mineral.

The scale was developed more than 100 years ago by Friedrich Mohs, a German mineralogist. He arranged 10 minerals in a hardness scale with talc, the softest, as number one and diamond, the hardest, as number 10. His complete scale looks like this: (1) talc, (2) gypsum, (3) calcite, (4) fluorite, (5) apatite, (6) orthoclase, (7) quartz, (8) topaz, (9) corundum, (10) diamond.

In this scale each mineral is harder

than the ones before it and is capable of making a scratch on their surfaces. Kits of these materials are prepared with small cut pieces of each mineral mounted on metal rods. Unfortunately, hardness kits of good quality require a large investment for the beginner, even though most kits do not include the diamond.

But you can make your own kit from materials you already have around the house or that you can buy at low cost. It will help you establish the hardness of a mineral sample within rough limits.

Item No. 1 on this inexpensive hardness scale is talc, the same as that on Mohs's original scale. You can purchase talc in the form of tailor's chalk.

The second material in the scale is already at your fingertips—it is your fingernail, with a hardness of 2 to 2½.

For No. 3 substitute the edge of a new copper coin. Its hardness is very similar to that of the calcite on Mohs's scale.

A common 12-penny nail will help you test materials with a hardness of about 4 to 4½.

The steel of a good knife blade is rated at about 5½.

Hard glass, such as that found in tempered window glass, has a hardness of approximately 6. Take care not to cut yourself when you use it.

you may assume its hardness lies between 5 and 6.

Allow for variations. Remember that some samples of the same material will be slightly harder than others.

Even with this simple hardness guide you can identify specimens. By adding other factors, such as the color, shape, location where it was discovered, cleavage lines, and the color of the streak the mineral leaves on a piece of unfinished porcelain in an old dish, you can figure out which mineral you've found.

When using your hardness kit, you will find that it is best to test the mineral specimen on a flat surface. After you have made a test scratch, try to rub the mark away with your fingers. A true scratch will remain. It is best to use a magnifying glass to examine any doubtful marks. Sometimes the testing tool will leave scrapings or powder on the surface of the mineral. Hard rubbing can remove such marks.

As you learn more, you will want to buy small samples of minerals in order to study the actual shape of crystals and test their hardness. Eventually you will become choosier about what you pick up on field trips.

Some experienced rockhounds carry only a single test material, such as quartz with a hardness of 7. They will investigate only those rather rare minerals with a hardness higher than quartz.

When you start your collection you won't have to be as selective as that. Your first job will be to learn how to separate rocks that are mixtures of two or more minerals from the pure mineral specimens.

Your hardness kit will be of little use when testing pieces of granite, for example, which may be composed of a mix of quartz (7), feldspar (6), and mica (2 to 2½). The bits of individual minerals may be large enough to recognize but impossible to test with your kit.

This is where your study of rock samples and guide books will serve you well again. Not only will you be able to recognize the major types of rocks, but you will also learn something about the minerals you find connected to such rocks.

When you make your find, don't take more of a mineral than you need for a display sample. Thumb-sized lumps are fine. They display well, they are easy to carry, and your consideration will mean another rockhound will have the fun of making the same discovery that you did.

As your collection grows you will learn to look inside certain types of solid-looking rocks to discover a special trove of crystals, or you may want to travel to different regions in search of unusual minerals. The study of minerals can lead you into a lifelong hobby, or even a career.

Wherever it takes you, be determined from the start that you will approach mineralogy like a scientist, not a paperweight collector.



A high-speed drill bit from Dad's woodworking tools has a tip with a hardness of approximately 6½.

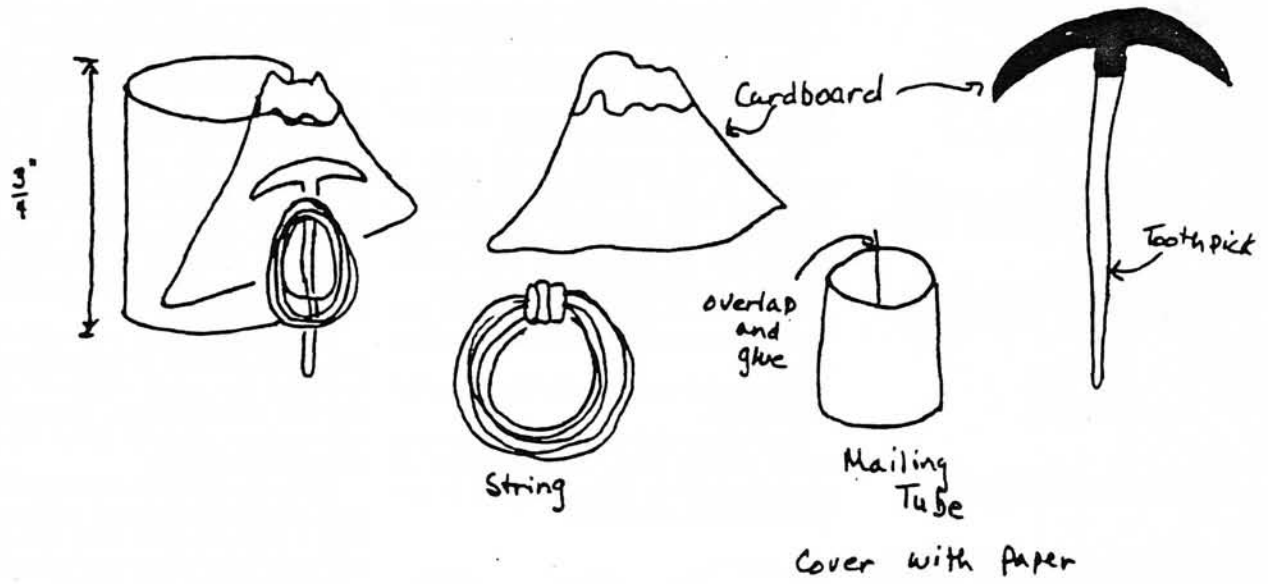
A good-quality metal file capable of fine smoothing or cutting work has a hardness of about 7½.

High-speed masonry drills have points with a hardness of approximately 8½. Be sure you get a masonry drill.

A carborundum sharpening stone will scratch minerals of a hardness about 9.

When using this hardness kit in the field, it is a good idea to have each piece labeled. When you find a mineral that will barely scratch your knife blade (5½) but will not mark hard glass (6),

Webelos Geologist Neckerchief Slide



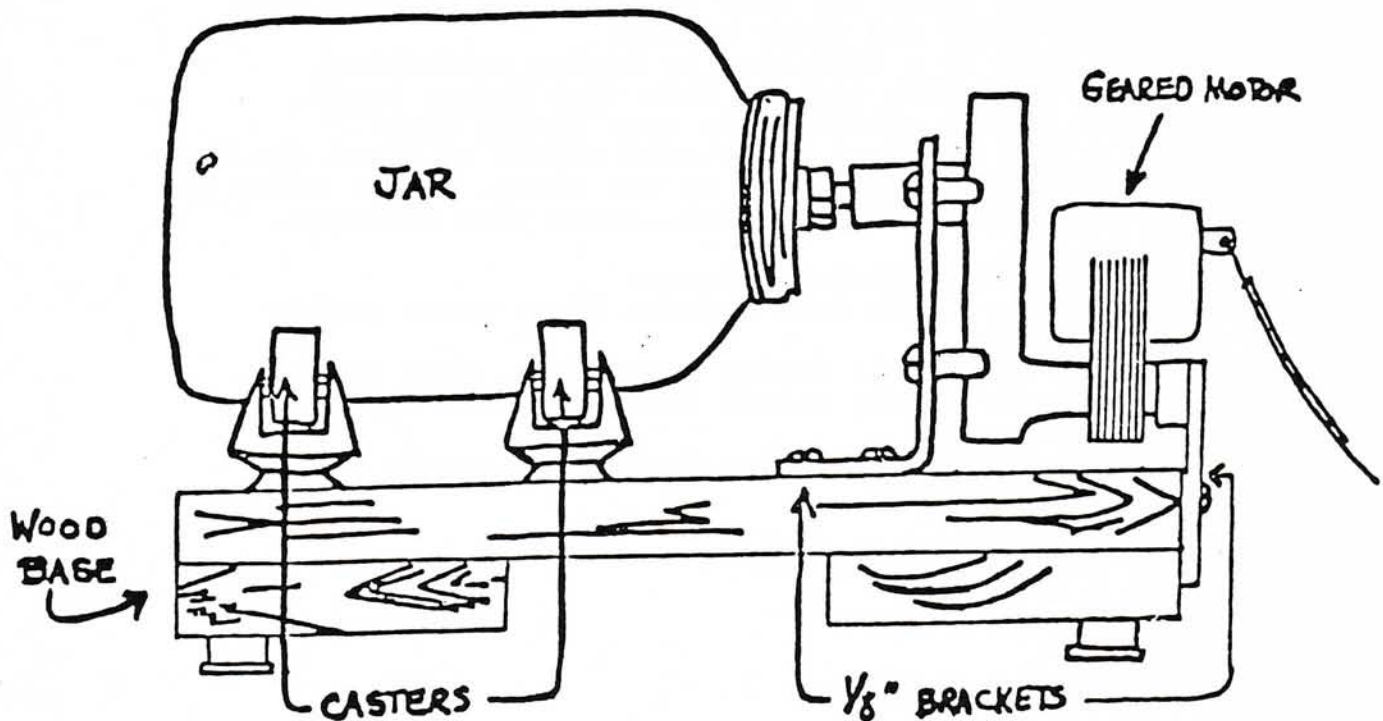
MAKE A ROCK TUMBLER

This is a simple tumbler that you can build yourself. It will grind and polish the agates or other semi-precious stones you may collect on field trips. The cost is not very much.

The tumbler barrel is simply a quart glass jar. It rolls on four nylon furniture casters. The key to its simplicity is the small geared-down electric motor (a rock tumbler must turn at a very low speed). The motor used here was a gear-drive 22.8 rpm, 110-volt AC motor.

The construction is shown below. Mount the motor with metal brackets on any sufficiently large piece of scrap lumber. Attach the jar lid shaft and the casters, placing them where the jar rests and turns easily on them. The electrical connections of the motor are exposed; so cover or tape them well to prevent shocks.

In this and all other rock tumblers, the grinding gets done as the rocks cascade over one another in the slowly turning jar. You will want to contact your local rock shop to purchase the proper polishing powders. You tumble a load of rocks for a long time (two or three weeks) until the rocks inside are highly polished. This motor shouldn't be expensive to run.





AQUANAUT ACTIVITY BADGE

To most boys in the Webelos age group, the Aquanaut Activity Badge will be one of the easiest to earn. It will be fun for both the boys and the Webelos leader.

One of the main points of this badge is to teach safety rules. These rules will be found at every Scout waterfront. The rules may not particularly impress a Webelos Scout at the neighborhood pool where he swims, but at Scout Summer Camp, their value will become apparent to him.

Webelos Scouts in the Birmingham Area Council are surrounded by pools, lakes, and rivers. Because of this easy access to water, it is very important that the Webelos Scout learn basic water safety and swimming skills.

Den Activities:

1. Have a demonstration of mask, fins and snorkel by an expert. Scuba instructors or graduates of a scuba class would be good resources.
2. Take the den swimming. Classify boys according to swimming ability. Assign boys to areas according to ability. Let them try to pass the 100 foot and floating requirements, and surface dive and snorkel options.
3. Assign buddies and discuss the importance of the buddy swimming system with the boys.
4. If a rowboat is available, have boat safety methods and rowing techniques demonstrated by an expert. Give the boys a chance to practice these methods.
5. Have the boys learn the four basic rescue methods. Let them practice reach and throw methods.
6. Take the boys to a swim meet or diving exhibition.
7. Study the Safe Swim Defense Plan (Cub Leader Book).
8. Study the Safety Afloat Plan. (Cub Leader Book).
9. Invite a life guard or other swim expert to visit den and talk about handling emergencies in the water. Three rules to remember are: Don't panic...think...save your strength.

Related Boy Scout Merit Badge Books:

Lifesaving - Safe Swim Defense Plan, water rescue techniques.

Rowing - Equipment, rowing techniques, boat rescue techniques, Safety Afloat Plan, personal flotation devices.

Swimming - Basic swimming techniques, basic water rescue techniques.

Boy Scout Swimming Skill Book

WATER GAMES

SIMON IN THE WATER

When leader prefaces a command by saying "Simon says", each player must follow instructions immediately. If he gives a command without saying "Simon says" no player may move. Commands may include: swimming, floating, ducking head, touching bottom, etc.

CORK RETRIEVE

Assign small area of poolside to each player. Scatter a dozen or more small corks or blocks of wood on the water close to the far side of the pool. On signal, each player dives into the pool and brings back corks one at a time and places them in his area. The player who retrieves the most corks wins.

TURTLE FLOAT

Boys pretend to be turtles. They start by standing in a circle in waist-deep water. On signal, they take deep breath, grasp their ankles, and pull their knees against their chests. If their chins are kept on their chests, the boys will float with their backs out of the water. Demonstrate for them and allow practice until they learn the body will rise and float by itself.

SNORKELING SKILL TEST

Weight several inflated balloons of various colors and sink them in three-to-four feet of water in a winding course over 50 to 100 feet. Using mask, fins, and snorkel have the boys swim the course passing over each of the balloons.

EGG AND SPOON RACE

Give each boy a spoon and an egg. The object is to swim across the pool with the spoon in his mouth and the egg in the spoon. The first one across the pool with the egg still in the spoon wins. (The boys will do better if they only use their feet to kick.) Note: you will probably want to use a hard-boiled egg.

OYSTER PICKING GAME

Scatter two or three dozen jar caps in shallow water, but deep enough that boys have to duck to reach them. On a signal, all boys jump into water and gather as many oysters as they can.

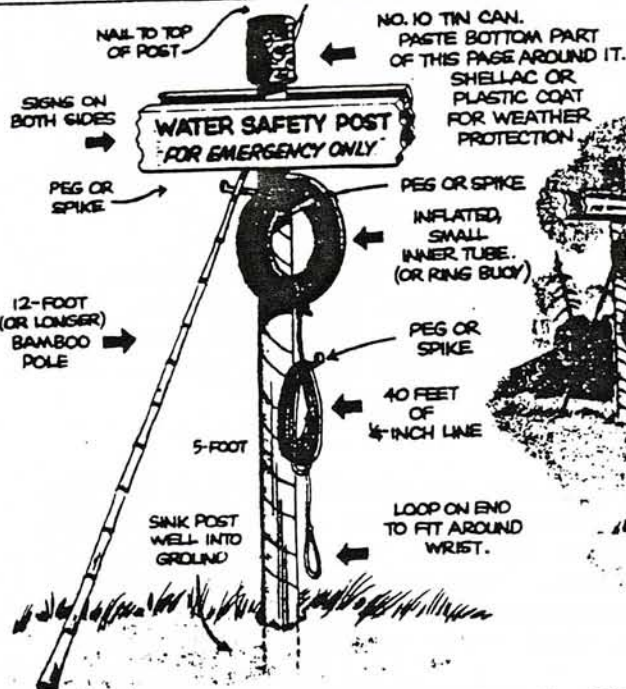
TREASURE DIVE

Divide players into two teams. Have them line up on opposite sides of the pool. Toss a coin into the center of the pool, and have one player from each team dive at the same time. The one who brings back the coin scores for his team. Continue until all have tried.

SAILBOAT RACES

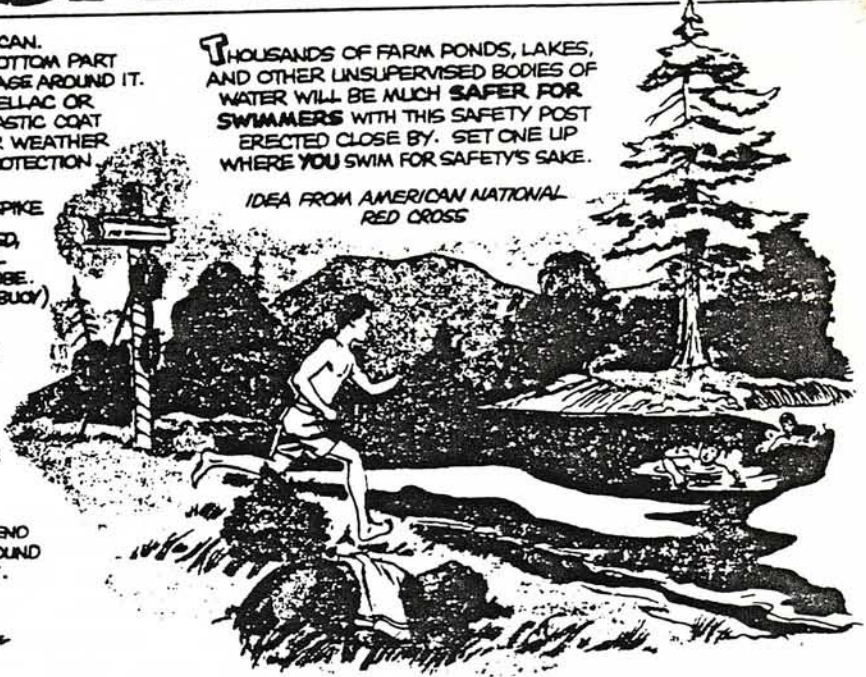
Have boys build small sailboats. For a race have them line up 5 yards from edge of pool and blow their sailboats back to shore.

WATER SAFETY POST



THOUSANDS OF FARM PONDS, LAKES, AND OTHER UNSUPERVISED BODIES OF WATER WILL BE MUCH SAFER FOR SWIMMERS WITH THIS SAFETY POST ERECTED CLOSE BY. SET ONE UP WHERE YOU SWIM FOR SAFETY'S SAKE.

IDEA FROM AMERICAN NATIONAL RED CROSS

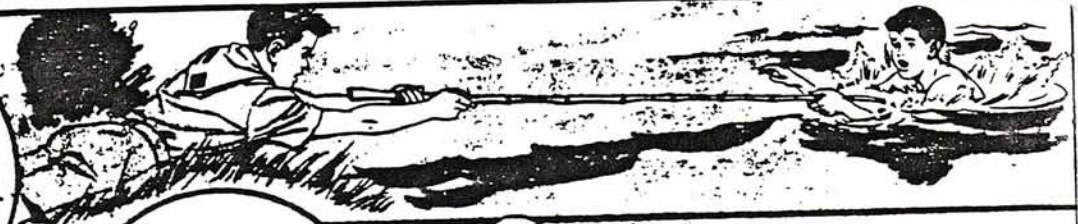


CUT THIS BOTTOM PART ALONG DOTTED LINE—PASTE ON CAN—PROTECT WITH SHELLAC OR PLASTIC

SAVE A LIFE! READ THIS BEFORE AN EMERGENCY!

REACH

IF THE VICTIM IS WITHIN REACH—EXTEND THIS POLE FOR HIM TO GRAB AND PULL HIM TO SAFETY. OR USE ANY OTHER OBJECT THAT'S HANDY AND LONG ENOUGH.



THROW

HOLD ROPE IN ONE HAND—ALLOW PLENTY OF SLACK. THROW INNER TUBE OVER AND BEYOND VICTIM AND PULL HIM TO SAFETY.

THROW TUBE AS A WHEEL—ROLLS—LOOP ON END OF ROPE AROUND YOUR WRIST. ALLOW REST TO PLAY OUT FREELY.



ROW

WHEN VICTIM IS FURTHER OUT, USE A BOAT TO SAVE HIM. IN A ROWBOAT, APPROACH HIM STERN FIRST—IN A CANOE, PULL UP SO HE CAN GRASP IT'S SIDE.

KNEEL IN CANOE



GO

IF THE FIRST THREE STEPS CAN'T BE USED, AND AS A LAST RESORT—SWIM TO THE VICTIM. DO NOT ATTEMPT A RESCUE BEYOND YOUR SWIMMING ABILITY...GET HELP QUICKLY!

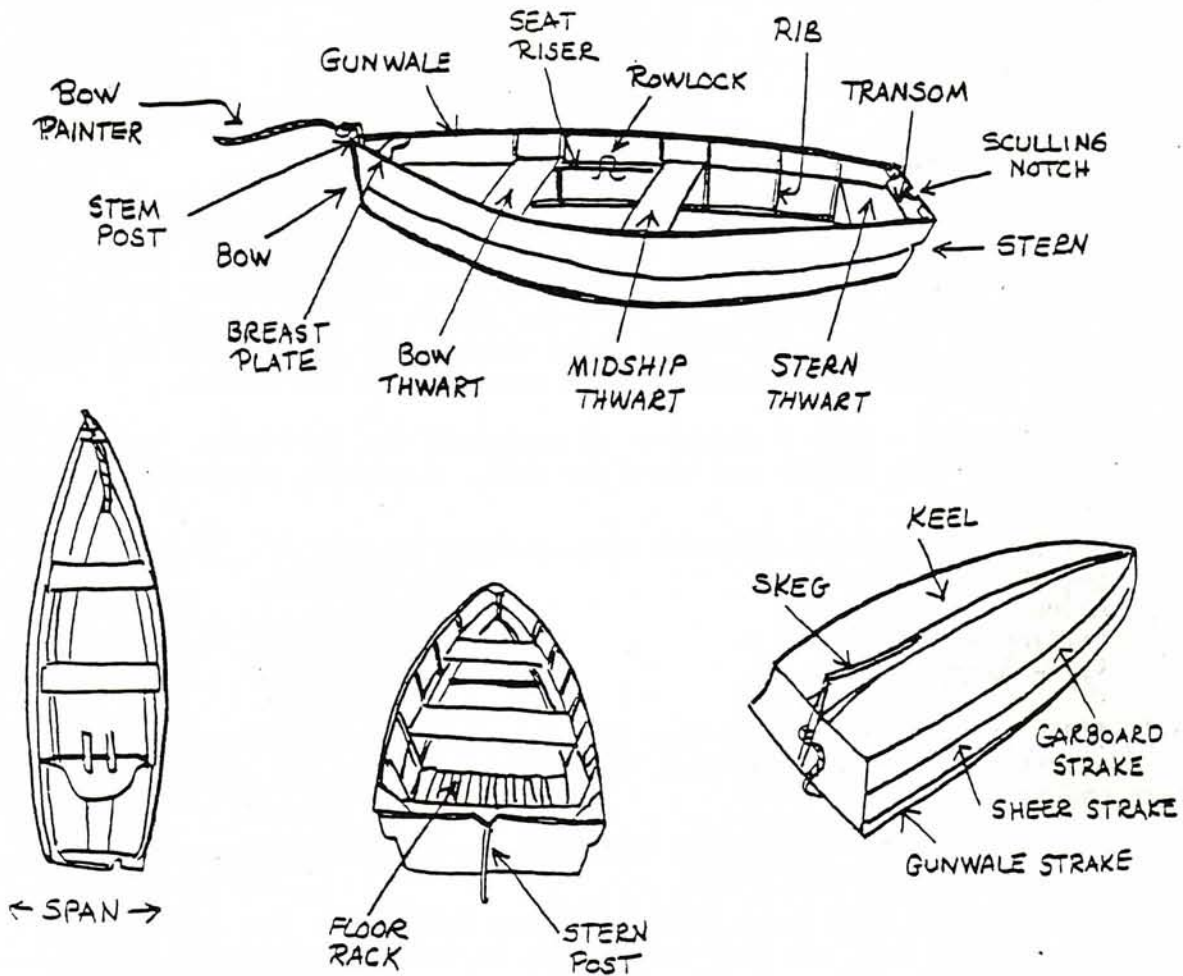
KICK OFF SHOES—DISROBE QUICKLY. KEEP YOUR EYES ON VICTIM AT ALL TIMES.

JUMP! DON'T DIVE INTO WATER. CARRY YOUR SHIRT OR A TOWEL IN YOUR TEETH. KEEP YOUR EYES ON THE VICTIM.



FLIP SHIRT OR TOWEL TO VICTIM—TOW HIM TO SHORE WITH IT. IF YOU HAVEN'T EITHER—APPROACH VICTIM FROM REAR—TOW TO SAFETY BY HIS HAIR.

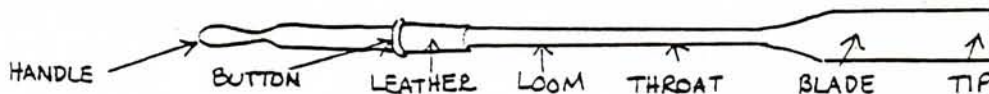
BOATS - The following terms apply to parts of rowboats, regardless of how the boat is constructed or what the materials are.



Boats can be capsized or swamped. It usually takes an effort to do it. If it should happen - **STICK BY THE BOAT!** The boat will float and will easily support or carry you until someone comes to help. You are safe if you **HANG ON!**

Aluminum rowboats are light, rugged and require little maintenance. Floatation units are usually built in. Fiberglass boats also use floatation units. They require little care but can be heavy to handle.

With oars you propel the boat. Rowlocks hold the oars in place. The parts of an oar are illustrated below.



Oars are made of straight grained spruce or hardwood. Spruce, while light, wears quickly. Hardwood oars are heavy but last longer and can take more hard knocks.