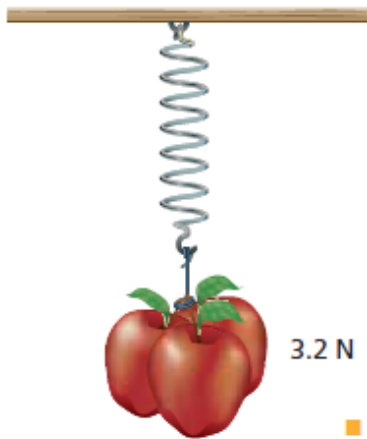


Honors Physics – Section 14.1 – Periodic Motion Homework

Name: _____ Date: _____ Period: _____

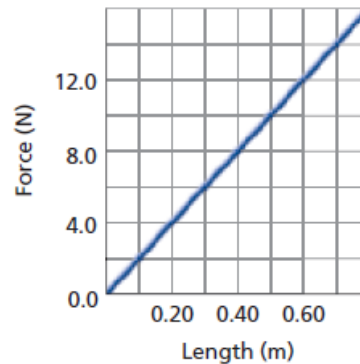
Directions: Show all of your work on a separate sheet of paper. Make sure answers have the correct significant figures and units!

69. A spring stretches by 0.12 m when some apples weighing 3.2 N are suspended from it, as shown in **Figure 14-20**. What is the spring constant of the spring?



■ Figure 14-20

70. **Car Shocks** Each of the coil springs of a car has a spring constant of 25,000 N/m. How much is each spring compressed if it supports one-fourth of the car's 12,000-N weight?
71. How much potential energy is stored in a spring with a spring constant of 27 N/m if it is stretched by 16 cm?
72. **Rocket Launcher** A toy rocket-launcher contains a spring with a spring constant of 35 N/m. How far must the spring be compressed to store 1.5 J of energy?
73. Force-versus-length data for a spring are plotted on the graph in **Figure 14-21**.
- What is the spring constant of the spring?
 - What is the energy stored in the spring when it is stretched to a length of 0.50 m?



■ Figure 14-21