Name:_____

Class:_____ Date:_____

Student Sheet 5.1 What Is the Elastic Force of the Rubber Band?

Directions Carry out the procedure in the Student Guide for measuring the stretched rubber band. Record the data in Table 1.

Table 1Elastic Force Created byStretching a Rubber Band

Stretching Distance (cm)	Elastic Force (N)
0.0	
2.0	
4.0	
6.0	
8.0	
10.0	
12.0	
14.0	
16.0	
18.0	
20.0	

1. What happens to the force required to stretch the rubber band when the stretching distance is doubled? Review at least three instances of doubling the distance.

(continued)

Student Sheet 5.1 (continued)

2. Construct a graph using your data from Table 1. Write your answers to the questions below the graph and be prepared to discuss them with the class.



3. What does your graph tell you about the relationship between the force needed to stretch the rubber band and the distance it stretches?

4. Did the force needed to stretch the rubber band increase by the same amount each time you stretched the rubber band another 2.0 cm? Is the answer visible in the graph?

5. Can you predict the force needed to stretch the rubber band to 40.0 cm? Why or why not?