**Tying the Knot**

You and your partner will work together to complete the Tying the Knot task. Your challenge is to explore the relationship, if any, between the length of a rope and the number of knots tied in the rope. Is there a functional relationship between the length of the rope and the knots?

Role responsibilities:

Partner 1: Tie knots and record the measurements

Partner 2: Measure length of rope

Task Directions:

1. Using the tape measure, determine the length of the rope with zero knots in it to the nearest centimeter. Record the information in the table section of your workspace.
2. Tie one knot in the rope, measure the length of the rope to the nearest centimeter, and record the information in the table section of your workspace.
3. Continue tying knots and measuring the length of the rope after each knot until you have data for at least five knots.

Answer the following questions and be prepared to explain your answers and your thinking to others.

1. What relationship (if any) exists between the number of knots and the length of the rope?
2. How much rope is used to make 1 knot?