

# Knot-Tying Skill Activities



50-Foot Rescue Relay

These challenges provide Scouts with an opportunity to put a variety of knot-tying skills into action.

In accordance with their level of skill, patrols can stay intact while doing these activities. Pitting one patrol against another in a competition can also be lots of fun. If patrols are organized by age, dividing the troop into equally-skilled Scout teams can be a practical alternative.

*“wide” = large indoor or outdoor setting for those activities requiring a greater amount of space*

*“small” = small area for those activities that do not require as much space, or can be carried out in close quarters, or with a smaller number of Scouts*

*“in” = indoor activity “out” = outdoor activity*

NOTE: The best kind of Scout skill challenges adhere to three standards:

1. They illustrate how the skill is used.
2. They reinforce the acquired skill(s).
3. They provide the grounds for the Scouts to rely upon the skill(s) in order to complete the challenge.

All of the following activities have merit, and some indeed accomplish the above standards in fine fashion.

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**50-FOOT RESCUE RELAY (*wide, in or out*)** [View Video](#)

- *Materials:* a cardboard square and one 50-foot rope for each patrol
- *Method:* Patrols line up in relay formation. One Scout from each patrol sits on the square of cardboard about 35 feet in front of their patrol. On signal each patrol prepares their rope for an accurate distance throw. One member casts the line to their Scout who must grab the rope while remaining on the cardboard. Once they have the rope, they tie a bowline around their waist, grab the cardboard with both hands and remain on the cardboard as the rest of their patrol pulls them ashore.
- *Scoring:* Patrols score points according to how effectively they can rescue their patrol mate(s).
- *Variation:* Patrol members take turns coiling and throwing the rope and riding the cardboard.

**BOWLINE DRAW (*small, in or out*)**

- *Materials:* 15-foot rope for every 2 Scouts
- *Method:* Each patrol forms two lines facing each other. Each pair of Scouts holds one end of a 15-foot rope in their right hand raised above their head. At the word “Go,” each races to tie a bowline around their waist. Scouts lean backward with their full weight to test the knots.
- *Scoring:* The first patrol to have all bowlines tied correctly and all Scouts leaning backwards wins.

**BOWLINE SHEET BEND DRAW (*small, in or out*)** [View Video](#)

- *Materials:* 6-foot rope or braided nylon cord for each Scout
- *Method:* Each patrol forms two lines facing each other. Each Scout holds their rope their right hand raised above their head. At the word “Go,” each races to tie a bowline around their waist, then join the ropes together with a sheet bend. Scouts lean backward with their full weight to test the knots.
- *Scoring:* The first patrol to have all knots tied correctly and all Scouts leaning backwards, with their Sheet Bends next to each other in a straight line, wins.

**CANNIBAL RESCUE (*wide, in or out*)**

- *Materials:* 30 to 50-foot x 1/4 to 3/8-inch manila or braided nylon for each patrol
- *Method:* The patrols line up in relay formation behind a line. A second line is marked out 20 to 30 feet away, parallel to the first. The first Scout in each patrol is given a rope, and the following story is related: “You are fleeing from cannibals and have reached the bank of a wide river. Only one Scout in each patrol can swim. The rest of the patrol must be “pulled” across with the help of a rope.” On signal, the first Scout in each patrol “swims” (runs) with the rope to the other “shore” (second line) and throws one end of the rope back across the “river” to the second Scout in line. The second Scout ties a

bowline around their waist and is figuratively pulled across to the other shore by the first Scout. Then the second Scout unties the rope, throws it to the next Scout in line, and so on. This continues until the whole patrol is safely across. Note: Scouts must wait until the rope is thrown far and accurately enough for them to grab it, without entering the "river".

– *Scoring:* The first patrol to get all of its members across the river with correctly tied bowlines wins.

### **EIGHT KNOT CONTEST (*wide, in or out*)**

– *Materials:* for each patrol three 6-foot x 1/4-inch manila ropes (or braided nylon cords), one 12-foot x 1/4-inch manila rope (or braided nylon cord), one log 2-foot long and 3 to 6 inches in diameter, two trees or upright poles 12 to 16 feet apart

– *Method:* Lay all the materials on the ground between the trees or upright poles. On signal, with one 6-foot rope, each patrol ties an end to a tree or pole with two half hitches / joins the other end to a second 6-foot rope with a square knot / ties one end of the third 6-foot rope to one end of the log with a timber hitch / forms a loop on the other end of the third 6-foot rope with a bowline / uses the bowline's loop as the bend to tie a sheet bend to the free end of the second 6-foot rope. Each patrol will also tie one end of the 12-foot rope to the other tree or pole with a taut-line hitch / and the other end to the log with a clove hitch. Finally they will raise the log parallel to the ground by shortening the 12-foot rope with a sheepshank.

– *Scoring:* The first patrol to suspend the log parallel to the ground with all knots correctly tied wins.

### **HOLD-EM DEMONSTRATION (*small, in or out*)**

– *Materials:* 20-foot rope for each patrol

– *Method:* On signal, the first Scout takes hold of one end of the rope and makes one roundturn around a tree or immovable pole. Leaving enough rope to easily tie two half hitches, they hold onto the running end with one hand. While the first Scout maintains a grip on their end of the rope, a second Scout pulls on the other end of the rope. Relying on the friction created by the roundturn and withstanding the pull on the rope created by the second Scout, the first Scout now can secure the line with two half hitches snugged up against the tree or pole.

– *Scoring:* None. Each Scout takes a turn tying a [roundturn with two half hitches](#) in this manner.

### **HORIZONTAL HALF HITCHING RACE (*small, in or out*)** [View Video](#)

– *Materials:* horizontal pole(s) set up waist-high with pairs of 3-foot lengths of braided nylon or paracord cords, attached and hanging down (enough for each participant to have 2 cords right next to each other, set apart from other pairs of cords leaving enough space for each Scout to apply the half hitches without interfering with the Scout next to them.)

– *Method:* On signal, Scouts race to tie a series of four half hitches with each cord, one cord proceeding from the left, and the other proceeding from the right. When they have completed all eight half hitches, they yell out, "done!" (Switch off so all Scouts get a

turn.)

- *Variation:* Tie the two pairs of cords about a foot from the ends of a Scout stave. Scouts pair up and sitting down either next to or across from one another, race to tie the half hitches with the stave balanced on their laps.
- *Scoring:* The first Scout to correctly complete all eight wins that round.

### **HOT ISOTOPE TRANSPORT (*wide, out*)** [View Video](#)

- *Materials:* For each patrol, one can filled to a mark 1/2-inch from the top with water, in the middle of a well-defined circle 20 feet in diameter, six 15 foot cords, elastic circle.
- *Method:* The patrol assembles a “Hot Isotope Transporter” by attaching the cords to the elastic circle with two half hitches. They then line up around the can staying outside the circle at all times, and under the direction of their patrol leader, the Scouts pull the cords to stretch the elastic circle. The object is to bring the expanded elastic circle down over the can, then relax the elastic circle to fit tightly over the can. They then lift and deposit the can upright to a point outside the circle, without spilling any water.
- *Scoring:* Each patrol scores a point for transporting the can without spilling any water. All knots correctly tied earn an additional point. The fastest patrol earns an additional point.

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### **KNOT HOOP RELAY (*small, in or out*)**

- *Materials:* 6-foot rope for each patrol
- *Method:* On signal, the first Scout ties the rope into a hoop with a sheet bend and passes it over their head and down their body. They step out of the hoop, untie the knot and pass the rope to the next Scout who repeats the method and so on down the line. A judge for each patrol will observe the knots.
- *Scoring:* Points are given for each correctly tied sheet bend, and extra points to the patrol that finishes the quickest. If there are different numbers of Scouts in the patrols, announce a specific number of knots to be tied, requiring some patrol members to go more than once.

### **KNOT MASTER TUG OF WAR (*wide, in or out*)**

- *Materials:* for every two teams, one 4-foot and two 10-foot x 1/4-inch ropes, whipped on both ends, a playing area 40-feet wide with a marked center line
- *Method:* The object of this game is to pull the 4-foot rope away from the other other team. The contest can be played between patrol teams or between chosen troop teams. In the center of the playing area is the 4-foot rope. Two teams, each with a 10-foot rope, assemble facing each other on either side, twenty feet away. The game leader will call out the name of a joining knot, either: sheet bend, carrick bend, fisherman’s knot, or water knot. In response, each team quickly sends up one Scout along with their 10-foot rope. They must join their rope to the 4-foot rope with the knot that was called out. Once they do, they can pull the rope away from the other Scout, or if they both have the knot tied at the same time, can attempt to do so as in an ordinary tug of war, the winner pulling the other four feet.
- *Scoring:* If a Scout completes the knot first and hence can easily pull the rope away,

they score three points for their team. If the knot was tied incorrectly, the other team scores two points. If both Scouts complete the knot at the same time, and both are tied correctly, the Scout that can pull the 4-foot rope for four feet towards their patrol scores one point for their patrol. If one of the knots is incorrectly tied, the other patrol scores two points whether or not the rope is pulled to their side.

### **KNOT TRAIL (KNOT KIM'S GAME) (*small, in or out*)**

- *Materials:* four ropes 6-feet or longer as appropriate, two chairs or trees
- *Method:* Tie the end of the first rope to the first chair or tree with a clove hitch / join the other end of the first rope to the second rope with a square knot / form a fixed loop in the other end of the second rope with a bowline / attach one end of the third rope to the fixed loop with a taut-line hitch / join the other end of the third rope to the fourth rope with a sheet bend / attach the other end of the fourth rope snug against the second chair or tree with two half hitches. Each patrol is given one minute to walk along the ropes from chair to chair and back again, silently, to view and memorize the knots. The patrols then huddle to come up with a list of the knots in the order they were between the chairs.
- *Scoring:* The fastest patrol to present the correct list of knots in the proper order wins.

### **KNOT-TYING RELAY (*wide, in or out*)**

- *Materials:* for each patrol, one 6-foot rope, one Scout stave, one judge
- *Method:* The patrols line up in relay formation with the first Scout about ten feet from the stave. The leader calls out the name of a knot, and the Scout in line runs up to the stave, rope in hand, and ties it in the following manner: "Bowline" the stave through the fixed loop / "Square Knot" tied down tight against the stave / "Sheet Bend" joining the two ends of the rope / "Two Half Hitches" slid tight against the stave / "Taut-Line Hitch" tied around the stave but not up against it / "Clove Hitch" tied around the stave / "Timber Hitch" tied around the stave. After the knot is approved by their judge, the Scout unties it, runs back, and gives the rope to the next Scout. When the first Scout who correctly tied the knot returns to their patrol, the next knot is called out. Each patrol must wait for their patrol member to return after having their knot approved, before sending their next member up to tie the next knot.
- *Scoring:* The first patrol to finish wins.

### **LASSOING THE STEER (*wide, in or out*)** [View Video](#)

- *Materials:* 20-foot rope for each Scout, small log
- *Method:* The small log is placed upright in the center of a well-defined circle 18 feet in diameter. On signal, all Scouts make a lasso using a bowline to form the fixed loop. All those unable to tie one have to drop out until their lasso is made with a bowline. Scouts stand outside the edge of the circle, and throw their ropes and attempt to lasso the "steer" and pull it out. Scouts can have as many throws as are needed to rope the "steer."
- *Scoring:* Patrols are awarded points each time one of their members can rope the "steer."

### **LOG HAULING (*wide, out*)**

- *Materials:* one manageably heavy, available log or limb from a tree, a 50-foot x 3/8 to 1/2-inch manila rope, a level dirt road or stretch of land that won't be damaged by dragging the heavy weight marked off in spans of 50 feet
- *Method:* In turn, each patrol ties a timber hitch around the log. Then each Scout ties either a [butterfly knot](#) or bowline on a bight at intervals along the rope to form hand holds. When ready, the patrol proceeds to drag the weight to the next 50-foot marker.
- *Scoring:* The best time wins.

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### **ONE-HANDED KNOT TYING (*small, in or out*)**

- *Materials:* for each patrol, two 3-foot x 1/4 to 3/8-inch braided nylon or polyester cords
- *Method:* Patrols form partners and each set of partners faces the other in relay formation, about 20 feet apart from each other. The two knot-tying ropes are placed halfway between the partners. On signal, the first set of partners run to the center and, with one hand behind their back, each joins their end of one rope to that of the other patrol member, forming a square knot. The leader checks the knot. Then the players untie the knots, run back, and tag the next set of partners. The rope cannot be laid on the floor or the ground during tying. Teeth cannot be used, and knots cannot be tied against any part of the players' bodies. If a patrol has an odd number of members, one Scout goes twice. Each patrol must tie the same amount of knots.
- *Scoring:* The first patrol finished, wins.
- *Variation:* Instead of a square knot, run the challenge with a sheet bend.

### **PONY EXPRESS RACE (*wide, in or out*)**

- *Materials:* A 6-foot length of rope for each Scout
- *Method:* The patrols line up in relay formation, with the patrol leaders in front. On signal, every Scout ties a bowline around the waist of the Scout in front of them, grips the free end of the rope with one hand, and raises their other hand. When all hands are up, the leader gives a command and the patrol races to the end of the room, turns around, and runs back across the starting line.
- *Scoring:* The patrol that crosses the line first wins, provided no one lost their grip and all knots remained correctly tied.

### **REMOTE CLOVE HITCH (*wide, out*)**

- *Materials:* For each patrol, a tree around which a 10-foot-radius area is staked out, a 50-foot rope
- *Method:* Two Scouts from each patrol grasp the rope at either end and are not permitted to let go. The object is to tie a clove hitch around the tree without entering the circle. Other patrol members may help by giving advice and by raising the rope as needed.
- *Scoring:* The patrol to finish first wins.

### **RESCUE RELAY (*small, in or out*)** [View Video](#)

- *Materials:* for each patrol, eight 3-foot x 1/4-inch braided nylon cords, a cardboard square at least 2-feet x 2-feet
- *Method:* Patrols are each issued eight 3-foot cords and assemble behind a line with their patrol leader sitting on the cardboard square 12 feet away. On signal, each patrol forms a long line by joining the 3-foot cords together with sheet bends. As soon as they've joined the eight cords together, one patrol member coils the long line and throws one end to their patrol leader. When the patrol leader can grab hold of the line without leaving their cardboard square, they use it to tie a bowline around their waist. Once this is done, the whole patrol pitches in to pull their patrol leader over the line, as they holds on to the cardboard square with both hands.
- *Scoring:* The first patrol to complete the challenge with all knots correctly tied wins.
- *Variation:* After the cords are joined, patrol members take turns tossing the line, sitting on the cardboard, and tying the bowline.

### **ROPE TACKLE TUG OF WAR (*wide, in or out*)**

- *Materials:* an anchor point, one 1/2-inch diameter length of manila rope at least 20 feet long, a strop or rope grommet rigged with a metal ring secured to the anchor point
- *Object:* this activity is designed to clearly demonstrate the mechanical advantage achieved when using a rope tackle.
- *Method:* a butterfly knot is rigged about 10 feet from the end of the rope. That end is reeved through the ring and then passed through the fixed loop of the butterfly knot creating a rope tackle. Three Scouts of approximately the same weight are selected. One stands with their back to the anchor point and grabs hold of the end of the rope (hauling end) passing through the loop of the butterfly knot. The other two grab a hold of the other end of the rope. On signal, the single Scout pulls on the hauling end, and the other two on their end.
- *Scoring:* None. Scouts can rotate as desired.
- *Variation:* Pit one smaller Scout at the hauling end against one larger Scout.

### **ROPE-TOSS-LOG-LIFT CHALLENGE (LOG-RAISING RELAY) (*wide, in or out*)** [View Video](#)

- *Materials:* a crossbar 7 to 9 feet off the ground is in place, for each patrol a 50-foot x 3/8 or 1/2-inch manila rope, a stake driven into the ground 25 feet away in line with the crossbar, and a 4-foot x 4-inch log, positioned 10 feet away on the other side of the crossbar
- *Method:* From 25 feet away, each patrol [coils a 50-foot rope and throws](#) one end over the crossbar. When the throw is good, the end of the rope that was thrown over the crossbar is used to tie a timber hitch around the log with a half hitch applied near the end. The other end of the rope is tied to the stake with a clove hitch, and finally a sheep shank is tied in that part of the rope between the stake and the crossbar, to shorten the rope enough to raise the log completely off the ground.
- *Scoring:* The best time with all knots correctly tied, wins. If there's enough room, patrols can go simultaneously. The challenge can be completed by individual Scouts or tasks divided between patrol members.

### **SIMPLE SQUARE KNOT RELAY RACE (*large, in or out*)**

- *Materials:* for each patrol, a 3 foot cord and a Scout stave
- *Method:* Patrols line up in relay formation facing a leader holding their Scout stave in an upright position. On signal, the Scout at the head of the line runs to the stave with the 3-foot cord and ties a square knot down onto and flush against the stave. When this is completed, they remove their cord and run back to their patrol, handing off the cord to the next Scout in line. All patrol members need to go at least once, and some might need to go more than once to keep things even. The leader holding the stave keeps a tally of each correctly tied knot. After all patrol members have taken the designated amount of turns
- *Scoring:* The first patrol seated in a straight line with the most correctly tied square knots wins.

### **SQUARE KNOT VISUAL CHALLENGE (*small, in or out*)**

- *Materials:* knee-high, horizontal pole, 3-foot cord for each Scout
- *Method:* Scouts tie a half knot (first half of a square knot) around and down onto the pole. Scouts then change places with one another, and relying solely on a visual perspective, correctly bring the ends of the cord together to tie the second half knot and form a square knot. Repeat the process to gauge which Scouts need to review the visual approach to always correctly tying a square knot. (In lieu of preassembled horizontal hitching poles, Scout staves can be used, passing them back and forth between two Scouts.)
- *Scoring:* None. Purely a test-themselves opportunity to see if they can rely upon this fool-proof process using the [visual approach](#).
- *Variation:* Patrols line up in relay formation facing the horizontal pole. For each patrol, an instructor applies a half knot to the pole, with the ends tied either right over left or left over right. When the half knots are ready, on signal, the first Scout in line runs over to the pole and proceeds to tie the second half knot, relying solely on the visual approach. When they think they have a square knot, they shout, "Done!" The first Scout finishing scores two points for their patrol. All others who correctly tie a square knot score one point. (A granny knot scores zero.)

### **TAUT-LINE HITCH RACE I (*large, out*)**

- *Materials:* for each patrol member, a 15-foot 3/16-1/4-inch nylon guyline, a tent stake, for each patrol a Scout stave
- *Preparation:* For each patrol member, drive a tent stake into the ground, along the circumference of a circle about 20 feet in diameter, so that each stake is about ten feet from the circle's mid point.
- *Method:* A leader stands in the middle of the circle formed by the tent stakes, holding the Scout stave in an upright position. (If there are only three Scouts, then the leader stands in the middle of an equilateral triangle.) Holding their guyline, each Scout takes a position next to a tent stake. On signal, each Scout runs over to the stave and ties one end of the guyline to the stave with two half hitches. They then tie a taut-line hitch between the stake and the stave, adjusting it so there's tension on the line. When all Scouts in the patrol have finished, they stand by their stakes and give their patrol yell. In

order to complete the challenge the Scout stave needs to remain standing on its own in a vertical position.

– *Scoring:* The first patrol to yell, with all hitches tied correctly, wins.

### **TAUT-LINE HITCH RACE III (*large, in*)** [View Video](#)

– *Materials:* for each patrol member, a 15-foot 3/16-1/4-inch nylon guyline and a chair, for each patrol a Scout stave

– *Method:* Patrols make a circle of chairs, 20 feet in diameter. In the middle of the circle, a leader holds up a Scout stave. On signal, each patrol ties one end of each guyline around the stave with two half hitches, and the other end of the line between the stave and their chair with a taut-line hitch.

– *Scoring:* The first patrol sitting in their chairs, with all hitches tied correctly, wins.

### **TWO-PERSON SQUARE KNOT (*small, in or out*)**

– *Materials:* a 50-foot rope for each patrol

– *Method:* Two Scouts grasp the rope ends and, without letting go, join the rope ends with a square knot. Other Scouts can help with advice only.

– *Scoring:* The first patrol completing the challenge with the Scouts maintaining their grasp of the rope wins.

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