**Naming Monatomic Ions**

**Ion:**

* **This particle is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Uneven number of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**
* **Ions with a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_are named cations and ions with a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_are named anions.**

**Ionic Compound is a bond between \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

* **Electrons are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

**Metals form a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ions by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ an electron.**

* Metals have **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** valence electrons. Its “easier” to **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** to be stable.
* If the valence electrons are given away, there is a stable shell below.

**If an atom looses electrons:**

There are more protons than electrons.

The atom is then positively charged

Positively charged atoms are called cations.

**If an atom gained electrons:**

There are more electrons than protons.

The atom is then negatively charged

Negatively charged atoms are called anions.

**Non-metals form a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ions by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ an electron.**

* Non-Metals have **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** valence electrons. Its “easier” to **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** electrons to be stable.
* Electrons are gained until there is a stable shell below.

**Anions**

**[Stem of element name]+”ide”**

*Ex:*

* Anions are always written\_\_\_\_\_\_\_\_\_\_ in the formula or name.
* Anions have\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_at the end of the root of the element’s name.

**Cations**

**[Element Name] “Ion”***Ex:*

* Cations have \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ as a second word after the name of the element

**Oxidation Values**

* Valence Electrons are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Electrons lost causes a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Electrons gained causes a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Transition Metals**

* Elements with more than one\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_, use \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ within parentheses.
* The number within the \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_ is equal to the \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_ of the element.
* Transition metals are a sub category of \_\_\_\_\_\_\_\_\_\_\_\_\_; therefore their charge is always \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_.

**Naming Monatomic Ions**

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* **This particle is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Uneven number of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**
* **Ions with a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_are named cations and ions with a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_are named anions.**

**Ionic Compound is a bond between \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

* **Electrons are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

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**If an atom looses electrons:**

There are more protons than electrons.

The atom is then positively charged

Positively charged atoms are called cations.

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There are more electrons than protons.

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**Non-metals form a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ions by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ an electron.**

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* Electrons are gained until there is a stable shell below.

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**[Stem of element name]+”ide”**

*Ex:*

* Anions are always written\_\_\_\_\_\_\_\_\_\_ in the formula or name.
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* Transition metals are a sub category of \_\_\_\_\_\_\_\_\_\_\_\_\_; therefore their charge is always \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_.

**Oxidation Rules**

* The oxidation number of a monatomic ion is the same as its charge. For example, the oxidation number of Na+ is +1, and that of S-2 is –2.
* In binary compounds, a compound composed of two different elements, the element with greater electronegativity is assigned a negative oxidation number equal to its charge in simple ionic compounds of the element.
* The sum of the oxidation numbers is zero for an electrically neutral compound. For example, water has no overall charge.
* All halogens, besides fluorine, have a –1 oxidation number in compounds, except when with oxygen or other halogens where their oxidation numbers can be positive.
* Hydrogen is always assigned a +1 oxidation number in compounds, except when it is in a hydride form, where its charge is –1.
* Alkali metals exhibit only an oxidation state of +1 in compounds.
* Alkaline earth metals exhibit only an oxidation state of +2 in compounds.
* Fluorine always has a -1 oxidation number within compounds.

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