Estimating the launcher velocity of a rubber band

1. Estimating the "spring constant" of the rubber band.
We are going to stretch the rubber band for the purposes of determining the spring constant. Attach a 500-g mass to the rubber band and measure its stretch s_1 beyond the natural length.

Force = _____N s_1 =_____m k = _____N/m

2. Stretch the rubber band as if you were going to shoot it but hold it in that position while another student measures the stretch. Be sure to subtract the natural length.

s_2 =_____m **Be sure not confuse s_2 with s_1 below.**

3. Calculate the energy stored in the stretched rubber band.

4. Determining the launch velocity of the rubber band immediately after release.
Fill in the bar chart and write an energy equation to determine the velocity of the rubber band immediately after releasing it. (There is virtually no change in altitude in the rubber band immediately after release.)

$$K_i + U_{gi} + U_{ei} = K_f + U_{gf} + U_{ef}$$

_____ _____

Solve for the velocity of the rubber band.

5. The rubber band slows down very quickly after release. What happens to the kinetic energy?