We will be looking at the force applied to a mass that’s rotating around a central point. This rotational force is called centripetal force and it’s the force being applied to a mass pulling it away from the point of rotation. We will be using a mass and an apparatus with a spring connected and counterbalanced with a weight. This will allow us to test different rotating masses and rotational speeds to see how they affect the centripetal forces.

Centripetal acceleration is defined as . This equation relates the force being applied to the spring that’s holding the rotating mass towards the center and the centripetal acceleration. It also relates those things to the radius of the total mass spinning distance and the velocity. The gravitational force on the earth due to the sun will be calculated similar to the prelab and compared to a calculation of the centripetal force using the period of the earth.