

## Springs / Rubber Bands

*Spring definition:* an object that stores energy.

*Rubber band definition:* a continuous band of rubber used in various ways that stores and releases energy.

*Materials:* same size and thickness rubber bands, ruler, protractor, pen/pencil, measuring tape

In small groups, determine the best method to shoot rubber bands; the same location, height, and angle must be used for each launch to reduce the effect of different variables. Stretch rubber band to the below stretched length, shoot, and measure the distance the rubber band flew. Repeat each stretched length multiple times to determine accurate results. Shoot rubber bands stretched to different lengths to understand relationship between potential and kinetic energy.

On the back, graph the distance stretched (x-axis) versus the distance flown (y-axis).

Compare results with other teams and discuss the correlation.

Stretched Length	Distance Flown			
	Trial # 1	Trial # 2	Trial # 3	Average
3 inches				
4 inches				
5 inches				
6 inches				

*Extended learning:* try different stretched distances and different sized rubber bands; determine the elastic potential energy of the rubber band.

What is energy? What is potential energy? What is elastic potential energy? What is kinetic energy?

Why is it important to repeat each stretched length multiple times and calculate the average?

What is the relationship between the stretched length and the distance flown?