TITLE: DETERMINATION OF NUMBER OF MOLES OF CHALK

Theory: 1 mol = molar mass and 1 mol = 6.02 x 10 ^{23} representative particles

PURPOSE: The purpose of this lab is to give you hands on experience in actual measurement of the number of moles of a common substance. You will determine the number of moles of calcium carbonate in a piece of chalk and the number of moles deposited on a surface.

PROCEDURE:
A. Obtain a sample of chalk (calcium carbonate) from your instructor.

B. Record the mass of the calcium carbonate to the nearest 0.1 g in a data table.

*C. Calculate the molar mass of calcium carbonate.

*D. Calculate the number of moles of calcium carbonate in the initial sample.

E. Write your answer to the above calculation of the sidewalk using the same chalk sample you weighed. Write dark but be careful not to break the chalk. Use a labels and formulas, underline it and put your name under that.

F. Reweigh the calcium carbonate and record the mass in your data table.

*G. Determine the amount in g of calcium carbonate left on the sidewalk.

*H. Calculate the number of ions left on the sidewalk. (use dimensional analysis)

DATA TABLE
Initial mass of chalk:

Qualitative data:

Mass of chalk after writing:

CALCULATIONS:
Show your work for all calculations involved in procedure steps: C,D,G,H. Include units and sig figs.

DISCUSSION:
1. Define a mole. What is the significance of a mole?
2. How many g of calcium carbonate would you be given if your sample contained 1 mole?
3. What is the other substance in chalk besides calcium carbonate?
4. If is well known that HCl reacts with calcium carbonate by releasing a gas. Would it react with chalk? Why or why not?

RESOURCES: Cite your URLs properly.

CONCLUSION: