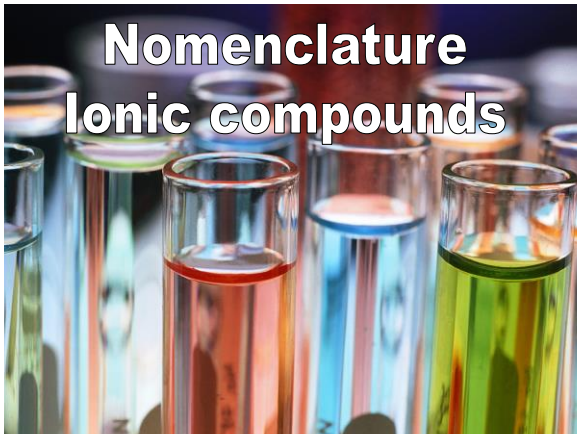

Binary Ionic Compounds

- Binary ionic compounds
  - Two elements
  - Cation comes first, then anion
  - Charges must balance to zero
  - When naming, anion ends in -ide

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Binary Ionic Compounds

- Make compounds with these ions:
  - Sodium and chloride
  - Magnesium and fluoride
  - Aluminum and oxide
  - Lithium and nitride

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- Give the formulas for:
  - Potassium sulfide
  - Beryllium bromide
  - Aluminum sulfide
- Name these cmpds:
  - Rb_2O
  - $CaBr_2$
  - CsI

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- Give the formulas for:
  - Potassium sulfide K_2S
  - Beryllium bromide $BeBr_2$
  - Aluminum sulfide Al_2S_3
- Name these cmpds:
  - Rb_2O Rubidium oxide
  - $CaBr_2$ calcium bromide
  - CsI cesium iodide

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Polyatomic ions

- Memorize:
  - Ammonium
  - Hydroxide
  - Cyanide
  - Nitrate
  - Carbonate
  - Sulfate
  - Phosphate
- Polyatomic ion quizzes begin:

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Ionic cmpds with polyatomic ions

- Compounds with polyatomic ions
  - Use () around polyatomic ion formula if you need more than one
- Write formulas for:
  - Sodium perchlorate
  - Calcium carbonate
  - Potassium chromate
  - Ammonium oxide
  - Magnesium hydroxide

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Ionic cmpds with polyatomic ions

- Compounds with polyatomic ions
  - Use () around polyatomic ion formula if you need more than one
- Write formulas for:
  - Sodium perchlorate $NaClO_4$
  - Calcium carbonate $CaCO_3$
  - Potassium chromate K_2CrO_4
  - Ammonium oxide $(NH_4)_2O$
  - Magnesium hydroxide $Mg(OH)_2$

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Cmpds with transition metals

- Ionic cmpds with transition metal ions
  - Transition metals can become more than one ion (like Sn^{2+} or Sn^{4+})
  - Need stock name with roman numeral parentheses
- Name these cmpds:
  - $Fe(OH)_2$
  - Cu_3PO_4
  - $Mn_2(CrO_4)_3$

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Cmpds with transition metals

- Ionic cmpds with transition metal ions
  - Transition metals can become more than one ion (like Sn^{2+} or Sn^{4+})
  - Need stock name with roman numeral parentheses
- Name these cmpds:
  - $Fe(OH)_2$ Iron (II) hydroxide
  - Cu_3PO_4 Copper (I) phosphate
  - $Mn_2(CrO_4)_3$ Manganese (III) chromate

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- Practice naming:
  - $LiHCO_3$ – Lithium hydrogen carbonate
  - $Mg(OH)_2$ – Magnesium hydroxide
  - $Cr(NO_3)_3$ – Chromium (III) nitrate
  - NaF – Sodium fluoride
  - Rb_3As – Rubidium arsenide
  - Na_3PO_4 – Sodium phosphate
  - $FeCl_3$ – Iron (III) chloride
  - $PbCr_2O_7$ – Lead (II) dichromate
  - Na_2SO_4 – Sodium sulfate

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Practice writing formulas:

- Tin (IV) chromate – $Sn(CrO_4)_2$
- Calcium dihydrogen phosphate – $Ca(H_2PO_4)_2$
- Ammonium silicate – $(NH_4)_2SiO_3$
- Beryllium acetate – $Be(C_2H_3O_2)_2$
- Strontium nitride – Sr_3N_2
- Tin (II) cyanide – $Sn(CN)_2$
- Lead (IV) phosphate – $Pb_3(PO_4)_4$
- Sodium hypochlorite – NaClO
- Zinc nitrite – $Zn(NO_2)_2$

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Ionic Compound Activity Rules

1. Find a partner with whom you can create an ionic compound
2. Write both the name and formula of this new compound
3. Switch cards
4. Find new partners
5. Repeat until you have X compounds

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