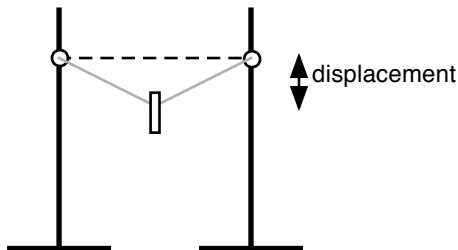


## Lab 8-2: Energy in a Rubber Band

**Purpose:** To compare the work done by a rubber band on a clothespin to the work done by gravity after it is launched.

**Materials:**      2 stands with clamps                      1 elastic band                      1 clothespin  
                                  1 mass hanger                                      one 50 gm mass                      300 gms masses

**Diagram:**



**Procedure:**

1. Set up the equipment as shown in the diagram, and record the mass of the clothespin.
2. Hang the empty 50 gram hanger on the elastic and record the amount that the elastic deflected down. Keep adding 50 grams to the hanger, recording the displacements each time.
3. **NOW BE CAREFUL:** Remove the hanger and all the masses, and place the clothes hanger on the elastic. Pull the clothespin down until the displacement in the elastic is equal to the displacement from when there was 400 grams hanging stretching the elastic.
4. Let the clothespin go and record how high above the elastic the clothespin travels.

**Data:**

Mass (kg)	Force (N)	Displacement (m)
0	0	0
0.05		
0.10		
0.15		
0.20		
0.25		
0.30		
0.35		
0.40		

**Calculations/Graph:** Using Graphical Analysis, make a graph of Force vs Displacement. You and your lab group need to figure out how to determine the work done on the clothes pin by the elastic band from this graph.

