

LESSON PLAN
AX SELECTION, MAINTENANCE, AND USE
(30 Minutes)

MATERIALS REQUIRED

1 ax	1 can WD-40
1 dry-erase board/chalk board	Rags/paper towels
1 ax sharpening jig	1 container 3-in-1 oil
1 10" bastard mill file w/handle & guard	1 container neatsfoot oil
1 pr leather gloves	1 container linseed oil

INTRODUCTION

There are three basic woods tools every Scout should be familiar with. These are the knife, the ax, and the bow or camp saw.

With these three tools a Scout can clear a campsite, build a comfortable shelter and camp furniture, and prepare a fire to keep himself warm and to cook with. In emergencies, the tools allow him to build signal fires, traps and snares to catch game, and defend himself if necessary. These tools also allow him to build other tools to help him survive.

In the previous lesson we learned how to select, maintain, and use knives. During this period of instruction we will learn how to select, maintain, and use axes.

PURPOSE AND MAIN IDEAS

The purpose of this period of instruction is to teach you the proper care, handling, and use of the ax.

We will do this by covering:

- Selecting an ax,
- Maintaining an ax, and
- Using an ax.

Upon completion of this period of instruction you will be able to:

1. Discuss the general characteristics of axes suitable for camping and general survival requirements.
2. Discuss and demonstrate the proper care of axes including storage, cleaning, sharpening, and handling.
3. Discuss and demonstrate the proper use of axes.

BODY

1st Main Idea: Selecting an Ax

As with pocketknives, there are several types of axes to choose from. The two principle types of axes for our purposes are the double-bit or “felling” ax and the single-bit or “poll” ax. *As a general purpose camp tool, the poll ax is the better choice, since it can be used to drive stakes as well as cut wood.* Beside the obvious difference in design of the ax heads, the handles also have different designs: the poll ax has a gently curved handle, while the double-bit ax has a straight handle. The handles on both are usually about 36” long.

A smaller cousin of the poll ax, often called a “boy’s ax” may be more suitable for smaller persons.

Another category of ax is the hand ax or “hatchet.” A hand ax is used with one hand and is useful for making and driving small tent stakes and for cutting and splitting kindling. Because they are lightweight, they are a good substitute for full-size axes when hiking and backpacking.

Some newer axes have plastic handles rather than the normal wooden handles. The plastic handles offer several advantages: they are very difficult to break, they do not shrink and swell depending upon the weather, and they do not rot. Most modern hand axes have one-piece handles and heads, and often have rubber grips.

2nd Main Idea: Maintaining an Ax

Cleaning: Remove all dirt, rosin, wood chips, etc. from the head and handle. Coat the head with lightweight oil to prevent rust and wipe down wooden handles with linseed oil to provide a smooth but not slippery surface, and to prevent the wood from drying and shrinking. You should not paint the handle, but it is okay to paint the head.

Sharpening: Axes are sharpened with an 8- or 10-inch long bastard mill file. A sharp file will be drab gray. A shiny or silvery color indicates a dull file with broken teeth.

Always wear leather gloves when sharpening an ax. If the file does not already have one, make a knuckle guard from a piece of 3-inch square or circle of leather, thin plywood, plastic, or even an old inner tube. Poke a hole in the center, remove the handle from the file, slip the guard over the tang, and replace the handle. (If you loose a handle, a dry corncob makes a good replacement!)

Brace the ax head on the ground between a log about six-inches in diameter and a couple of tent pegs or stakes, so that the cutting edge is facing you. (A partner can also help to hold the ax steady.) Alternatively, use a previously constructed ax sharpening jig that can be part of the Troop Tool Chest.

Place the face of the file on the edge of the blade and push it away from you, then lift it up and reposition it for the next stroke. Don't pull it back toward you. Doing so will damage the file and the ax.

Make several strokes, then turn the ax around and repeat on the other side. Continue to alternate, using about the same number of strokes on each side, until the ax is sharp. A dull edge will appear shiny. A sharp edge seems to disappear.

Sharpen a hand ax in the same way, but use a two-inch log instead of a six-inch log.

3rd Main Idea: Using an Ax

Because of its size and the way it is used, an ax can be more dangerous than other camp tools. Whenever you use an ax, be sure to wear leather shoes or boots. When not in use, the blade should always be sheathed, and the sheath should only be removed to inspect or clean the ax, or to use it.

There are six important safety considerations for ax use: *safe tool*, *safe working area*, *safe carrying*, *safe handling*, *safe storage*, and *safe techniques*.

Before using an ax, inspect it to make sure it is a *safe tool*. Look for a loose head, cracked or splintered handle, or a dull or chipped bit. If any of these are present, don't use the ax.

Before doing any cutting, check to ensure you have a *safe working area*. Check for proper clearance from obstacles by holding the ax by the head and slowly swinging the handle at arm's length around you. Select an area that is free of brush and branches, and make sure that all other people stay at least ten feet away while you are cutting. (If you approach a person using an ax, call out to let him know you are approaching. Do not get closer than ten feet until he has acknowledged your presence, and has stopped cutting.) If practical, rope off an ax yard for cutting and splitting firewood. When you are finished, clean up chips, bark, and other debris.

Safe storage means keeping a sheath on the ax except when it is being inspected, cleaned, sharpened, or used. *Safe carrying* means that the axe is carried in one hand, with the head up and the bit turned away from your body. If you stumble, toss the ax away from you as you fall. NEVER carry an ax on your shoulder. *Safe handling* means that, when handing the ax to another person, you hold the handle with the ax head down and pass it with the bit turned away from both persons. Do not let go of the handle until the other person has said "Thank you" to let you know that he has a good grip on the handle.

Safe techniques ensure that you and those around you are not injured as you go about your woodcutting. There are three basic types of woodcutting: *limbing*, *bucking*, and *splitting*.

- **Limbing** refers to cutting the branches off a log. When limbing, stand on the side of the log opposite the branch to be cut, with the crotch facing you. Chop close to the point where the branch joins the log, driving the axe into the top of the limb. Keep the log between yourself and the cuts. If the ax slips, either the branch will deflect it away from you or the log will absorb the stroke.
- **Bucking** refers to cutting a log into pieces. If you are right handed, hold the ax with right hand near the ax head and the left near the knob of the handle. Lift the head over your shoulder and swing downward, letting your right hand slide down the handle. Let the weight of the falling ax do most of the work. Free the ax, reposition, and repeat the stroke. Aim your strokes so that you cut a V-shaped notch twice as wide as the top of the log is thick.
- **Splitting** refers to splitting logs length-wise. A log for splitting should be from 18” to 24” long, and splitting is easier if a *chopping block* is used.

To split a large chunk of wood, stand it on end and drive the ax into the end of it. **NEVER straddle a log when trying to split it.**

To split sticks, such as for kindling, use the *contact method*. Place the ax bit against the stick, then lift the stick and ax together and bring them down against the chopping block, forcing the bit into the wood. Twist the ax to break the pieces apart.

SUMMARY

The best general-purpose camp ax is a single-bit or “poll” ax.

Before using an ax, always inspect it to ensure the head is firmly attached to the handle. Check for a safe working area by holding the ax by the head and, while holding the ax at arm’s length, swing it slowly around a complete circle.

Always obey the following ax DOs and DON’Ts:

- DO:** Keep the ax sheathed when not in use or being cleaned.
 Keep the ax sharp and clean.
 Carry an ax by the head with the bit facing away from your body.
 Pass an ax to another person with the head down and the bit facing away from both persons. Do not release your grip until the other person says “Thank you.”
 Wear leather shoes or boots when using an ax.
 Keep the log between the limb and yourself when limbing.

- DON’T:** Throw an ax.
 Allow anyone to come within ten feet of you while you are using an ax.
 Cut any trees, living or dead, without permission.

QUESTIONS FROM THE CLASS

QUESTIONS TO THE CLASS

THE OUTDOOR CODE

As an American, I will do my best to —

BE CLEAN in my outdoor manners,

BE CAREFUL with fire,

BE CONSIDERATE in the outdoors, and

BE CONSERVATION-MINDED.