Title: David and Goliath Lab

Location: Inside and Outside

Purpose: Create a lab activity that combines concepts of translational and rotational kinematics.

Materials: string, plastic rectangle, scissors, making tape, meter stick, stopwatch, protractor, marshmallow

Worksheet or lab write up must include:

1. Rotational motion of a sling that launches a projectile (i.e. marshmallow)
2. Measure or calculate the following: mass, radius (string length), frequency/period, launch angle, displacement of projectile, impact velocity, angular/linear acceleration and angular/linear velocity
3. Percent error between linear velocity determined from translational kinematics and linear velocity determined from rotational kinematics.
4. Use multiple velocities (e.g. slow, medium, fast)
5. Sources of Error
6. Step by Step procedures
7. Safety Guidelines!
8. A graph (bonus)