Name: Date:

**Chemistry: Elements**

**Text pages**: *pgs 42 to 47 (Section 2.1)*

**Purpose:** To learn about elements and their chemical symbols.

* **Elements:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	+ about \_\_\_\_\_ occur naturally and are listed on the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_

**Chemical symbol**s

* Names are based on different languages such as \_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* **Chemical symbol**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**.
	+ represented by one or two \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
		- If only one letter, it is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
		- If two letters, the first is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and the second is \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_.

**A tour of some common elements**

* Elements have a variety of physical and chemical properties.
* **Physical properties**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

ex. \_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* **Chemical properties**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	+ ex**. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Name: Date:

**Chemistry: The Periodic Table & Chemical Properties**

* **Text pages**: *pgs 52 to 59 (Section 2.2)*
* **Purpose:** To learn about elements and their chemical symbols.

The Periodic Table gives the following 5 pieces of information for each element:

* 1. **\_\_\_\_\_\_\_\_\_\_\_**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* 1. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
	2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* **ion**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	+ - **negative ion**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
			* What group forms negative ions and how? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* + - **positive ion**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
			* What group forms postive ions and how? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| Ex. OxygenATOM ION\_\_\_\_ p+ \_\_\_ p+\_\_\_\_ e- \_\_\_\_e- | Ex. SodiumATOM ION\_\_\_\_ p+ \_\_\_ p+\_\_\_\_ e- \_\_\_\_e- |

* **multiple ion charge**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

their most common ion charge is the \_\_\_\_\_ one on the periodic table.

Ex. Copper

**Periods and Families**

* **period**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

numbered from \_\_\_\_ to \_\_\_\_.

* **chemical family** or **group**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

elements in the same family have \_\_\_\_\_\_\_\_\_\_ physical and chemical properties.

numbered from \_\_\_\_ to \_\_\_\_\_.

**Four well-known chemical families/groups:**

1. **Alkali metals (Group 1):** (Li, Na, K, Rb, Cs, Fr)
* ion charge = \_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_ reactive metals
	+ - * + reactivity \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ as you go down the column
* react with both \_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_; can be cut with a knife

1. **Alkaline earth metals (Group 2):** (Be, Mg, Ca, Sr, Ba, Ra)
* ion charge = \_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_ reactive than alkali metals.
* will \_\_\_\_\_\_\_\_\_\_ in air if heated
* used for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* react with \_\_\_\_\_\_\_\_\_\_\_\_\_\_
1. **Halogens (Group 17):** (F, Cl, Br, I, At)
* ion charge = \_\_\_\_\_\_\_
* \_\_\_\_\_\_-metals
* \_\_\_\_\_\_\_\_\_\_\_\_ reactive
	+ - reactivity \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ as you go down the column
* F and Cl are \_\_\_\_\_\_\_\_\_\_\_ at room temperature, Br is \_\_\_\_\_\_\_\_\_\_ at room temperature and I is \_\_\_\_\_\_\_\_\_\_.

1. **Noble gases (Group 18):** (He, Ne, Ar, Kr, Xe, Rn)
* do not form ions, so ion charge = \_\_\_\_\_\_\_
* most \_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ elements
* at room temperature, they are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ gases.