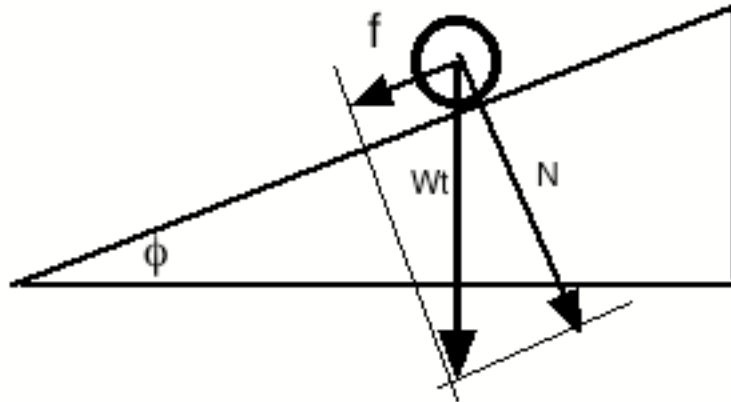# Lab 7,  Coefficient of Friction

PRINT NAME _____ PER _____

*You MUST show you vector diagrams with ARROW HEADS, and the Hup, Two, Three, Fours for your calculations!*

Purpose:  To find $\mu$ for 2 sliding objects and 1 rolling object.

$$\mu = f/N$$



Procedure:

Make a data table on the back for three objects, their masses in grams, their weights in newtons, $f$, $N$, $\theta$ and $\mu$ from the above diagram.

1.  Mass each of the three objects as you use them _____g

2.  Change mass in grams to force in n.  1g = 0.01n

3.  Adjust the slope so that the object slides down at constant rate. (Note that starting friction is greater than sliding friction).

4.  Measure the angle of the slope with a protractor.

5.  Draw to scale the above diagram with the correct angle.

6.  Draw to scale the vector diagram using the weight of your object.

7.  Determine f and N by measurement.

8.  Calculate $\mu$.

9.  Repeat for another sliding object and one rolling object.

10. Critique (compare frictions of different of objects).