

Objective: In this lab, 2 different hydrated salts will be heated until all water has been removed. A mole ratio will be used to determine the number of water molecules bonding to each salt formula unit.

Our procedural flow: 1) Find the mass of a hydrated salt sample. 2) Determine the mass of water in the sample by heating. 3) Determine the number of moles of water and the number of moles of dehydrated salt in this sample. 4) Use a mole ratio to determine how many water molecules are in the formula unit of the hydrate.

What to Do:	Class Example: $E_2Z \cdot X H_2O$	$CuSO_4 \cdot X H_2O$	$CoCl_2 \cdot X H_2O$
1) Mass of empty test tube (one tube for each salt)			
2) Mass of test tube with salt added (before heating)			
3) Mass of the hydrated salt within the test tube (difference of steps 1 and 2) (before heating)			
4) Mass of test tube after heating (ensure test tube is at room temperature before using the scale)			
5) Mass of water (the difference in mass before and after heating, use data from steps 3 and 4)			
6) Dehydrated salt mass. Subtract mass of water from the mass of the hydrated salt. (Step 3-Step 5)			
7) Gram formula mass (GFM) of dehydrated salt.			
8) Gram formula mass (GFM) of water.			
9) Moles dehydrated salt in your sample. (Use step 7 and step 6 information).			
10) Moles water in your sample. (Use step 8 and step 5 information)			
11) Mole ratio of dehydrated salt to water in your sample. (Step 9:Step 10)			
12) Mole ratio of dehydrated salt to water within 1 mole hydrated salt.			
13) Formula unit of the hydrate.			

1.) Compose a well-written statement that explains how we used a mole ratio in the above experimentation.

2.) How many water molecules are within 1 mole of the cobalt (II) chloride hydrate, above? (Hint: avogadro's #).

= _____ molecules