

T3: Ionic Names and Ionic Formulas

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Ionic compounds are created when non-metallic atoms borrow electrons from metallic atoms. The ions created attract each other electrostatically.

Naming Rule: Name the metallic element first followed by the non-metallic element that has its end removed and replaced by the suffix – ide.

| | | | | | |
|------------|-------------|----------|------------|---------|------------|
| Carbon | → Carbide | Nitrogen | → Nitride | Arsenic | → Arsenide |
| Phosphorus | → Phosphide | Bromine | → Bromide | Iodine | → Iodide |
| Oxygen | → Oxide | Fluorine | → Fluoride | Sulfur | → Sulfide |

Note: *The number subscripts are not included in the naming*, however, they identify how many of each element belongs in the compound.

1. Name the following ionic compounds:

1) CaCl_2 _____

2) Mg_3N_2 _____

3) BeBr_2 _____

4) Na_3P _____

5) LiCl _____

6) AgAs _____

7) MgO _____

8) AgBr _____

9) Ca_3N_2 _____

10) Al_4C_3 _____

11) HF _____

12) CaO _____

13) K_2S _____

14) Ag_3N _____

15) SrI_2 _____

Draw the Lewis dot diagrams for **Lithium** and **Fluorine**. Then write the ion charges of the elements to help figure out the Ionic Formula.

Draw the Lewis dot diagrams for **Magnesium** and **Chlorine**. Then write the ion charges of the elements to help figure out the Ionic Formula.

Draw the Lewis dot diagrams for **Calcium** and **Phosphorus**. Then write the ion charges of the elements to help figure out the Ionic Formula.

| Combining Elements | Ion symbol of metallic element | Ion symbol of non-metallic element | Name | Ionic Formula |
|-------------------------|--------------------------------|------------------------------------|-------------------|--------------------------------|
| Calcium and Phosphorous | Ca ²⁺ | P ³⁻ | Calcium Phosphide | Ca ₃ P ₂ |
| Magnesium and Oxygen | | | | |
| Beryllium and Sulfur | | | | |
| Sodium and Iodine | | | | |
| Lithium and Nitrogen | | | | |
| Barium and Chlorine | | | | |
| Magnesium and Fluorine | | | | |
| Calcium and Sulfur | | | | |
| Aluminum and Nitrogen | | | | |
| Potassium and Oxygen | | | | |
| Barium and Nitrogen | | | | |
| Calcium and Oxygen | | | | |
| Aluminum and Chlorine | | | | |