A-Day: due Fri. Aug. 25 (Assigned 8/23) **Measuring 4** **Mr. Murray's Regular Physics**
B-Day: due Mon., Aug.28 (Assigned 8/24)

*Reminders: BRING closed-toed shoes and a CALCULATOR! (You have been reminded.)*

*8.009 has 4 sig figs.; 8,000 has 1. 0.00405 has 3 sig figs, while 0.004050 has 4. 950 has 2 sig figs; 950.00 has 5.*
(PLEASE—go to the website and practice this in the measuring section.)

1. How many significant figures do the following have?

| | | |
|---|---|---|
| A. ____ 400 | C. _____ 0.05702 | E. _____ 560.00 |
| B. ____ 20500 | D. _____ 0.0002 | F. _____ 4.5 |

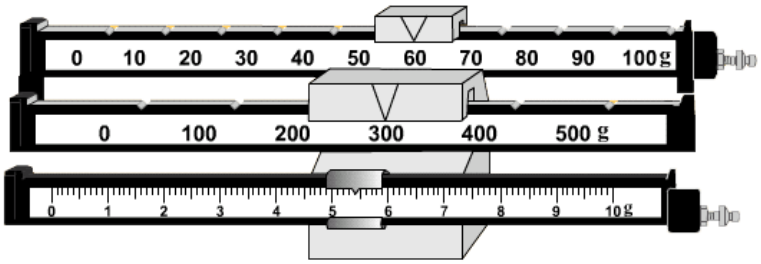
*Rules: For addition and subtraction: use the least number of decimal places. For mult and div. use the least # of sig figs. (Also on the website)*

2. A) 56.2 has ____ sig figs. 12 has ___ sig figs. 56.2 x 12 must have ____ sig figs. Give your answer with correct # of sig figs:

   B) 56.2 + 12 = _____ (use rules above)

3. You now know that 3.3ft = 1 m. And I ASSUME that you know how many seconds in a minute, etc. So….
   A) Convert 4.2 ft/min to meters/sec (do it in two steps, please, using conversion factors).

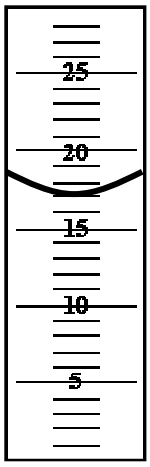
4. How much mass is shown on the balance?




5. How much water is in this graduate cylinder?

6. Which is more precise a graduated cylinder or a beaker?

7. Why?




8. If a group of people use an imprecise instrument, will they all get the same number?

9. What if they use a precise instrument?

10. Why are precise instruments important for science?

11. Give the four major parts of the scientific method.

*Let's assume that an object moving to the right has a positive velocity. An object moving to the left has a negative velocity.*

12. Object A originally moving at 15 m/s stop in 4 seconds.
    A) what is its initial velocity?
    B) What is it's final velocity if it is stopped ?
    C) Find its acceleration (at the right).

Eq.

13. Object B originally moving at –2 m/s ends up going –12 m/s after 7 seconds. Find its acceleration. (Remember that a neg. times a neg = a positive.)

14. On the back draw a food web with at least 2 chains and three levels. Use the following organisms: lettuce; human; wolf; acorn; hawk; alligator; rabbit; grass; deer; squirrel. (Since I'm asking for a food "web" there must be at least one interconnection.)