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Salt Formulas

Could you correctly write a salt formula if you were told that the salt contained the ions Cr^{3+} and S^{2-} ? For an example of how to write such a formula, play the video below.

Key points to remember:

- The superscript charges on the cation/anion become the subscript for the anion/cation.
 - Cr^{3+} and S^{2-} = Cr_2S_3 where the salt itself has a net neutral charge. You need two Cr^{3+} (totaling in a +6 charge) combined with three S^{2-} (= -6 charge) to give a zero (net neutral) charged salt of Cr_2S_3 .
 - The superscript charges on the cation/anion become the subscript for anion/cation.
- If the subscripts for the cation and anion are the same in the salt formula, they "cancel" each other out.
 - Ca^{2+} and O^{2-} . Using the method described in the video, the salt formula could be written as Ca_2O_2 . But since the subscripts are exactly the same, they "cancel" each other out and the correct formula of CaO arises!
- The subscripts should always be the simplest ratio!
- If any subscript is "1" it is not written in the formula.
 - CaCl_2 is not written Ca_1Cl_2 .

IMPORTANT NOTE

Be sure to know when to use the atomic and ionic form of elements!!

Ex) Writing Na and Na^+ are two totally different things! Na is a metal that explodes in water, while Na^+ is in the table salt you eat. You are dealing with SALTS- the elements need to be in **ionic form** (charged atoms!)