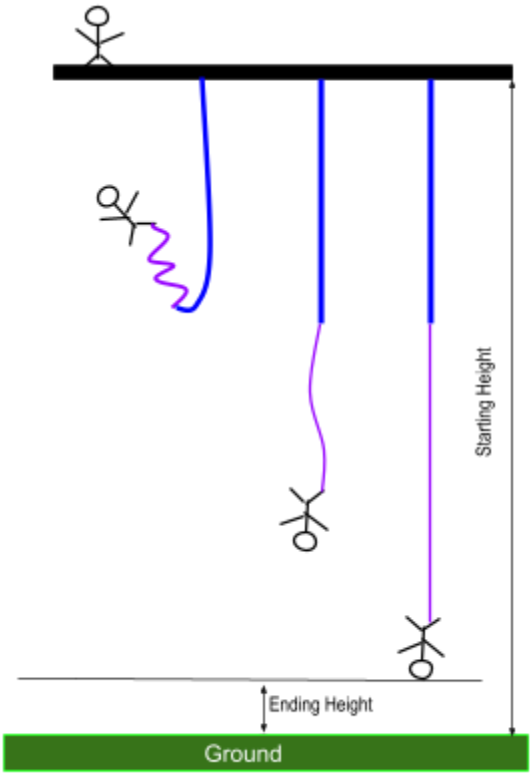
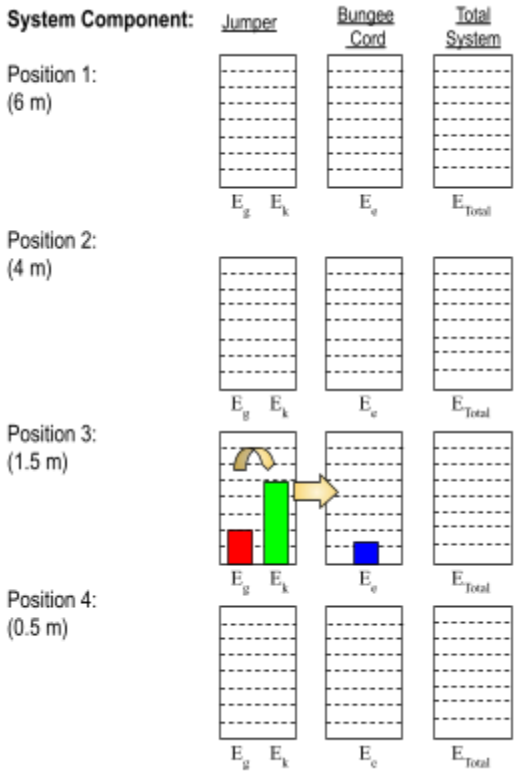
3HW - Challenging Extra Practice Quantitative Energy Analysis of a Bungee Jump

Name: _____ Period: _____ Date: _____

$E_{Total\ before} = E_g + E_k + E_e = E_{Total\ after}$	$E_g = mgh$	$E_k = \frac{1}{2} m v^2$	$E_e = \frac{1}{2} k d^2$	$g = 10\ N/kg$

1. A jumper with a mass of 0.4 kg is on top of a 6 meter tall platform. The bungee cord has a spring constant of k = 20 N/m.
   A) Fill in the missing bar charts below.
   B) Calculate the missing Eg at each point.
   C) Determine the missing Ek and Ee at each point.





Eg =
Ek =
Ee =

Eg =
Ek =
Ee =

Eg =
Ek =
Ee = stretch = 0.5 m

Eg =
Ek =
Ee =

E) Determine the stretch at Position 4 (ending height) and clearly communicate your calculations:

F) *Challenge Question:* In reality, some of the energy during a bungee jump is lost to thermal energy. If 20% of the energy during the fall transfers to thermal energy in the spring argue from your predicted data what will change in the jump. (Use the extra bar chart provided as a tool to assist your thinking

New bar chart for position 4

