

Torque & Tension Mobile Project

Background: Torque Applied to Mobiles

- The mobile can be looked at as a balance of forces in motion.
- The forces of nature – wind and gravity – play a significant role in understanding how mobiles function.
- Torque is represented using the Greek letter tau as follows:

$$\tau = Fd = mgd = \text{mass} \times \text{gravity} \times \text{distance}$$

Where F = Force (Newtons) d = lever arm length/distance from center of mass (meters)

- Torques must be equal to achieve balance.

Objective:

To use imagination and physics concepts to create a themed, 3 tier mobile that demonstrates the use of torque in static equilibrium.

Parameters:

You may work with a partner or alone (no groups of 3).

Due Date:

3/8/17 – for 1 major grade & 1 minor grade drop **3/10/17** – for 1 major grade drop

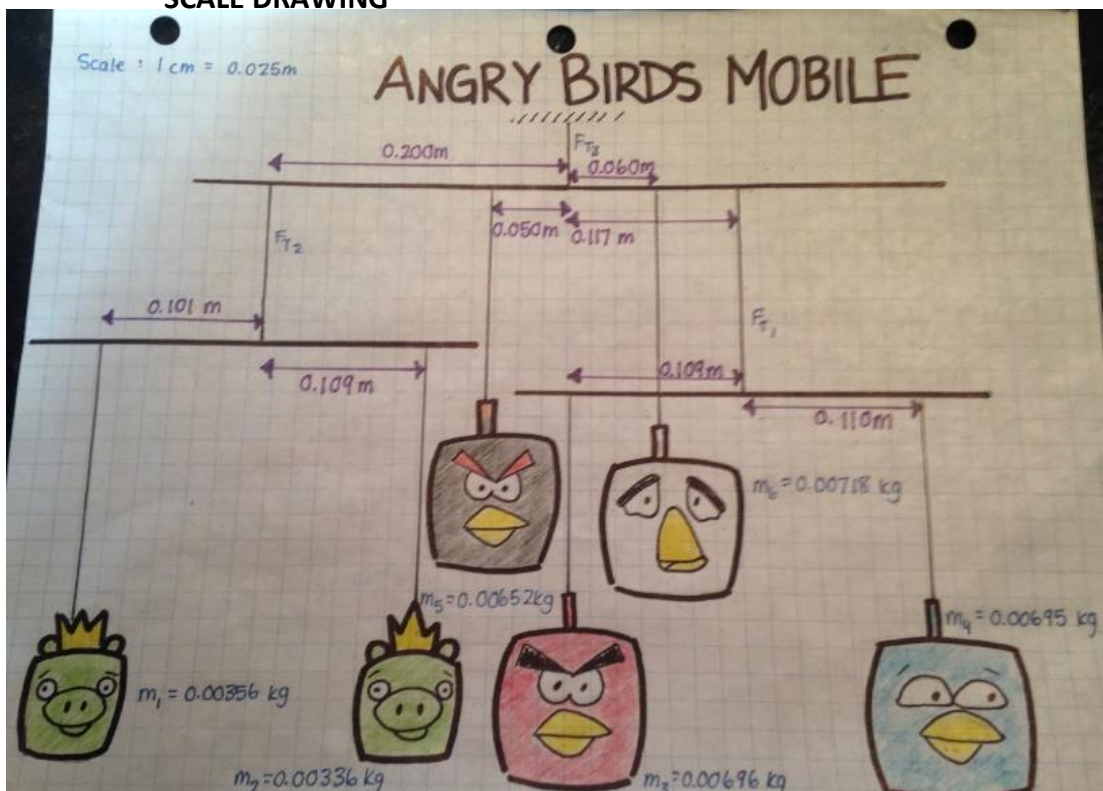
Procedure:

The following must be submitted for full project credit: Scale Drawing of final project and Stable, Polished Themed Mobile.

Begin by balancing the bottom tier(s), and work your way up.

Example:

SCALE DRAWING



MOBILE

