## Ion Puzzles

1. Cut out the ion pieces provided. Do not lose them.
2. Use your periodic table to determine the charge of the following ions.

| Ion Name | Charge | Ion Name | Charge | Ion Name | Charge | Ion Name | Charge |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | :--- |
| chloride |  | iron(II) |  | oxide |  | nitride |  |
| bromide |  | potassium |  | selenide |  | nitrate |  |
| sulfide |  | vanadium(V) |  | calcium | nitrite |  |  |
| copper(I) |  | vanadium(IV) |  | sodium |  | phosphide |  |
| copper(II) |  | gold(III) |  | strontium |  | phosphate |  |
| iron(III) |  | silver |  | barium |  | phosphite |  |
| lithium |  | fluoride |  | carbonate |  |  |  |
| iodide |  | permanganate |  | zinc |  | cyanide |  |

3. Use your ion pieces to make the following compounds. Glue the pieces onto the sheet provided. Each ionic compound must form a rectangle to be correct. You must write the ion name on each ion piece and name and the formula next to your compounds.

| Name | Formula | Name | Formula |
| :--- | :--- | :--- | :--- |
| sodium sulfide |  | zinc fluoride |  |
| iron(III) nitrate | barium phosphite |  |  |
| vanadium(IV) oxide |  | gold(III) permanganate |  |
| vanadium(V) oxide |  | potassium phosphate |  |
| silver phosphide | lithium carbonate |  |  |
|  | CuO |  | $\mathrm{V}\left(\mathrm{NO}_{3}\right)_{5}$ |
|  | Cu |  | $\mathrm{V}\left(\mathrm{NO}_{3}\right)_{4}$ |
| calcium phosphate |  | zinc oxide |  |

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| ---: | ---: | ---: | ---: | ---: | ---: | ---: | :--- |
| chloride |  | iron(II) |  | oxide |  | nitride |  |
| bromide |  | potassium |  | selenide |  | nitrate |  |
| sulfide |  | vanadium(V) |  | calcium | nitrite |  |  |
| copper(I) |  | vanadium(IV) |  | sodium |  | phosphide |  |
| copper(II) |  | gold(III) |  | strontium |  | phosphate |  |
| iron(III) |  | silver |  | barium |  | phosphite |  |
| lithium |  | fluoride |  | carbonate |  |  |  |
| iodide |  | permanganate |  | zinc |  | cyanide |  |

3. Use your ion pieces to make the following compounds. Glue the pieces onto the sheet provided. Each ionic compound must form a rectangle to be correct. You must write the ion name on each ion piece and name and the formula next to your compounds.

| Name | Formula | Name | Formula |
| :--- | :--- | :--- | :--- |
| sodium sulfide |  | zinc fluoride |  |
| iron(III) nitrate | barium phosphite |  |  |
| vanadium(IV) oxide |  | gold(III) permanganate |  |
| vanadium(V) oxide |  | potassium phosphate |  |
| silver phosphide | lithium carbonate |  |  |
|  | CuO |  | $\mathrm{V}\left(\mathrm{NO}_{3}\right)_{5}$ |
|  | Cu |  | $\mathrm{V}\left(\mathrm{NO}_{3}\right)_{4}$ |
| calcium phosphate |  | zinc oxide |  |


| 1+ | 1+ | 1+ |
| :---: | :---: | :---: |
| 1+ | 1+ | 1+ |
| 1+ | 1+ | 1+ |
| 1+ | 1+ | 1+ |
| 1+ | 1+ | 1+ |
| 1+ | 1+ | 1+ |
| 1- | 1- | 1- |
| $1-$ | 1- | 1- |
| $1-$ | 1- | $1-$ |
| 1- | 1- | 1- |
| $1-$ | 1- | 1- |
| 1- | 1- | 1- |







