

Knot Relay — Teaching Guide

Ten stations, one continuous rope, finishing tied off to a volunteer.

How to use this guide: the relay runs in the order below. The first runner ties a bowline around their own waist as the anchor, then each following runner ties a "feature" knot in the middle of a length of rope, joins on the next length with a bend, and so on, until the last length is tied off to a volunteer's arm or leg with a clove hitch to finish. Print the knot cards as station signs, or hand them to helpers as a quick refresher before the day.

Relay order

- 1 Bowline tied around the waist of the first person — the anchor.
- 2 Figure-eight on a bight (double figure-eight) in the middle of that first rope.
- 3 *Single fisherman's knot joins on the second rope.*
- 4 Granny knot in the middle of the second rope.
- 5 *Reef knot joins on the third rope.*
- 6 Single figure-eight in the middle of the third rope.
- 7 *Re-threaded figure-eight (figure-eight follow-through) joins on the fourth rope.*
- 8 Alpine butterfly in the middle of the fourth rope.
- 9 *Double fisherman's knot joins on the fifth rope.*
- 10 Clove hitch ties the end of the fifth rope to a volunteer's arm or leg — relay complete.

Station 1 — Bowline (anchor)

01 Bowline

Around the waist of the first person



1. Form a small loop in the rope where it sits against the waist — this is the "hole" — leaving a long working end free.
2. Pass the working end up through the hole ("the rabbit comes out of the hole").
3. Take the working end around behind the standing part ("goes around the tree")...
4. ...then back down through the same hole it came up through ("and back down the hole").
5. Pull the working end and standing part firmly to tighten, then cinch it snugly around the waist.

Tip: a correctly tied bowline won't slip or tighten further under load, which is exactly what you want in an anchor.

Station 2 — Figure-Eight on a Bight (Double Figure-Eight)

02 Double Figure-Eight Loop

Middle of the first rope



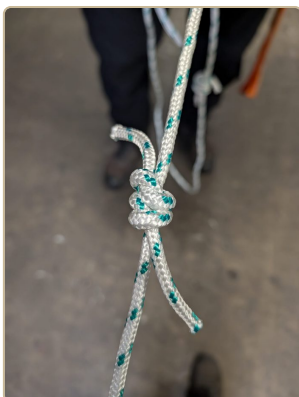
1. Take a bight (a doubled fold of rope) at the point where the loop is needed.
2. Treating the doubled rope as one strand, cross it over itself to form a loop.
3. Bring the doubled end behind the standing parts, then thread it down through the loop, tracing the shape of a figure-eight.
4. Pull the loop and both standing parts firm, and dress the knot so it sits neatly.

Tip: because it's tied on a bight, this loop is doubled and extra secure — easy to check against the photo by counting four strands through the knot.

Join — Single Fisherman's Knot

J1 Single Fisherman's Knot

Joins on the second rope



1. Lay the two rope ends alongside each other, pointing in opposite directions.
2. Tie an overhand knot with the first rope's end, around the second rope's standing part.
3. Tie an overhand knot with the second rope's end, around the first rope's standing part.
4. Pull the two standing parts apart so the overhand knots slide together and jam snugly against one another.

Tip: each overhand is tied around the other rope, not around itself — that's what lets the two knots lock together.

Station 3 — Granny Knot

03 Granny Knot

Middle of the second rope



1. Form a bight where the knot is wanted, mid-rope.
2. Cross the bight over itself and tuck it through — the same start as a reef knot.
3. Cross it a *second* time the same way round (not mirrored/opposite), and tuck through again.
4. Pull to tighten — it will sit lopsided rather than flat.

Tip: included on purpose — let runners feel it slip, then compare it with the reef knot at the next join to see what "the same way round" versus "mirrored" actually means.

Join — Reef Knot

J2 Reef Knot

Joins on the third rope



1. Lay the two rope ends alongside each other.
2. Cross the left end over the right, and tuck it under — "left over right".
3. Cross the same end (now on the right) over the left, and tuck it under again — "right over left", the mirror of the first cross.
4. Pull all four ends to tighten flat and symmetrical against each other.

Tip: a good reef knot sits flat and square. If it twists into a lopsided shape, one of the two crosses went the wrong way — that's a granny knot.

Station 4 — Single Figure-Eight

04 Figure-Eight Loop

Middle of the third rope



1. Take a bight at the point in the rope where the loop is needed.
2. Form a loop with the bight, then wrap it around behind the two standing parts.
3. Thread the bight down through the loop, tracing the figure-eight shape, then pull it through to form the loop.
4. Dress the knot and pull all parts firm.

Tip: same shape as station 2, just a single loop instead of doubled — a quick side-by-side comparison with the photo there helps runners see the difference.

Join — Re-threaded Figure-Eight (Figure-Eight Follow-Through)

J3 Re-threaded Figure-Eight

Joins on the fourth rope



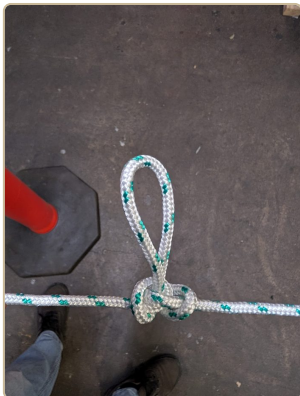
1. Tie a simple, single-strand figure-eight knot loosely near the end of the third rope, leaving a working tail.
2. Take the end of the fourth rope and thread it into the figure-eight from the opposite side, following the original knot's path exactly, but in reverse.
3. Continue threading all the way through, so the new rope runs parallel alongside the first strand throughout the knot.
4. Pull all four strands through to dress and tighten, joining the two ropes with one rewoven figure-eight.

Tip: this is the same knot and technique used to tie a climbing harness into a rope — a great fact to share with runners at this station.

Station 5 — Alpine Butterfly

05 Alpine Butterfly Loop

Middle of the fourth rope



1. Drape the rope across your open palm, then wrap it twice around your hand so three parallel strands lie across it.
2. Take the strand nearest your fingertips and lift it across, over the top of the other two.
3. Tuck that same strand underneath both remaining strands and pull it back through the middle.
4. Slide the loops off your hand and pull the loop plus both standing ends to tighten into a compact knot.

Tip: the fiddliest knot in the relay — worth a slow walk-through before runners try it at speed.

Join — Double Fisherman's Knot

J4 Double Fisherman's Knot

Joins on the fifth rope



1. Lay the two rope ends alongside each other, pointing in opposite directions.
2. With the first rope's end, wrap twice around the second rope's standing part, then tuck the end back through both wraps.
3. With the second rope's end, wrap twice around the first rope's standing part, then tuck the end back through both wraps.
4. Pull the two standing parts apart so the two knots slide together and jam tightly against each other.

Tip: the extra wrap (compared with the single fisherman's) makes this the strongest, most permanent join in the relay — the one you'd trust for a real climbing application.

Finish — Clove Hitch

06 Clove Hitch

Tied to a volunteer's arm or leg · relay complete



1. Pass the rope over the volunteer's arm or leg, crossing it over itself to form an X on top.
2. Take the rope around a second time, laying this wrap neatly next to the first.
3. Tuck the working end under the last wrap, between the rope and the limb.
4. Pull both ends to snug the hitch up — it should grip firmly without slipping, but stay easy to release afterwards.

Tip: this photo shows the completed relay — five rope lengths, four joins, and all six feature knots tied off to a volunteer at the finish.

Overall — the finished rope



One continuous rope: a bowline anchor, five knot lengths joined by four different bends, finishing with a clove hitch on a volunteer.