ROYAL CANADIAN ARMY CADETS

RED STAR

INSTRUCTIONAL GUIDE

SECTION 5

EO M221.05 – TIE KNOTS

Total Time:	90 min

PREPARATION

PRE-LESSON INSTRUCTIONS

Resources needed for the delivery of this lesson are listed in the lesson specification located in A-CR-CCP-702/PG-001, Chapter 4. Specific uses for said resources are identified throughout the Instructional Guide within the TP for which they are required.

Review the lesson content and become familiar with the material prior to delivering the lesson.

Make copies of knot-tying instructions, located at Annex A.

PRE-LESSON ASSIGNMENT

N/A.

APPROACH

A practical activity was chosen for TP1 as it is an interactive way to allow cadets to experience tying knots. This activity contributes to the development of knot-tying skills and knowledge in a fun and challenging setting.

Demonstration and performance was chosen for TP2 and TP3 as it allows the instructor to explain and demonstrate knot-tying while providing an opportunity for the cadets to practice knot-tying under supervision.

INTRODUCTION

REVIEW

N/A.

OBJECTIVES

By the end of this lesson the cadet shall be expected to coil a rope and tie the following knots:

- bowline;
- fisherman’s knot;
- double fisherman’s knot; and
- double overhand running knot.

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IMPORTANCE

It is important for cadets to know how to tie knots and work with rope. Knots can be used during field training, for building shelters, securing equipment, and also in everyday life.

Teaching point 1 **Review Green Star Knots**

Time: 20 min Method: Practical Activity



Refer to EO M121.03 (Tie Knots and Lashings) for knot-tying instructions.

ACTIVITY

OBJECTIVE

The objective of this activity is to review knots instructed in Green Star. The cadets must have a good knowledge of these knots before moving on to other knots.

RESOURCES

- Six pieces of rope for tying knots (per group);
- Six railings or dowels for tying hitches;
- Sheet of flipchart paper/blackboard/whiteboard; and
- A marker/chalk.

ACTIVITY LAYOUT

An area must be chosen, large enough to accommodate the entire group.

ACTIVITY INSTRUCTIONS

1. On a sheet of flipchart paper/blackboard/whiteboard write the following knots:
    - thumb (overhand);
    - reef (square);
    - figure of eight;
    - double figure of eight;
    - clove hitch; and
    - half hitch.

2. Divide the cadets into equal groups of no more than ten cadets.

3. Within each group, pair up the cadets. If there is an uneven number, a person will have to be paired up twice, so that everyone has a partner. Pairs must have the same dominant hand (two right-handed cadets or two left-handed cadets).

4. All cadets are to stand in line, in their groups, facing their partner.

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5. Once instructed to begin, each pair of cadets will begin to tie the listed knots (in the order that they appear). Each cadet will only be allowed to use their dominant hand to tie the knots. The pair will have to work together, both only with one hand.

6. Knot-tying will begin with the first pair. Once they have the knot tied, they will untie it, and then pass the rope to the next pair in their group. Upon receiving the rope, the next pair may begin to tie the first knot. The first pair will tie the next knot on the list, then untie it, and pass the piece of rope down, and so on. Pairs may begin tying as soon as they have been given the rope.

7. Once all knots have been tied, the pair may sit and begin to cheer on the rest of their group.



If there are an uneven number of cadets, the cadets who will be in two groups should be placed at the front of the line and the other cadets should be placed at the back. Once the first pairs are finished, the cadets can move to the back to complete the activity again.

SAFETY

N/A.

CONFIRMATION OF TEACHING POINT 1

The cadets' participation in the activity will serve as the confirmation of this TP.

Teaching point 2 **Explain the Uses of, Demonstrate, and Allow Time to Practice Tying Knots**

Time: 50 min Method: Demonstration and Performance



Provide an explanation and demonstration of the complete knot and then break the knot down into its steps.

Provide a demonstration of each step and have the cadets complete each step. Ensure the cadets have enough time to complete each step.

Each knot must be instructed individually. Distribute handouts with tying instructions (located at Annex A).

A review of the parts of a rope, from EO M121.03 (Tie Knots and Lashings) may be required before beginning TP2.

BOWLINE

Uses. In climbing, it is used as a safety measure during ascent and is clipped into the carabiner. It is often called the rescue knot because it makes a simple loop that does not slip. It can be used to tie around yourself, to throw to someone who needs a lifeline, or to secure objects (such as canoes to a wharf).

Qualities. It does not slip, come loose, or jam.

Faults. It is difficult to untie when the rope is under strain.

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Procedure

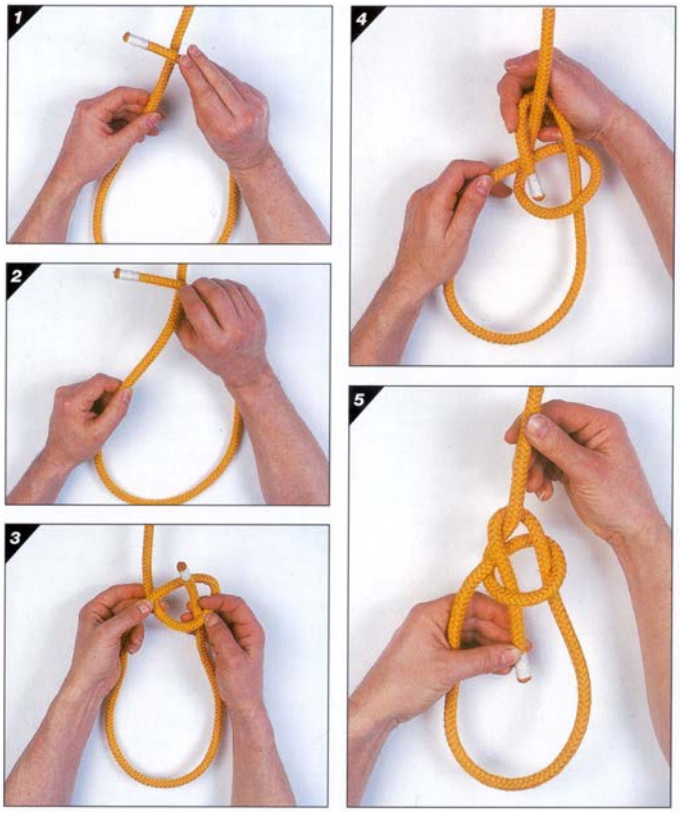
1. With the standing part of the rope away from you, take the working end in your right hand and place it on top of the standing part.

2. Put your thumb under the standing part.

3. Twist your right hand 180 degrees away from you, to form a simple over hand loop (looks like a number six), and pull the working end up through.

4. Take the working end round behind the standing part.

5. Bring the working end down through the loop. Tighten the bowline by holding on to the bight formed by the end and pulling hard on the standing part.



Pawson, D., Pocket Guide to Knots & Splices, Chartwell Books, Inc. (p. 164)

Figure 1 Bowline

FISHERMAN'S KNOT

Uses. To join two pieces of rope together. It is commonly used by anglers and climbers.

Qualities. It does not slip, come loose, or jam.

Faults. It is difficult to untie when fine rope is used.

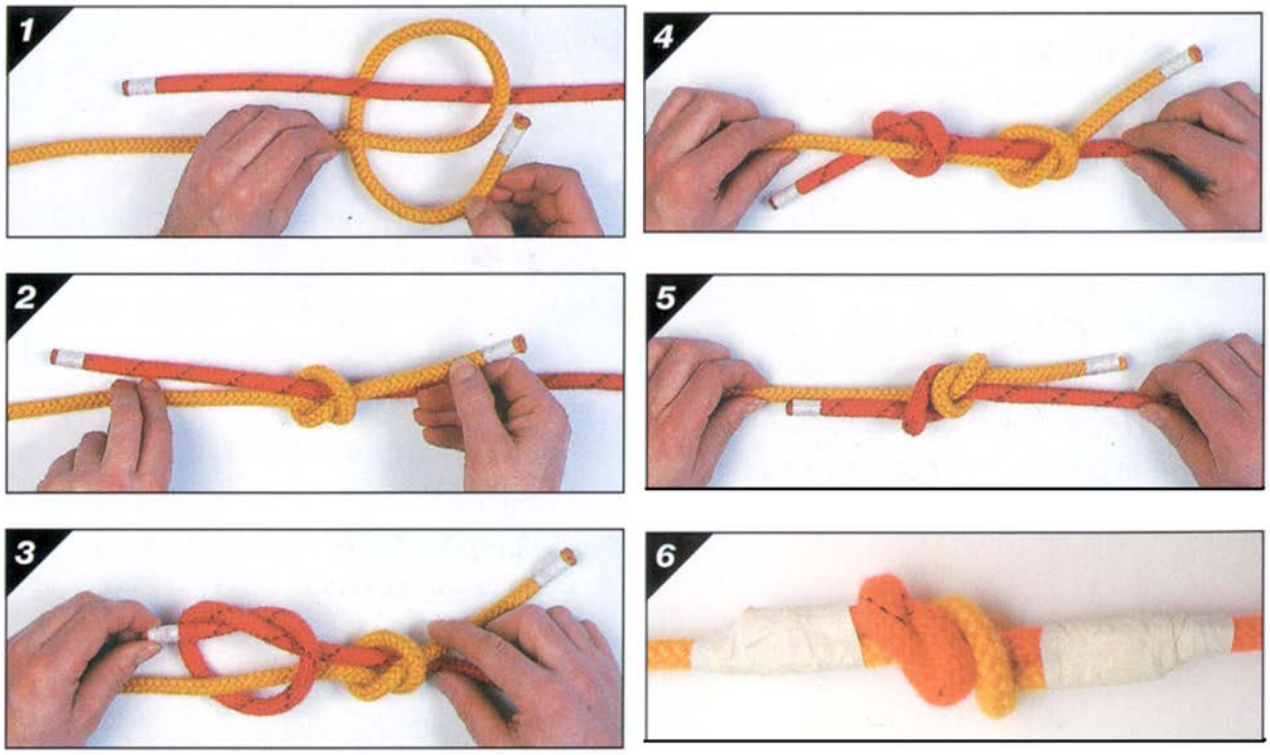
Procedure

1. Lay the ropes alongside each other, end to end. Take one of the ropes and bring it over the other and under itself.

2. Make an overhand knot around the second rope.

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3. Make an overhand knot around the standing part of the first rope.
4. Slide together to complete the knot.
5. Tighten to finish the fisherman's knot.
6. Tape ends if used in climbing to avoid slipping.



Pawson, D., Pocket Guide to Knots & Splices, Chartwell Books, Inc. (p. 116)

Figure 2 Fisherman's Knot

DOUBLE FISHERMAN'S KNOT

Uses. To join two pieces of rope together. It is commonly used by anglers and climbers. It is ideal for slippery line or rope.

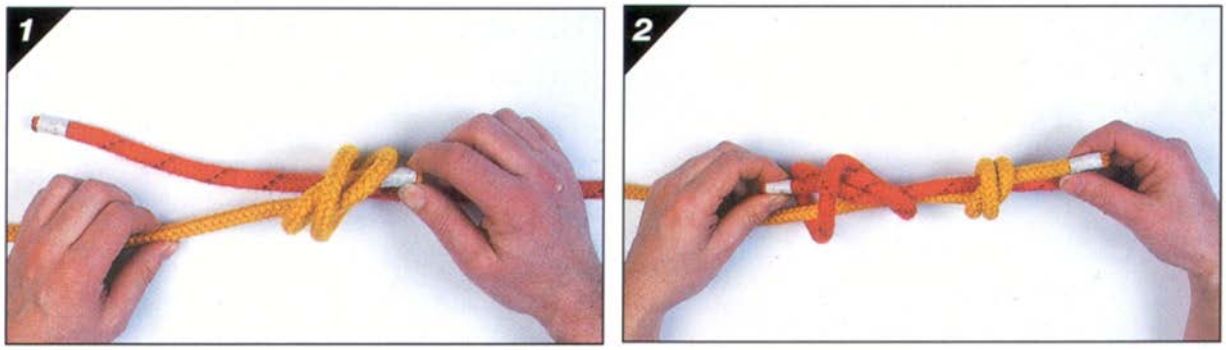
Qualities. It does not slip, come loose, or jam.

Faults. It is difficult to untie when fine rope is used.

Procedure

1. With the first rope, make a double overhand knot around the body of the second rope.
2. Make a double overhand knot around the body of the first rope.
3. Pull tight and slide together. The knots should make "X's" on the same side.

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Pawson, D., Pocket Guide to Knots & Splices, Chartwell Books, Inc. (p. 117)

Figure 3 Double Fisherman's Knot Steps 1 and 2



40th Fife Scout Troop, 2007, Knotting the Thumb Knot. Retrieved 3 May 2007, from http://www.users.zetnet.co.uk/whitelaw/knots/dfish.jpg

Figure 4 Double Fisherman's Knot Step 3

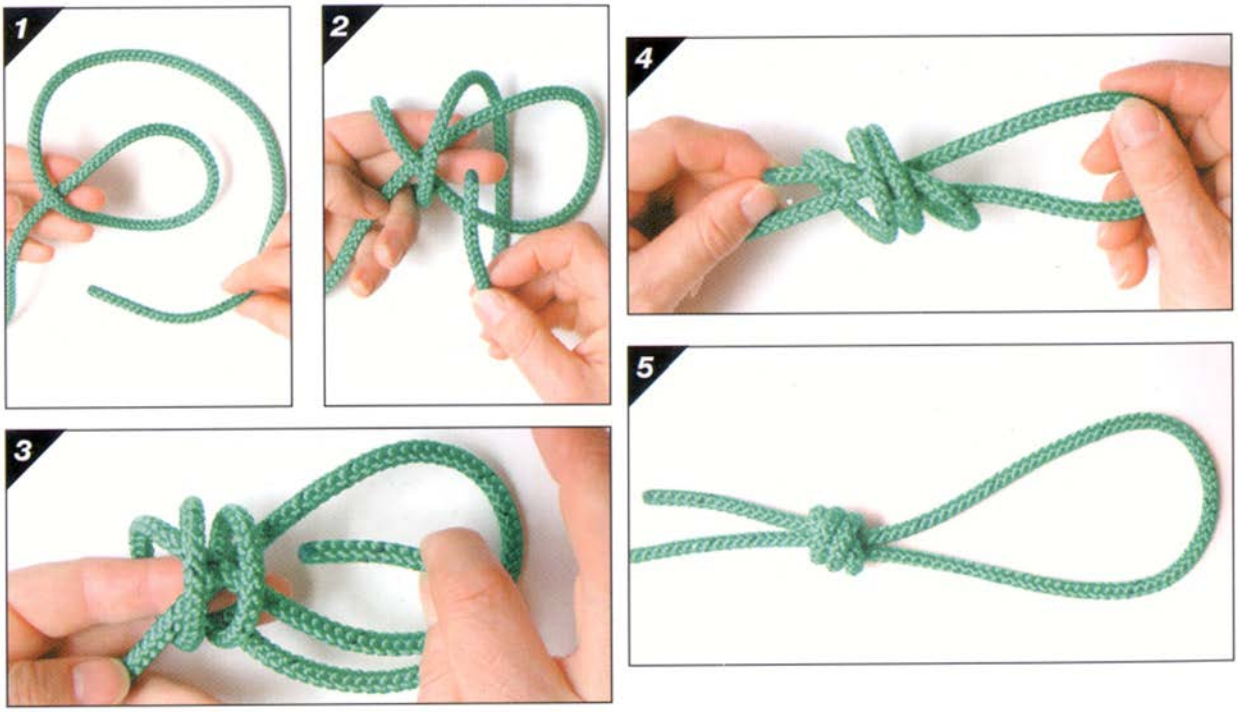
DOUBLE OVERHAND RUNNING KNOT

Uses. This sliding loop grips tightly around an object. It is ideal for fixing a lanyard fast to the arms of sunglasses or spectacles so they can hang around a person's neck when not in use.

Procedure

1. Make a loop with a fairly long working end on top.
2. With fingers parallel to the standing part, wrap around the standing part three times.
3. Put the working end down through the "tunnel" where the fingers are.
4. Tighten the turns by pulling on the working end, working the turns snugly together.

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Pawson, D., Pocket Guide to Knots & Splices, Chartwell Books, Inc. (p. 177)

Figure 5 Double Overhand Running Knot

The same knot must be made at the other end of the rope in order to fix it to the arms of sunglasses or spectacles. When two knots are made, the knots can be easily adjusted by pulling on each end to the desired length.

CONFIRMATION OF TEACHING POINT 2

Tie the following knots:

- bowline;
- fisherman's knot;
- double fisherman's knot; and
- double overhand running knot.

Teaching point 3 **Explain the Uses of, Demonstrate, and Allow Time to Practice Coiling a Rope**

Time: 10 min Method: Demonstration and Performance

COILING A ROPE

Ropes should always be coiled because it makes rope storage neat and compact. Otherwise, they will become a mass of knots and tangles. Any rope that is being coiled should be clean and ready to be put away.

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Procedure

1. Coiling will be clockwise; however, this may differ for left-handed people. Run your coiling hand (dominant) along the rope until you have about an arm span of rope.

2. Bring your dominant hand towards your holding hand and use your index finger and thumb to twist the line in the direction that the coil is going. Normally, a 180 degree or 360 degree twist will suffice. This will ensure that the rope does not twist or kink when in the coil.

3. Lay the rope into your holding hand. There should be no kinks in the coil.

4. Steps 1–3 will be repeated until there is approximately one metre of rope left.

5. Take the last length of rope and wrap it three or four times around the outside of the coils that were previously made.

6. Make a loop with the remaining rope and thread it through the upper area between the coils and the wraps (not all the way).

7. Open the loop over the top of the coil.

8. Tighten the loop by pulling on its end. The rope is now coiled.



Bigon, M. and Regazzoni, G. The Morrow Guide to Knots, Quill/William Morrow (p. 23)

Figure 6 Coiling a Rope

The dominant hand will be the coiling hand; the non-dominant hand will hold the coiled rope. Prior to beginning, take one end of the rope into the non-dominant hand. Let the end fall about six inches out of your hand, towards you.

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CONFIRMATION OF TEACHING POINT 3

The cadets' participation in coiling a rope will serve as the confirmation of this TP.

END OF LESSON CONFIRMATION

The cadets' participation in tying knots and coiling a rope will serve as the confirmation of this lesson.

CONCLUSION

HOMEWORK/READING/PRACTICE

N/A.

METHOD OF EVALUATION

N/A.

CLOSING STATEMENT

Knowing what knots to tie when situations arise is an important aspect of field training and can also be used in everyday life. Being able to construct a quality knot will prove useful in a variety of situations such as climbing, towing, and even making a glasses strap or a strap for sunglasses when other means are not available.

INSTRUCTOR NOTES/REMARKS

N/A.

REFERENCES

C2-007 (ISBN 0-7858-1446-9) Pawson, D. (2001). *Pocket Guide to Knots and Splices*. Edison, NJ: Chartwell Books, Inc.

C2-073 (ISBN 0-688-01226-4) Bigon, M. and Regazzoni, G. (1982). *The Morrow Guide to Knots*. New York, NY: Quill/William Morrow.

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KNOT-TYING INSTRUCTIONS

BOWLINE

Uses. In climbing, it is used as a safety measure during ascent and is clipped into the carabiner. It is often called the rescue knot because it makes a simple loop that does not slip. It can be used to tie around yourself, to throw to someone who needs a lifeline, or to secure objects (such as canoes to a wharf).

Procedure

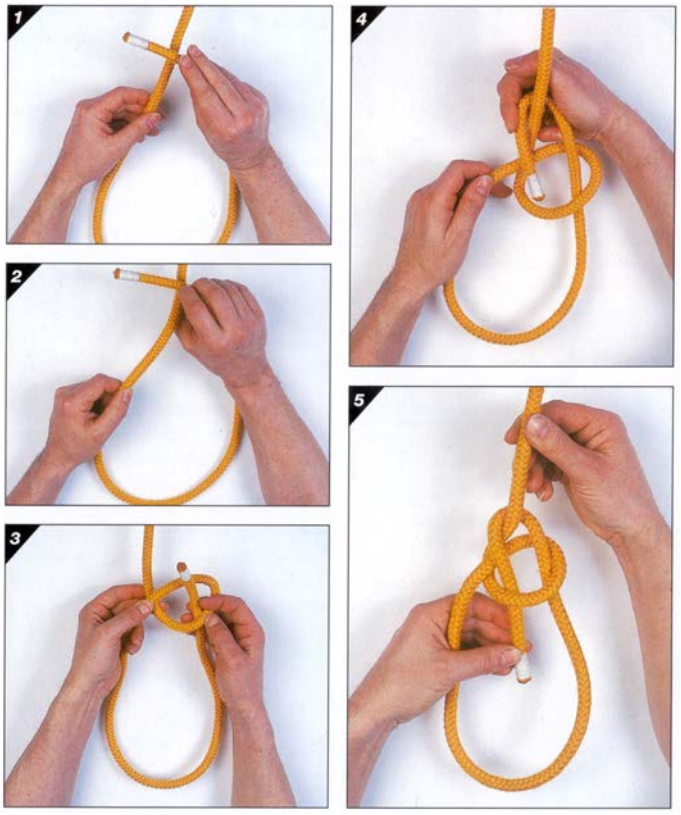
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BOWLINE

Pawson, D., Pocket Guide to Knots & Splices, Chartwell Books, Inc. (p. 164)

Figure A-1 Bowline

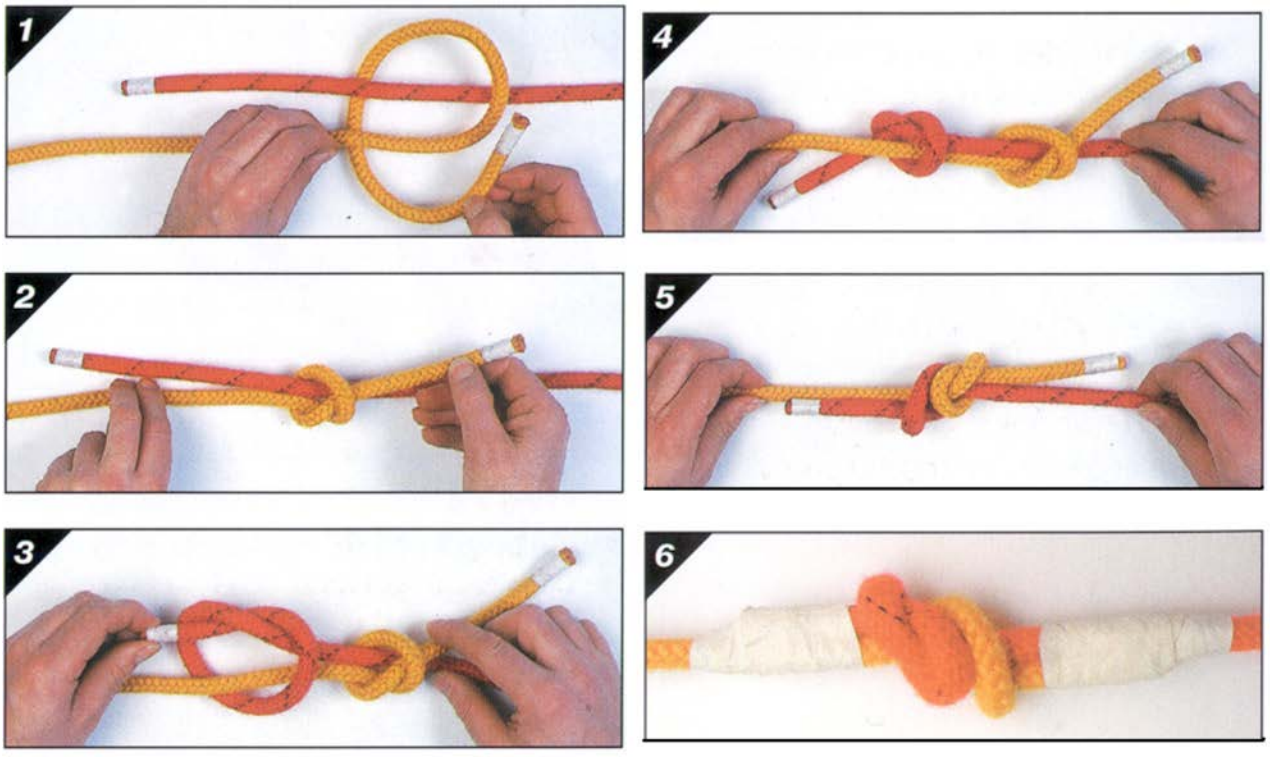
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FISHERMAN'S KNOT

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Procedure

1. Lay the ropes alongside each other, end to end. Take one of the ropes and bring it over the other and under itself.
2. Make an overhand knot around the second rope.
3. Make an overhand knot around the standing part of the first rope.
4. Slide together to complete the knot.
5. Tighten to finish the fisherman's knot.
6. Tape ends if used in climbing to avoid slipping.



FISHERMAN'S KNOT

Pawson, D., Pocket Guide to Knots & Splices, Chartwell Books, Inc. (p. 116)

Figure A-2 Fisherman's Knot

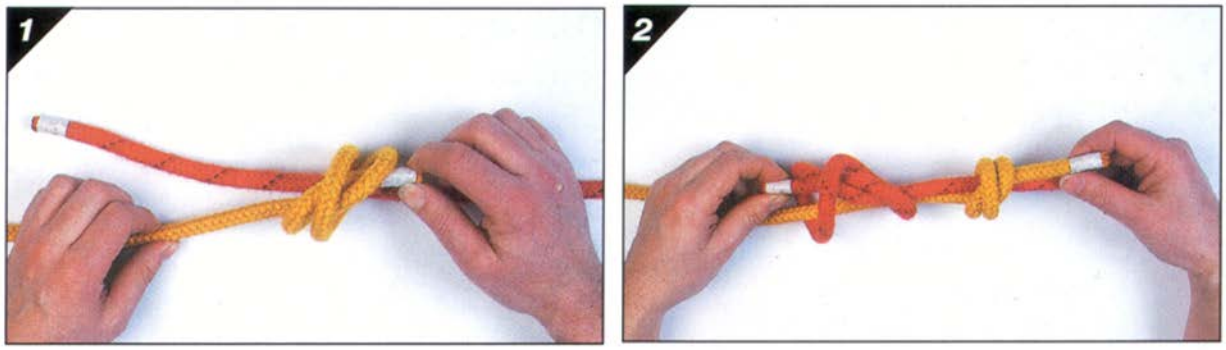
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DOUBLE FISHERMAN'S KNOT

Uses. To join two pieces of rope together. It is commonly used by anglers and climbers. It is ideal for slippery line or rope.

Procedure

1. With the first rope, make a double overhand knot around the body of the second rope.
2. Make a double overhand knot around the body of the first rope.
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STEPS 1 AND 2

Pawson, D., Pocket Guide to Knots & Splices, Chartwell Books, Inc. (p. 117)



STEP 3

40th Fife Scout Troop, 2007, Knotting the Thumb Knot. Retrieved 3 May 2007, from http://www.users.zetnet.co.uk/whitelaw/knots/dfish.jpg

Figure A-3 Double Fisherman's Knot

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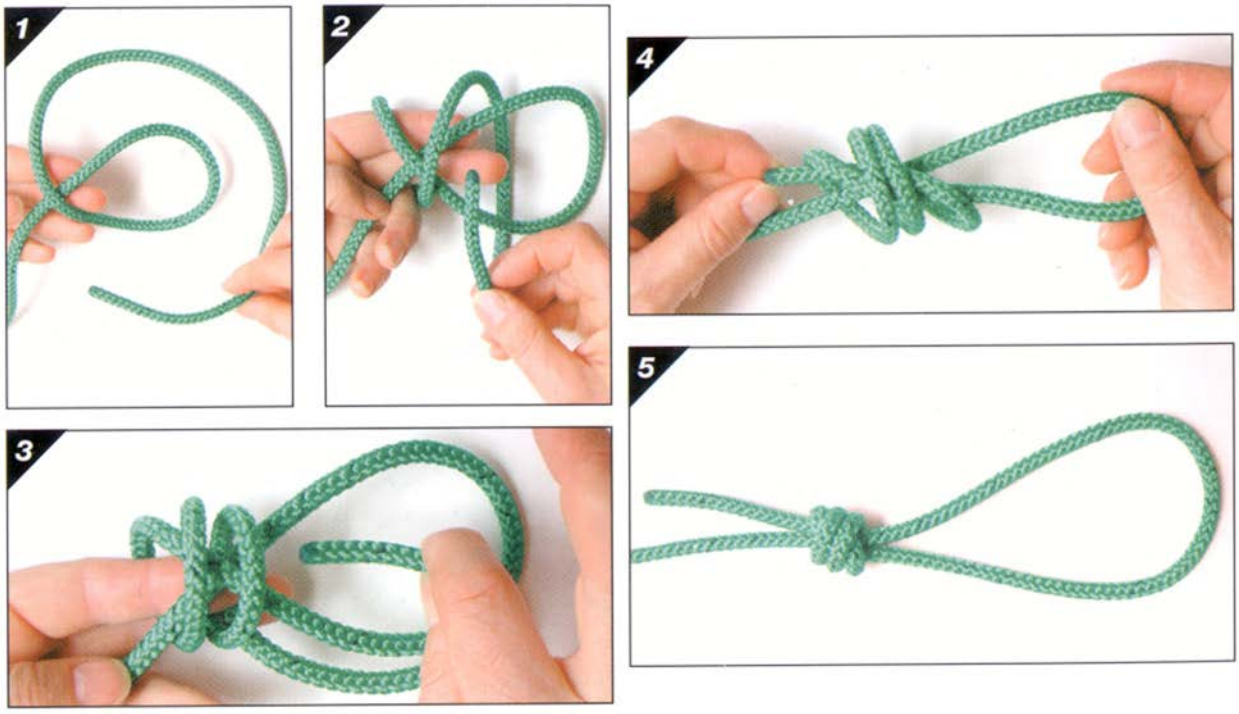
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1. Make a loop with a fairly long working end on top.
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DOUBLE OVERHAND RUNNING KNOT

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Figure A-4 Double Overhand Running Knot

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