Chemical Bonding POGIL

Activity 7 – A Mixed Up Activity…

Getting Started

Now that we have introduced polyatomic ions, we have to consider how this ion can affect the name of a compound and how we write the chemical formula. There are more features to this Model, let's see if we can figure out how to handle them.

The Model

Table 7 – All types of ions, compounds

Chemical Formula	Compound Name
$Ca(OH)_2$	calcium hydroxide
$Ca(NO_3)_2$	calcium nitrate
Na_2CO_3	sodium carbonate
$Ca_3(PO_4)_2$	tricalcium phosphate
NH_4Cl	ammonium chloride
$Mg(NO_3)_2$	magnesium nitrate
$Mg_3(PO_4)_2$	magnesium phosphate
$(NH_4)_2SO_4$	[illegible]
$Al(OH)_3$	aluminum hydroxide

Reviewing the Model

1. Write the name and the symbol for all of the monatomic ions in the Model (Table 7).
2. Write the name and formula (including the charge) for all the polyatomic ions in the Model (Table 7).
3. The ammonium cation is the only polyatomic cation in the Model. What are the formula and charge of the ammonium cation?
4. How many nitrite ions are present in $Ca_3(PO_4)_2$ nitrite?
5. What new representing feature we need to have chemical formulas?

Exploring the Model

6. The all polyatomic ions require the use of parentheses?
7. When are parentheses used?
8. Have the instructions ever you established earlier to activities changes? If yes, how? If not, is that important to know?
9. How many nitrogen atoms are in $Ca_3(PO_4)_2$ nitrite?
10. Describe the thought process you used to determine the number of nitrogen atoms into $Ca_3(PO_4)_2$ nitrite.
11. How many oxygen atoms are in $Ca_3(PO_4)_2$ nitrite?
12. In what way does determining the number of oxygen atoms differ from the process you just described for nitrogen?
13. If the parentheses were omitted and aluminum hydroxide was written AlOH3, how would that change the number of atoms of each element present in the compound?