Glue this side
down into your
science notebook.

Figure 19.18: *The criss-cross method is a simple way to determine the chemical formula of a compound.*

"A dot is a lot!"

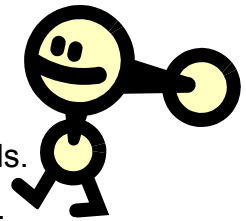
This lesson is modified from the original posted on sciencespot.net

Liz LaRosa
5th grade science
www.middleschoolscience.com
2010

Bond with a Classmate

Directions:

1. Select one tag. Are you a positive **(+)** or negative **(-)** ion?
2. Are you a **metal, metalloid, or non-metal**?
3. Record your info into the data table 3 times, for the 3 different bonds you will make.
4. Find one ion with an **opposite** charge.
5. In the data table, write your partner's element and charge. Categorize their element as a metal, metalloid, or non-metal.
6. Write the compound into the data table. (Remember, the **positive** ion is written first.)
7. **Criss-Cross** your oxidation numbers to make them subscripts. **Reduce** if needed.
8. Determine the name of your new compound with the **–ide** ending.
9. Find a new partner for your 2nd and 3rd bonds.
10. After your 3rd bond, have your work checked.
11. Your teacher will then give you a new tag with an oppositely charged ion. Repeat steps 1-9.



Analysis and Results - answer these in your notebook

1. What is a binary compound?
2. What does the (+) or (-) oxidation number tell you about an ion?
3. Which element gets the **–ide** ending?
4. What is a subscript? What does it tell you?

Conclusion: 2-3 complete sentences on what you learned by doing this activity.

(+) Ion	Metal, Metalloid, Nonmetal	(-) Ion	Metal, Metalloid, Nonmetal	Formula	Name
Ca^{+2}	Metal	Cl^{-1}	Non-metal	$CaCl_2$	Calcium Chloride
Mg^{+2}	Metal	Br^{-1}	Non-metal	$MgBr_2$	Magnesium Bromide