# Cart Spring Constant Lab 1 Group:_____

Write down the color and number of your Pasco cart: _____

Measure the mass of the Pasco cart: _____ kg

Determine the spring constant of the spring contained within the cart by measuring the change in length of the compressed spring and determining the amount of force required to compress the spring:

Force: _____ N

Length: _____ m

K: _____ N/m

Calculate the Elastic Energy stored in the compressed spring. Show your work.

_____ J

Predict the velocity of the cart upon being launched from the floor board.

Assume mechanical energy is conserved and that the ground is level.

Use energy concepts. Show your work below:

Predicted Velocity: _____ m/s

Using a meter stick and a stop watch, launch the cart from the wall and record the time in seconds required for the cart to travel 1 meter. Divide the distance of 1 meter by the time in seconds to determine velocity.

Actual Velocity: _____m/s

Determine the percent error between the predicted and actual velocity: _____ %