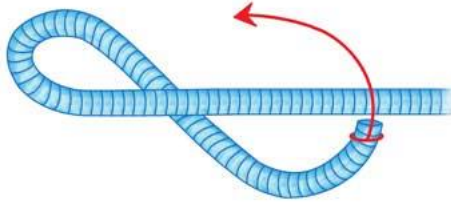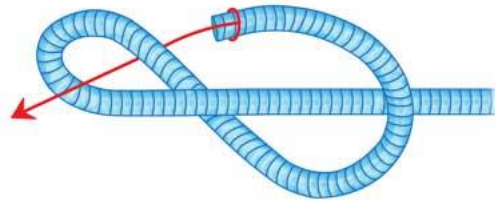1. Replicate tying a Figure Eight Knot by first drawing each step in the boxes below.
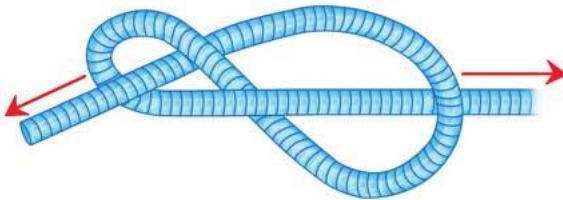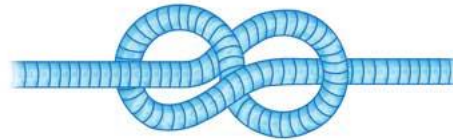
Figure 8 Knot Instructions

1 Make a loop with an end

2 Now pass the end through it

3 Pull both sides to adjust the knot

101KNOTS
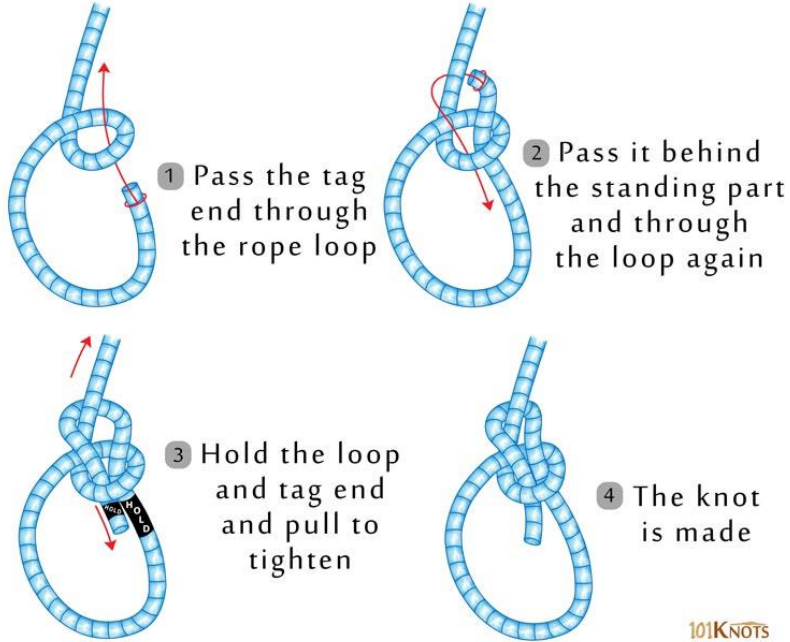
4 The finished knot resembles an "8"

1	2
3	4

After you have drawn each step, find one piece of rope or yarn and try to tie the Figure Eight Knot yourself! You can look back on the video and try to tie it along with Dan.

2. Replicate tying a Bowline Knot by first drawing each step in the boxes below.

Bowline Knot Directions

1 Pass the tag end through the rope loop

2 Pass it behind the standing part and through the loop again

3 Hold the loop and tag end and pull to tighten

4 The knot is made

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1	2
3	4

After you have drawn each step, use the same piece of rope or yarn and try to tie the Bowline Knot yourself! You can look back on the video and try to tie it along with Dan.

3. Using your Bowline Knot, find a few objects of varying weights around your house. Design a way to attach these objects to your Bowline Knot, hypothesize whether you think the knot will hold the weight and then test it! Fill in the data sheet below.

Object	Hypothesis: *Will the Knot Hold?*	Results

Conclusion: Please summarize your results in a few sentences. (*Why did you choose each object? Did it support your hypothesis or not? What were the results of each test? What would you do differently in the future to be more successful?*)

4. 1 fathom = 6 feet. Ask a some of your family and friends how tall they are and record this information on the data sheet below. You will be converting their height from feet into fathoms. All you have to do is divide their height by 6 and you will have their new height in fathoms!

Use this conversion table to get accurate results. You cannot use inches when calculating, so the conversion table provides you the correct height in feet only.

Height	USE FOR CALCULATIONS	Height	USE FOR CALCULATIONS
5 ft 1 inch	5.08 ft	5 ft 9 inches	5.75 ft
5 ft 2 inches	5.17 ft	5 ft 10 inches	5.83 ft
5 ft 3 inches	5.25 ft	5 ft 11 inches	5.92 ft
5 ft 4 inches	5.33 ft	6 ft	6.00 ft
5 ft 5 inches	5.42 ft	6 ft 1 inch	6.08 ft
5 ft 6 inches	5.5 ft	6 ft 2 inches	6.17 ft
5 ft 7 inches	5.58 ft	6 ft 3 inches	6.25 ft
5 ft 8 inches	5.67 ft	6 ft 4 inches	6.33 ft

Family or Friend's Name	Height (in feet)	Calculations	Height (in fathoms)
Example: Sarah	5 feet 3 inches = 5.25 feet	5.25 ÷ 6	0.875 fathoms