Name: Date: Period:

Measuring Spring Constant

Ground Rules

- NEVER stretch the spring out with your hands
- NEVER place more than 200 grams on the spring
- When you are not actively taking measurements, do not leave masses hanging on the spring.

Spring Constants

1. Without anything attached to the spring, measure the spring's equilibrium position off the ground. Then, place 150 grams on each spring and measure its position off the ground. Calculate the displacement (difference between the two positions) and convert your answer to meters. Remember, $100\,\text{cm} = 1\,\text{m}$.

Spring	Equilibrium position (cm)	Stretched position (cm)	Displacement (cm)	Displacement (m)
Wide				
Narrow				

2. Find the mass in kg (Remember, $1\,\text{kg} = 1000\,\text{g}$): _____

3. Use the equations $F_S = -kd$ and $F_G = mg$ to calculate the spring constant of each spring. Make sure to use MKS units!

Wide Spring	Narrow Spring

4. Think about your numbers. Does the higher spring constant correspond to the stronger spring or the weaker spring?

5. The units for spring constant are N/m. Explain why this makes sense.