**Weight in Sea**

**MATERIAL:** 1 Plastic animal on string (DO NOT REMOVE STRING)  
1 Meter stick  
1 Knife-edge pivot on meterstick (DO NOT REMOVE PIVOT)  
1 Hanger  
1 10gm weight  
1 20 gm weight  
1 Beaker of water  
Pencil

**OBJECT:** To determine the volume of the animal to as high a precision as possible.

**USEFUL EQUATIONS:** Provided the meterstick balances with no weights attached, the ruler will rebalance when the following condition (for masses on opposite sides of the pivot) is met:

\[ M_L \Delta d_L = M_R \Delta d_R \]

where \( \Delta d_{L,R} \) is the positive distance from the pivot point to the location of the mass \( M_{L,R} \) on the left or right respectively.

The change in mass when submerged is given by: \( \Delta M = \rho_w V_0 \) where \( \rho_w \) is the density of water (1 gm/cc) and \( V_0 \) is the volume of the object in cubic centimeters.

**SCORING:** The percent difference of your volume, or:

\[ \left| \frac{V_{\text{measured}} - V_{\text{measured better}}}{V_{\text{measured better}}} \right| \]

Your volume (in cc) to at least 4 significant figures: 

Absolute Percent difference --------------------------