

Title: Definite Proportions

Problem: What evidence indicates that compounds always combine in specific ratios of elements?

Hypothesis:

Procedure:

1. Find the mass of the test tube and record it on the table.
2. Place about 1 cm of Cupric 2 Sulfate Pentahydrate ($CuSO_4 \cdot 5H_2O$) in the test tube.
Find the mass of the tube and the "copper sulfate". Record on data table.
3. Calculate the mass of the copper sulfate and record.
4. Light the burner and gently heat until all the copper sulfate turns gray.
5. Determine the mass of the copper sulfate residue and record.
6. Repeat steps 1-6 for the other two test tubes.
7. Calculate the decimal fraction remaining using the following equation:
$$\frac{\text{Mass of "copper sulfate" after heating}}{\text{Mass of "copper sulfate" before heating}}$$
8. Compute the average decimal fraction remaining.
9. Compare your results to the other lab groups.

Analysis & Conclusion Questions

1. How do the results of the other groups compare to your results?
2. What evidence shows that the same number of water molecules were driven off from each copper sulfate molecule?

Observations:

Mass of test tube			
Mass of test tube and copper sulfate			
Mass of copper sulfate			
Mass of test tube and residue			
Mass of residue			
Decimal fraction remaining			
Average decimal fraction remaining			