



Skills Session: Ropes—Whipping, Tying, and Lashing

Time Frame

1 hour 30 minutes

Materials

- Hemp or sisal rope
- Nylon or plastic rope
- Whipping cord
- Matches and candles
- Staves, one per participant
- Deadfall branches

Resources

Boy Scout Handbook—chapter 3, “Tenderfoot Scout”; chapter 5, “First Class Scout”; chapter 9, “Camping”

Goals

By the end of this session, participants will be able to

- Whip and fuse rope.

- Tie two half hitches and the taut-line hitch, and demonstrate how these knots are used for pitching a tent.
- Tie the timber hitch and clove hitch
- Demonstrate the square, shear, diagonal, tripod, round, and floor lashings, and explain the appropriate and inappropriate uses for these lashings.
- Use the timber hitch and clove hitch to join two or more poles or staves together.
- Use lashing to make a useful camp gadget.
- Tie the bowline knot and tell how it can be used.

Assignments

- Demonstrate how to whip and fuse the ends of a rope.  T4a
- Demonstrate that you know how to tie the following knots and tell what their uses are: two half hitches and the taut-line hitch.  T4b
- Discuss when you should and should not use lashings.  F7a
- Demonstrate tying the timber hitch and clove hitch and their use in square, shear, and diagonal lashings by joining two or more poles or staves together.  F7b
- Use lashing to make a useful camp gadget.  F7c
- Demonstrate tying the bowline knot and describe several ways it can be used.  F8a

Before You Begin

Conduct the skills session on ropes early in the course, while participants are "fresh," to help reinforce successful completion of these skills.

Lesson Plan: Ropes—Whipping, Tying, and Lashing

Rope Basics

Rope is made by twisting together the stringy fibers of certain plants, or by twisting together or weaving strands of nylon, plastic, or other modern materials. Wear and tear sometimes cause a rope to unravel. For a temporary fix, tie a knot in each end or wrap it with duct tape. For a more permanent fix, whip or fuse the ends.

WHIPPING

Give each participant a piece of rope that has started unraveling. To whip a rope:

1. Cut off any of the rope that has already unraveled.
2. Take a piece of strong string—preferably waxed and at least two feet long—and form a loop with it.
3. Lay the loop near the end of the rope and tightly wrap—*whip*—the string around the rope.

- When the whipping is at least as wide as the rope is thick, slip the end through the loop and pull hard.
- Trim off the excess string, then whip the rope's other end.

FUSING

Plastic or nylon rope and cord melt when exposed to high heat. To fuse a rope:

- Cut away the frayed part of the rope.
- Working in a well-ventilated area, hold each end a few inches above a lighted match or candle to melt and fuse the strands together.

Melted rope can be hot and sticky; *don't touch the end until it has cooled*. Do not try to fuse ropes made of manila, sisal, hemp, cotton, or other natural fibers, because they will burn rather than melt.

KNOTS AND HITCHES

Learning how to tie knots takes practice. Carry a piece of cord in your pocket and, several times a day, pull it out and tie the knots you have learned. Practice until you can tie them quickly—even with your eyes closed—and you'll be confident and ready to use them whenever necessary.

A knot should

- Be easy to tie.
- Stay tied.
- Be easy to untie.

A *hitch* is a knot that ties a rope to something. Friction caused by the wraps of the rope holds the hitch in place.

HITCHES, KNOTS, AND BENDS

- TWO HALF HITCHES.** Use two half hitches to tie a rope around a post.
- TAUT-LINE HITCH.** The taut-line hitch is tied on a line that is tight, or *taut*. Use the taut-line hitch to tighten or loosen a tent guyline by pushing the hitch up or down.
- When participants have learned the two half hitches and taut-line knots, remind them to check their tent set-ups at their campsite and retie any incorrect knots.
- TIMBER HITCH.** Use the timber hitch for dragging heavy objects such as a log. The timber hitch starts a diagonal lashing, too. When dragging, use a steady motion; slacking and jerking may loosen the hitch.
- CLOVE HITCH.** The clove hitch is a widely used knot and can be used to start most lashings. This is the knot for attaching a rope or cord to your bear bag—a bag of food hung from a tree, out of reach of animals. The clove hitch can also be tied by laying the knot over the open end of a pole. Drop one overhand and one underhand loop over the post and draw them together.

- **BOWLINE KNOT.** Properly tied, a bowline never slips or jams. It holds permanent or adjustable loops and may be used to attach a cord to a pack frame, secure tarps and tents, secure a line to a canoe, in rescue situations, and in many other ways.
- **SHEET BEND.** This knot works well for tying together two ropes of the same or different diameters. It's similar to the bowline, and it's untied in the same way.

LASHINGS

Lashings come in handy for binding together timbers or other structures.

- A table keeps food preparation off the ground.
- A tripod holds a washbasin.
- In a pinch, several pack frames lashed together form a stretcher.

Hiking staffs, or *staves*, are used as a lashing demonstration tool to emphasize Leave No Trace camping in not using or cutting live trees.

Staves lashed together make excellent emergency stretchers and splints.

LASHINGS

- **SQUARE LASHING.** The square lashing binds together two poles that are at right angles, or *square*, with each other.
- **SHEAR LASHING.** Poles secured with a shear lashing can be raised as an A-frame.
- **DIAGONAL LASHING.** Use the diagonal lashing when it's necessary to bind two poles at an angle other than a right angle.
- **TRIPOD LASHING.** The tripod lashing resembles the shear lashing. It is used for making a tripod or joining together the first three poles of a tepee.
- **ROUND LASHING.** This lashing binds two poles side by side. Since there are no fraps in a round lashing, the wraps must do all the work. Pull them tight. Make a second round of lashing farther along the poles to keep them from twisting out of line.
- **FLOOR LASHING.** The floor lashing secures tabletops, the deck of a raft, the floor of a signal tower, or the walkway of a bridge.

Activities

1. After learning the timber hitch and clove hitch, and their use in square, shear, and diagonal lashings, use these new skills to join two or more poles or staves together.
2. Use lashing to make a useful camp gadget at the patrol campsite. Use only deadfall trees and branches when constructing camp gadgets.

Remember to obtain permission before building camp gadgets and other structures. Many backcountry areas prohibit such structures. Use only the materials that have been approved for the project and, if found, gathered with permission from the landowner or land manager. Take everything apart when you are done, and leave no trace that you were there.