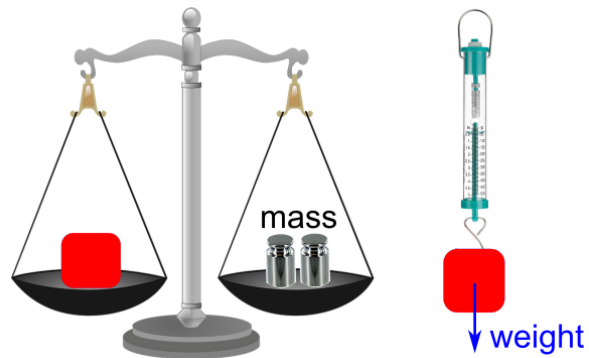


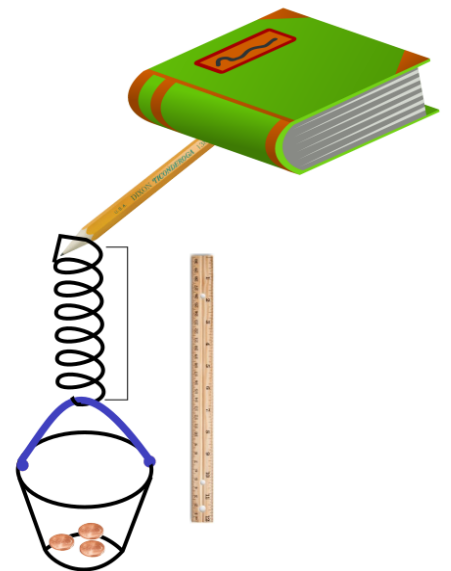
Force of Gravity: Mass vs Weight (student version)



If we pull harder, the spring stretches: more / less / the same

When you were pulling on the spring, did you also feel the spring pulling on you? Which of Newton's Laws does this illustrate? Circle one:

- (Law 1) inertia
- (Law 2) more mass is harder to accelerate
- (Law 3) action-reaction

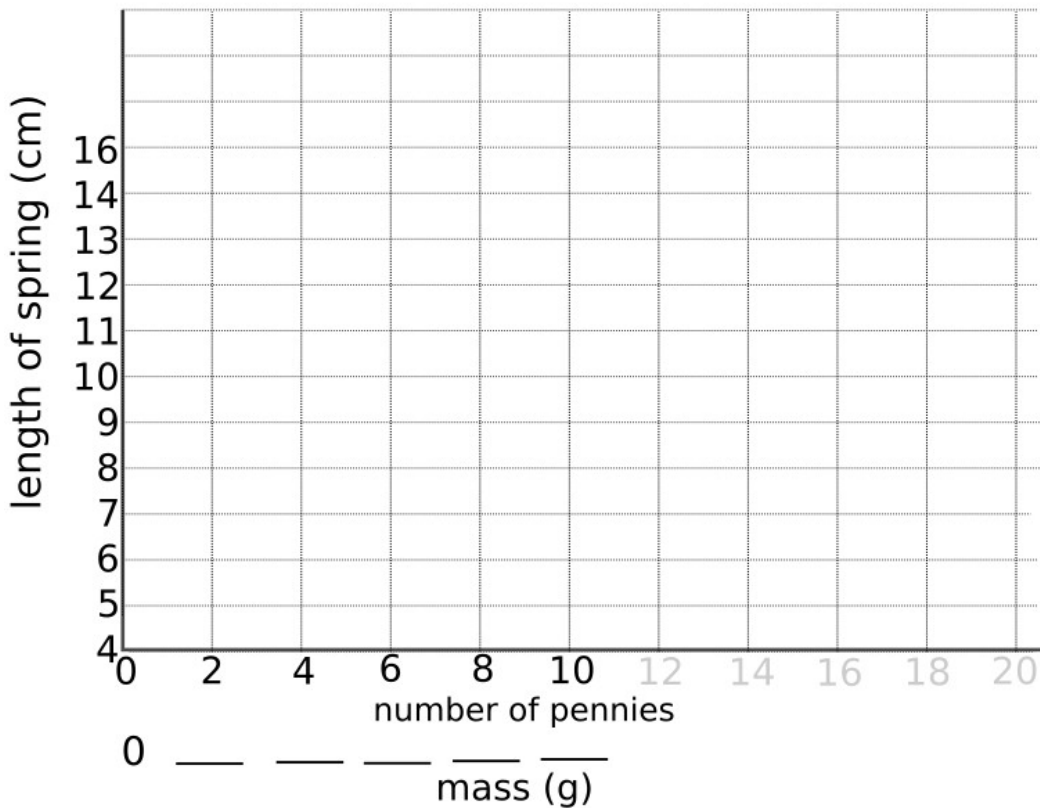


Mass of 2 pennies = _____ g

Resting length of spring = _____ cm

Spring length with 2 pennies = _____ cm

Plot your measurements in the graph below.



When more mass was in the cup, the spring stretched:
more / less / same

When the cup had more mass the force of gravity pulling it down was:
bigger / smaller / same

Optional Challenge 1:

What will be the length of the spring when a 50g mass is put into the cup? Extend the line on your graph to make the estimate. Test if you were right!
_____ cm

Optional Challenge 2:

Use your spring scale and your graph to estimate the mass of the metal fishing weight.

Spring length: _____ cm

Estimated mass: _____ g

Check your mass estimate with the balance scale. Were you right?