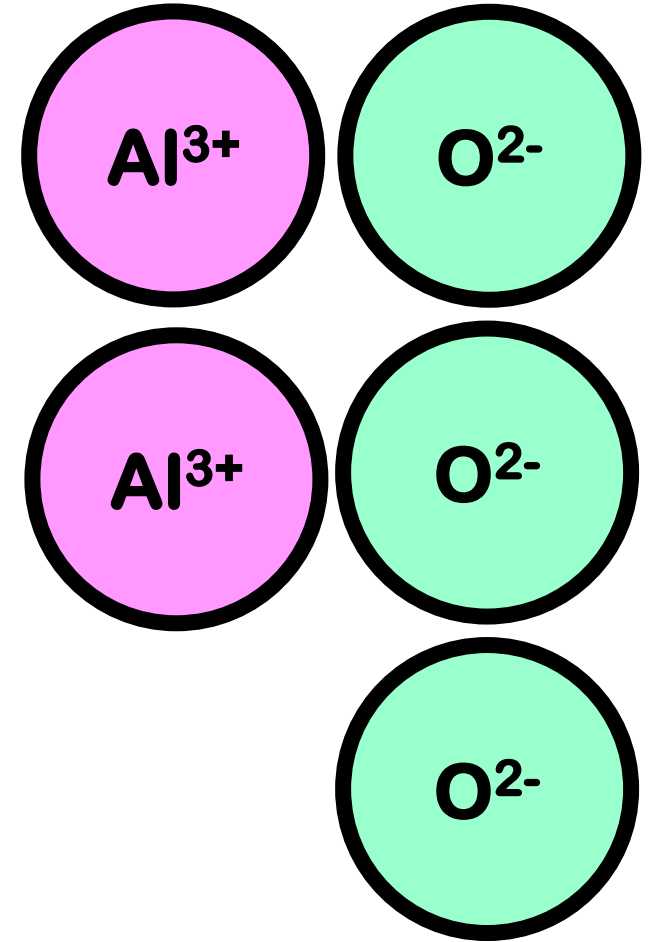
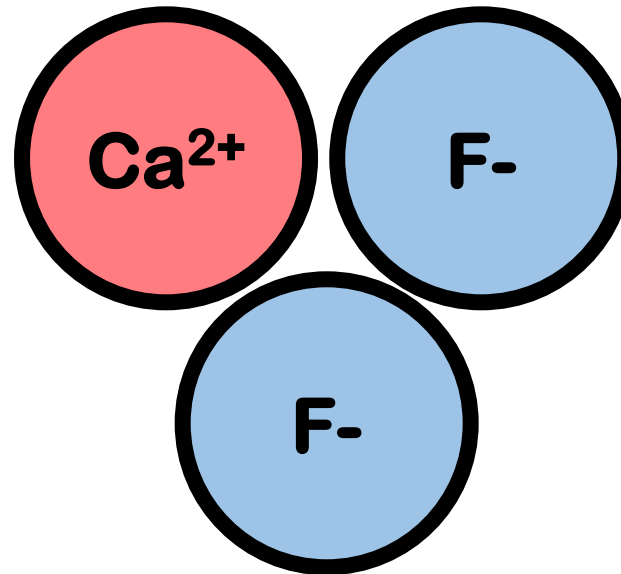
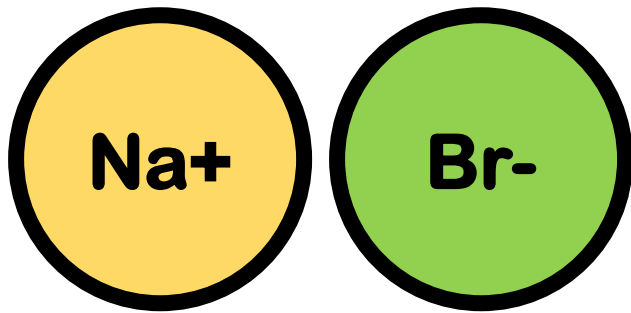


Writing Neutral Formulas for Ionic Compounds

*You need to know your
ions for this!!!!!!!!!!!!!!!!!!!!!!!!!!!!*

Neutral Compounds

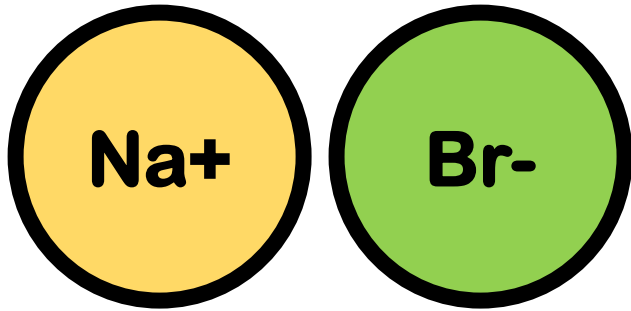
- We need our compounds to be “electrically neutral”
 - Charges need to cancel out
 - Not always a 1:1 ratio!



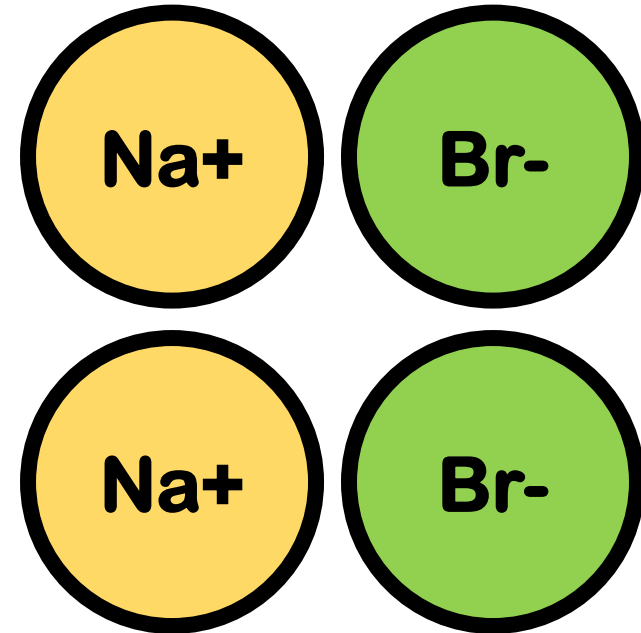
Neutral Compounds

- Write the lowest possible combo to get neutral

YES!



NO!

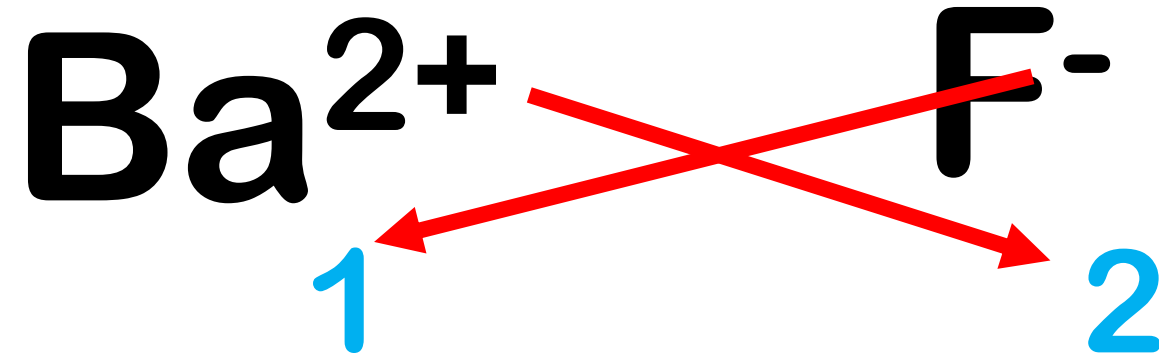


Steps

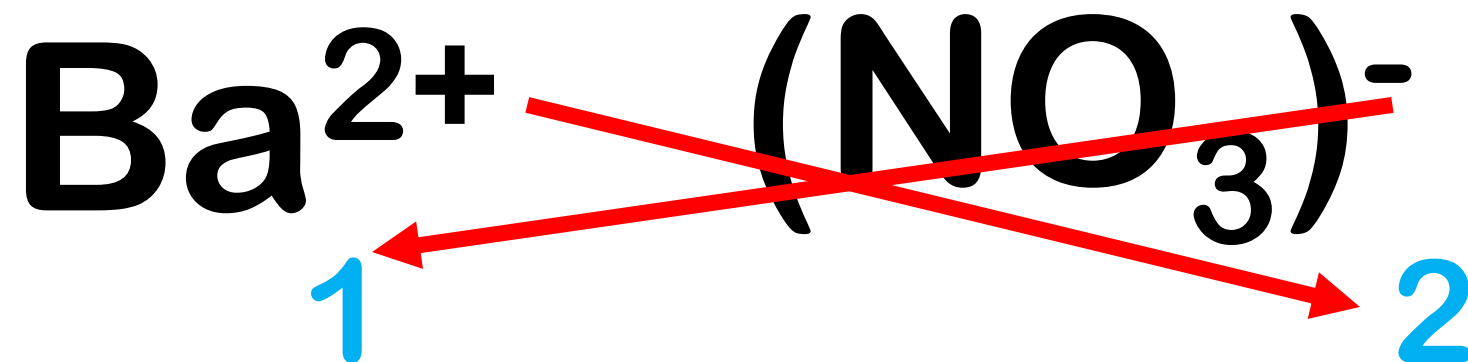
Eventually we should do this in our head! When asked to show work you will use this “crossing over” method.

- 1) Write cation first then anion
- 2) Write the charges with each symbol
- 3) The superscript of one atom, becomes the subscript of the other. Use the absolute value! This is “crossing over”
- 4) Reduce your subscripts to the lowest numbers possible while maintaining the correct ratio
- 5) You do not need to put the 1s for subscripts!
- 6) CAREFUL WITH POLYATOMIC IONS!

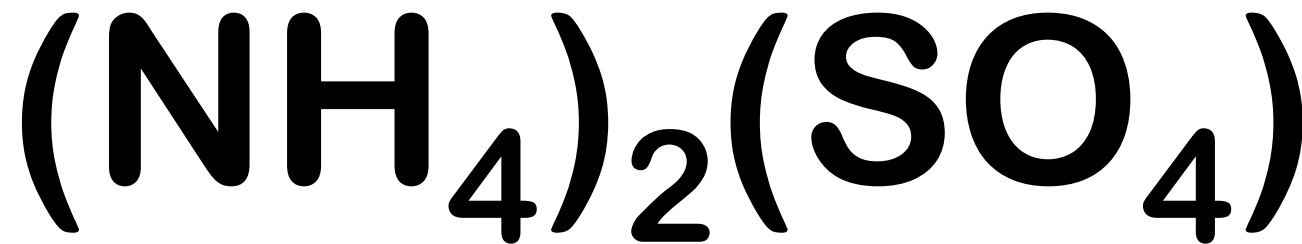
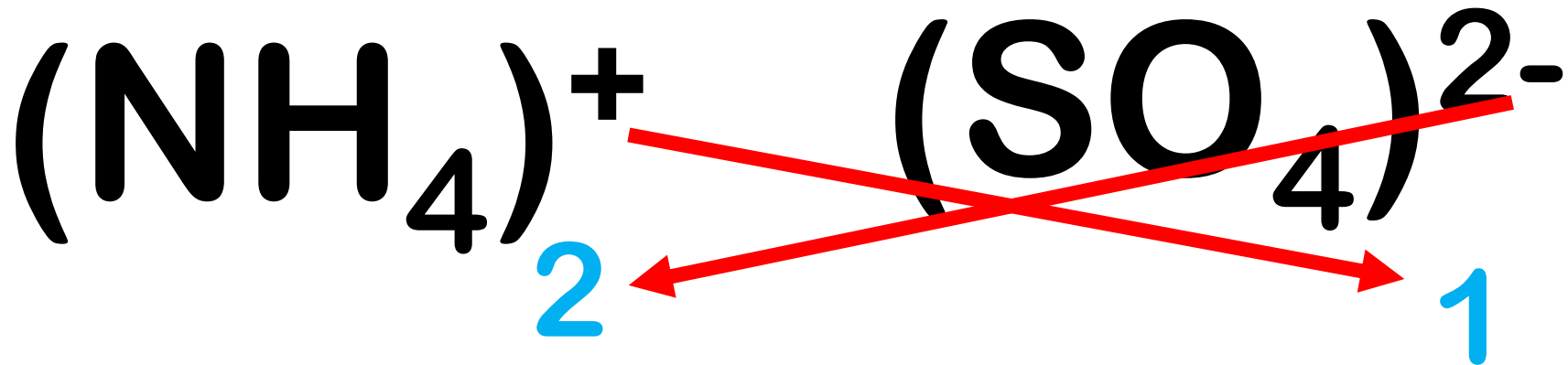
Barium Fluoride



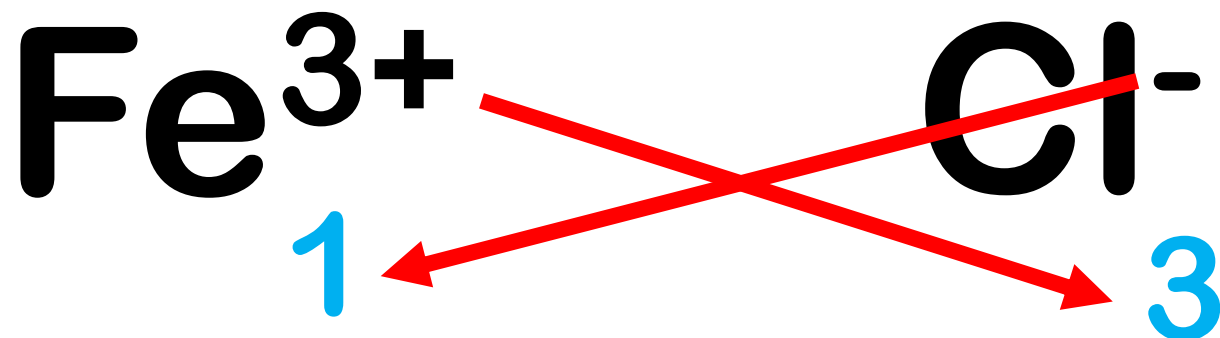
Barium Nitrate



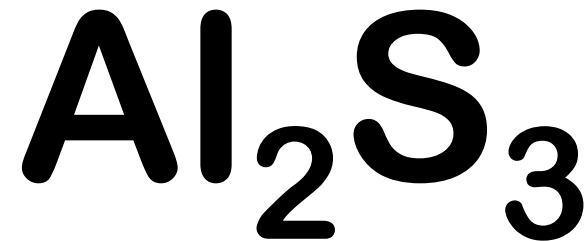
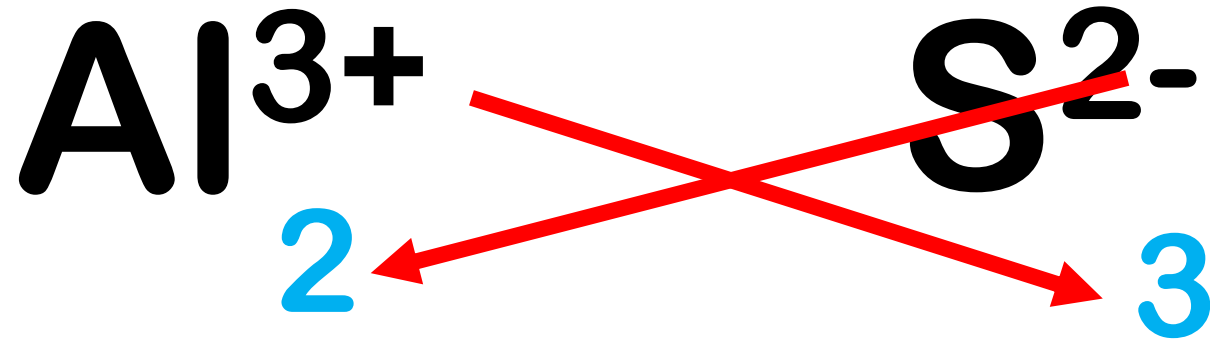
Ammonium Sulfate



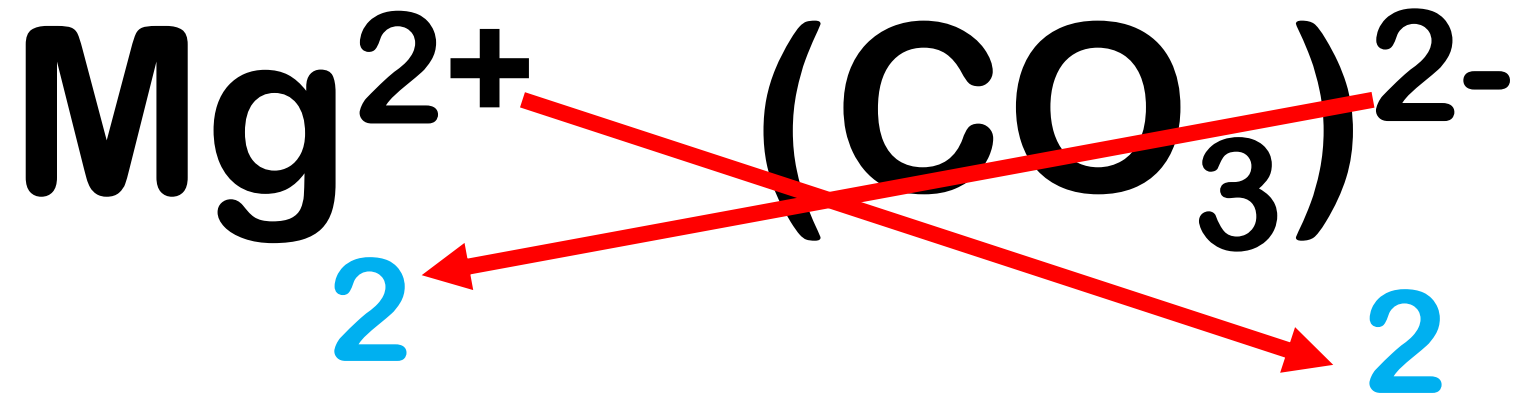
Iron(III) Chloride



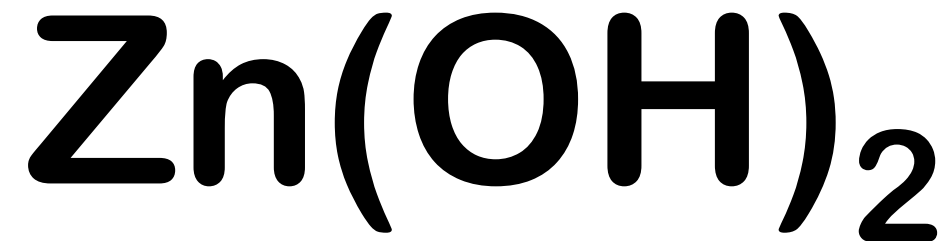
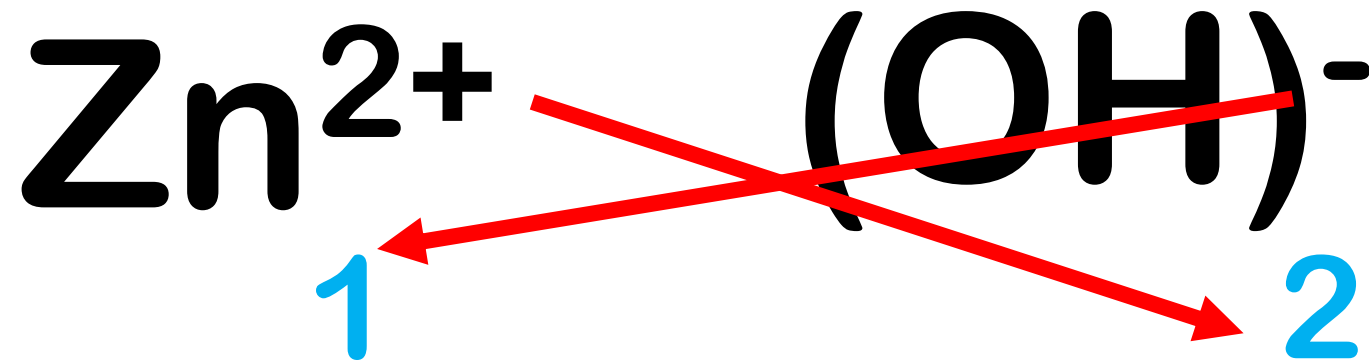
Aluminum Sulfide



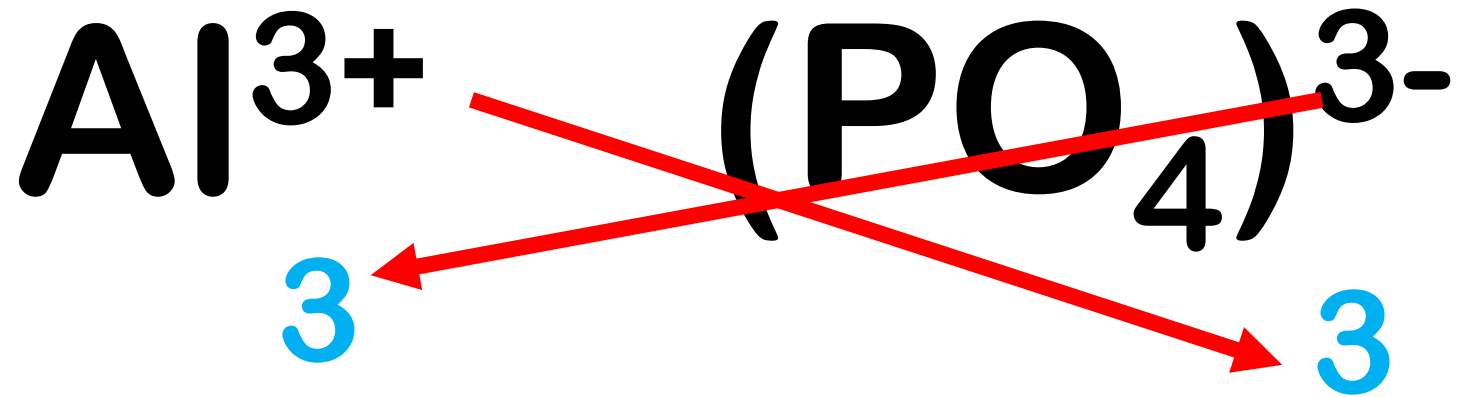
Magnesium Carbonate



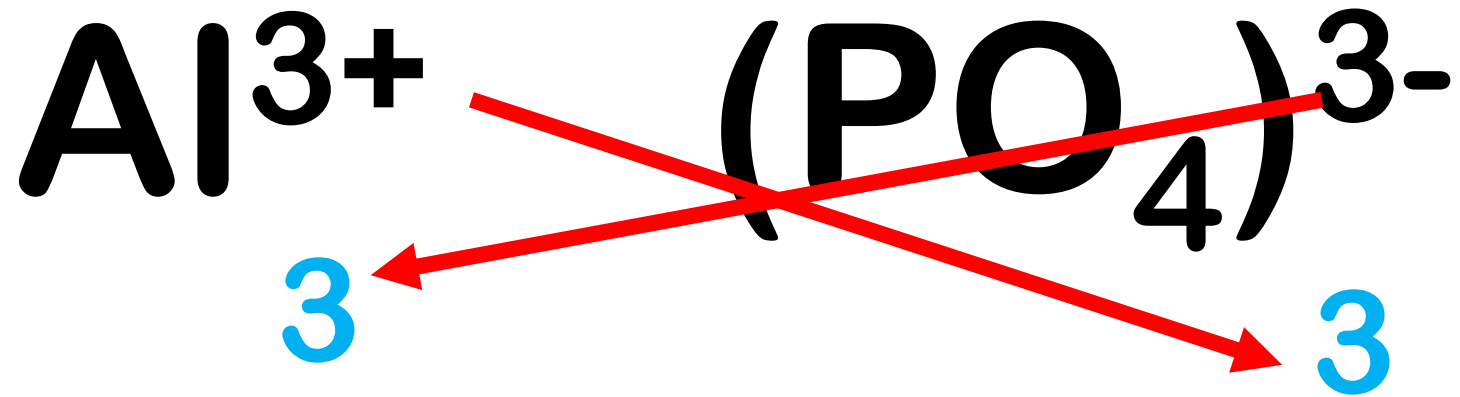
Zinc Hydroxide



Aluminum Phosphate

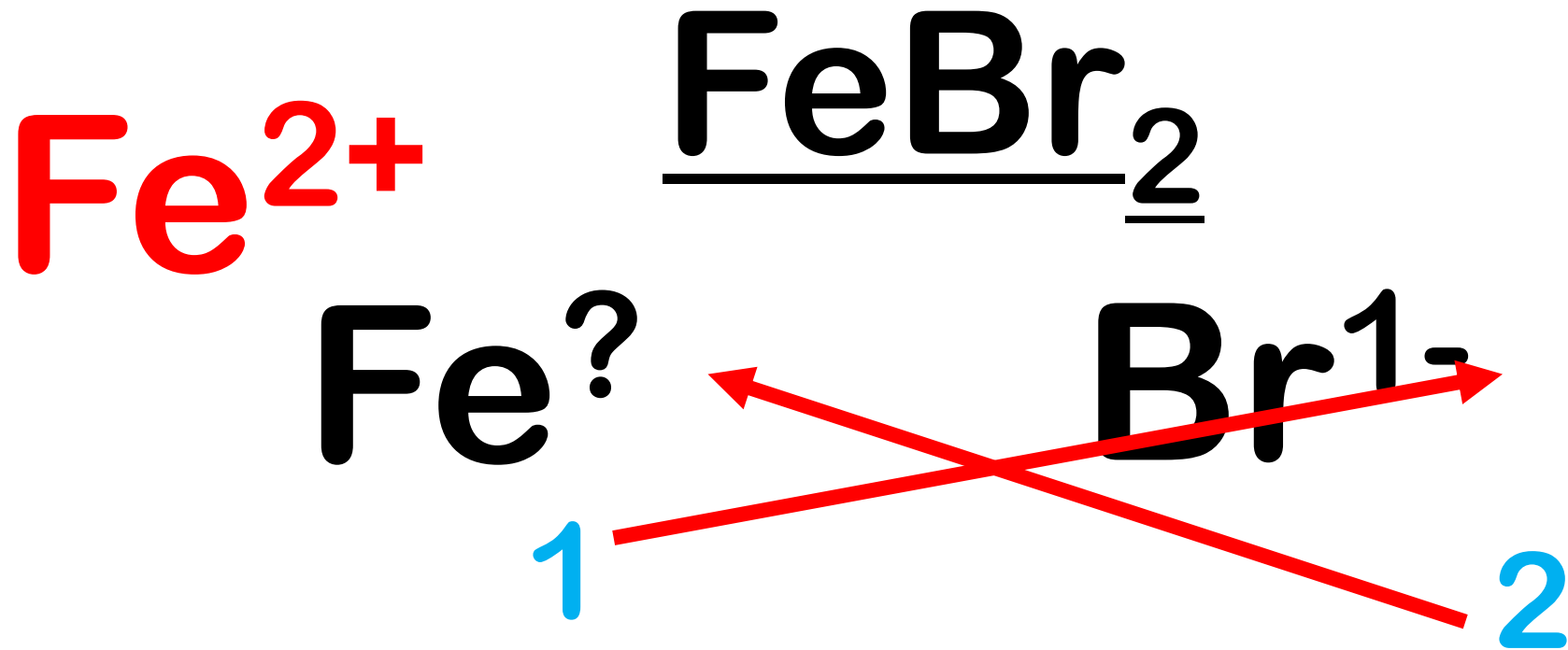


Aluminum Phosphate



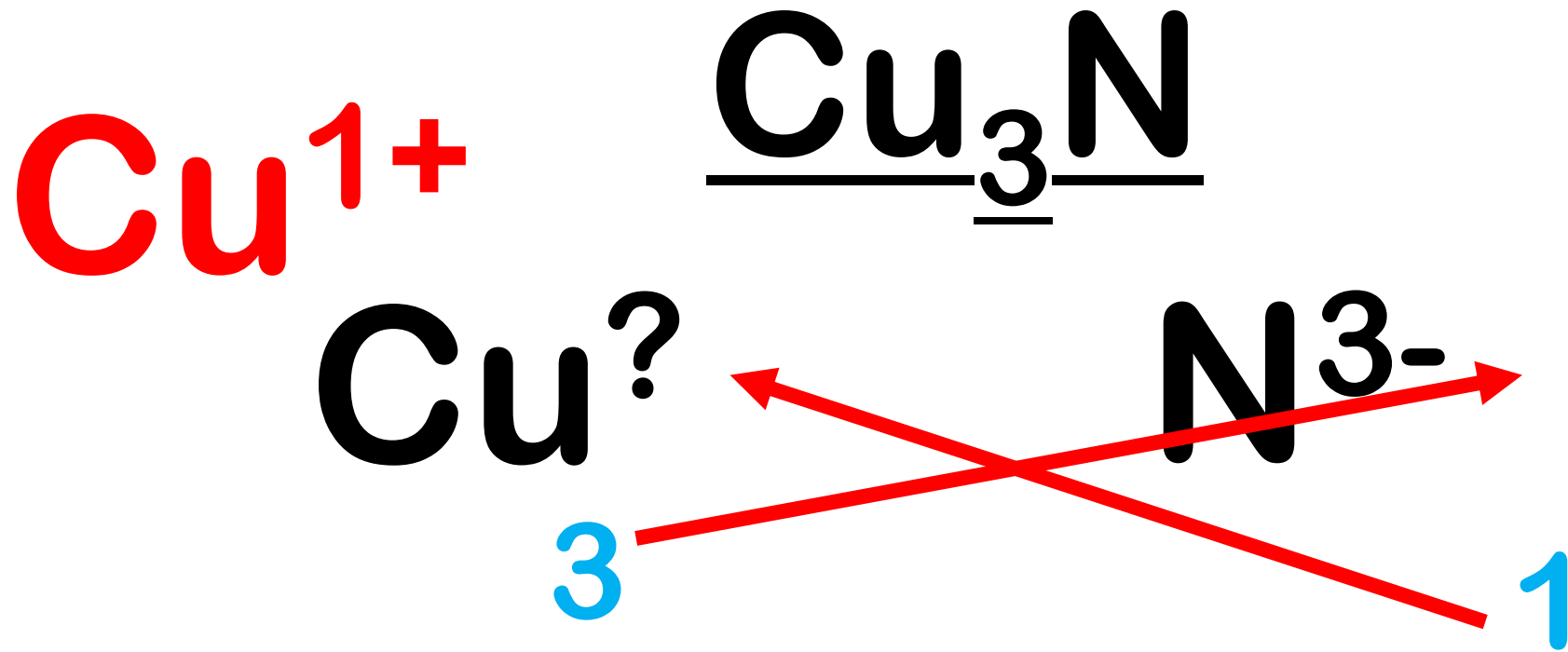
Working Backwards

Sometimes you are given the formula for a compound with a transition metal and you have to work backwards to figure out what charge the transition metal has. It's a number puzzle!



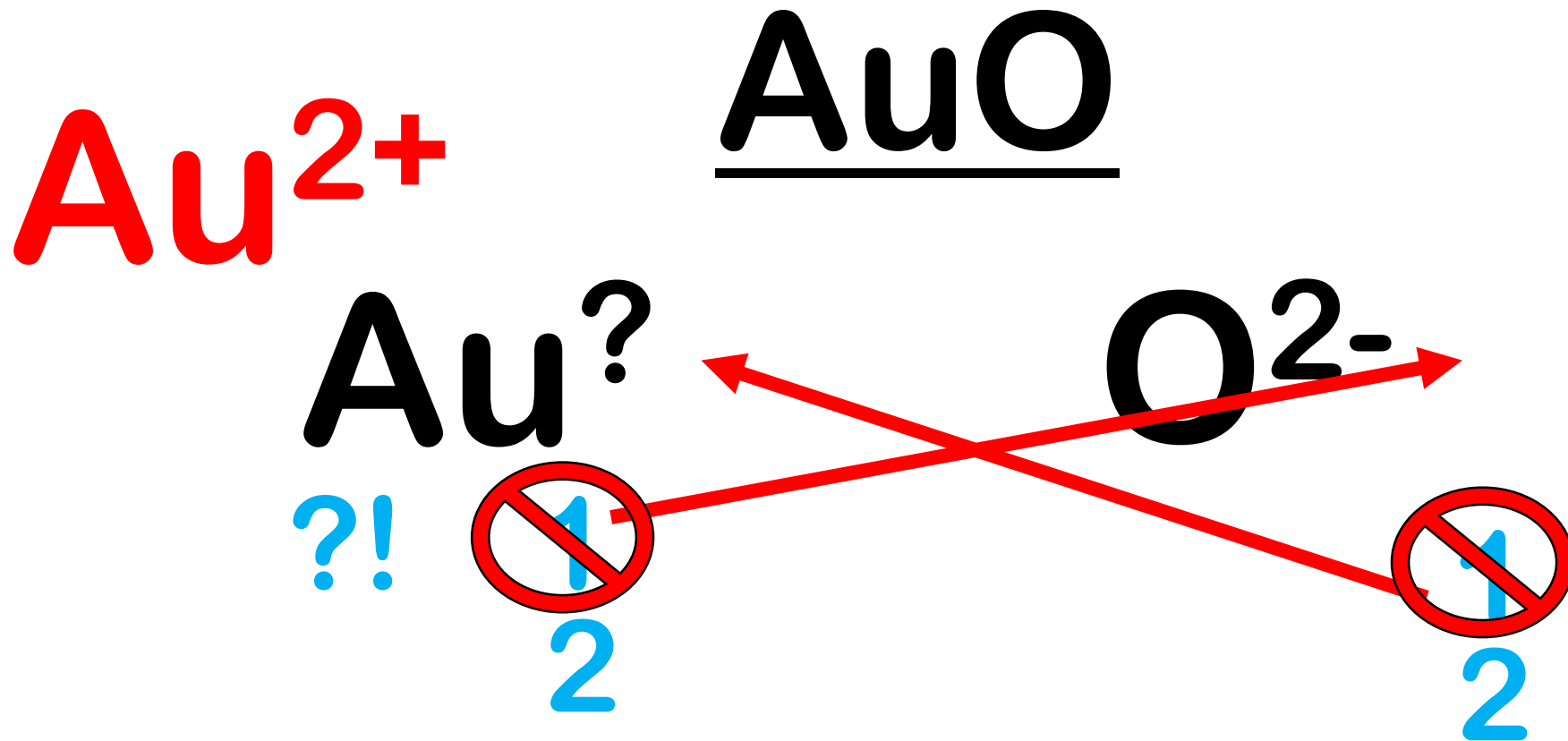
So... Fe^{2+} and Br^{1-} makes...

Iron (II) Bromide



So... Cu^{1+} and N^{3-} makes...

Copper (I) Nitride



It was reduced!!!

Gold (II) Oxide

YouTube Link to This Presentation

<https://youtu.be/4N5GbLZrQJg>