Name: _____ Period: _____

Partner: _____ Date: _____

Strength of Spaghetti

Procedure:

1. Obtain a plastic cup and a piece of string. Using a single hole puncher, cut a hole near the rim of the cup. Cut another hole on the opposite side of the first hole you created. Tie one end of the string to each of the holes you created.

2. Obtain the number of spaghetti pieces assigned to your group. You will be repeating this experiment various times so you may get all of the spaghetti pieces you will need at once.

3. Lay your spaghetti over two chairs and hang your plastic cup.

4. Carefully add marbles, one at a time, to the cup. Add marbles until your piece of spaghetti breaks. Note the amount of marbles needed in the table below. Make sure no marbles roll out of your area.

5. Repeat the experiment two more times. Remember to keep the distance between the chairs the same throughout your tests. Record your data in the table below.

6. Clean up. Walk around the room and get data from other groups to fill in table 2 on the back.

7. Answer the questions and make the graph.

Data:

Table 1

Pieces of spaghetti assigned to your group	
Number of marbles added (Test 1)	
Number of marbles added (Test 2)	
Number of marbles added (Test 3)	
Average number of marbles added	

Table 2

Student's First Name	Average Number of Marbles Added	Pieces of Spaghetti Assigned
		1
		2
		3
		4
		5
		6
		7
		8
		9
		10

Post Lab Questions:

1. Construct a graph of marbles added (y axis) versus pieces of spaghetti (x axis) for the data in Table 2. Label the axes, title the graph, include units, and draw the line as smoothly as possible. Use a computer to generate the graph. It should fill the entire page. Staple it to this page.

2. Identify the independent and dependent variables in this experiment.

3. What physical quantity does the slope of the line on your graph represent?

4. What are the units for the slope of your line?

5. Using the information you gathered, would it be possible to find the mass of the cup you used? Explain.