

Color Coding the Periodic Table

The periodic table organizes the elements in a particular way. A great deal of information about an element can be gathered from its position in the periodic table. For example, you can predict with reasonably good accuracy the physical and chemical properties of the element. You can also predict what other elements a particular element will react with chemically. Understanding the organization and plan of the periodic table will help you obtain basic information about each of the 118 known elements.

Key to the Periodic Table

- Elements are organized on the table according to their atomic number, usually found near the top of the square.
- The atomic number refers to how many protons an atom of that element has.

Atomic Number: This refers to how many protons an atom of that element has.

Atomic Mass: Atomic Mass refers to the “weight” of the atom. It is derived at by adding the number of protons with the number of neutrons.

Elements in the periodic table are also grouped into families, which are the columns. Elements in families have similar properties. The elements are also categorized into periods or horizontal rows. Elements in periods do not have similar properties.

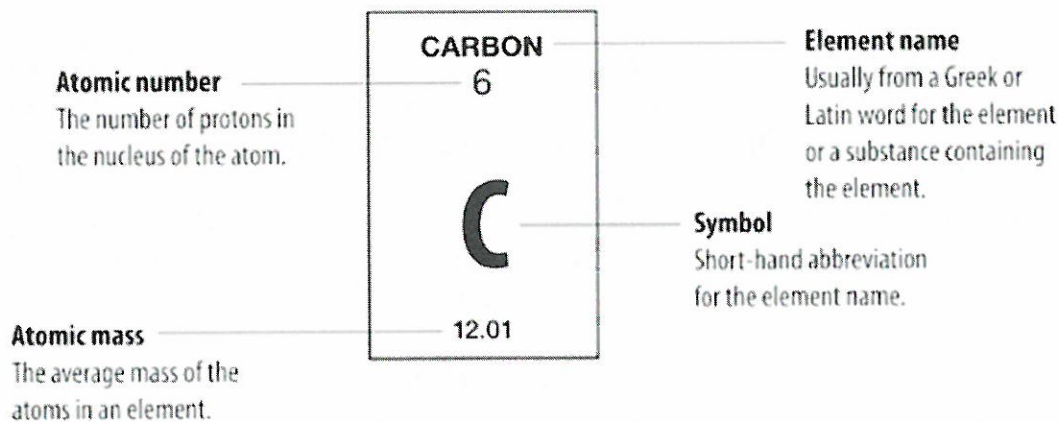
This worksheet will help you understand how the periodic table is arranged. Using your copy of the periodic table, and colored pencils or crayons, color each family on the table and its corresponding box on the key at the top as follows:

1. Color the square for Hydrogen pink (Element #1 in Family 1).
2. Color the rest of Family 1 yellow. These are the **Alkali Metals**.
3. Color Family 2 green. These are the **Alkaline Earth Metals**.
4. Color Family 3 – 12 blue. This does NOT include the 2 boxes between families 2 and 3 or the 2 periods at the bottom. Also, color elements with the atomic number 13, 31, 49, 50, 81, 82, 83, 84, 113, 114, 115, and 116 blue. You should have 51 boxes colored blue. These are **Transition Metals**.
5. Color elements with the atomic numbers 57 – 70 and 89 – 102 and the two boxes labeled as such between families 2 and 3 gray. These are **Other Metals**.
6. Color elements with the atomic numbers 5, 14, 32, 33, 51, 52, and 85 purple. This should make a zigzag line next to the transition metals (blue). These are the **Metalloids**.
7. Color elements with the atomic number 6, 7, 8, 15, 16, and 34 orange. These are the **Nonmetals**.
8. Color Family 17 brown. These are the **Halogens**.
9. Color Family 18 green. These are the **Noble Gasses**.

When you are finished, make sure you have completed the key at the top of the chart to match what you have color-coded and answered the questions on the back of the table. Turn in your periodic table and keep these directions in your binder.

Periodic Table Basics and Vocabulary

- Elements on the periodic table can be grouped into families based on their **chemical** properties.
- Each family has a **specific name** to differentiate it from the other families in the periodic table.
- Elements in each family **react** differently with other elements.



- **Family**- each column on the periodic table (up and down). Each family is labeled by a number printed at the top of each column (1-16).
- **Period**- each row of the periodic table (left to right).