We will be using a dynamic track, dynamics cars photogate, mass, string, and two springs. With all these things we will be setting the cart up in the middle of the track with two same strength springs, each attached to the end of the track and one side of the cart. This will create a spot right in the middle where the spring tension from the two cancel out. One end will have a pulley and a mass hanging over one end attached to the cart. We can adjust the size of the mass to see how different masses change the oscillation period and how they affect the springs. Now that we have the setup, we can add mass to the pulley and pull the cart to one side and let go to observe the oscillating motion. This oscillating motion has a period like a sine waive, we can find this period mathematically using this method , where T is the time that it takes to reach one full back and forth motion. The mass is represented as m and the springs constant is k. We will be using the photogate to get an accurate measure of the period from start to finish. We can use Hooke’s Law to find the spring constant with this formula . The spring constant is negative because whenever a force is applied to a spring, it applies an opposite force. So, we can take the force applied and the oscillation time to find the springs constant (k).