Date: _____

THE PERIODIC TABLE

Introduction

Chemical elements are shown in the Periodic Table. In this activity, you will learn the different groups and periods of these elements.

Objectives

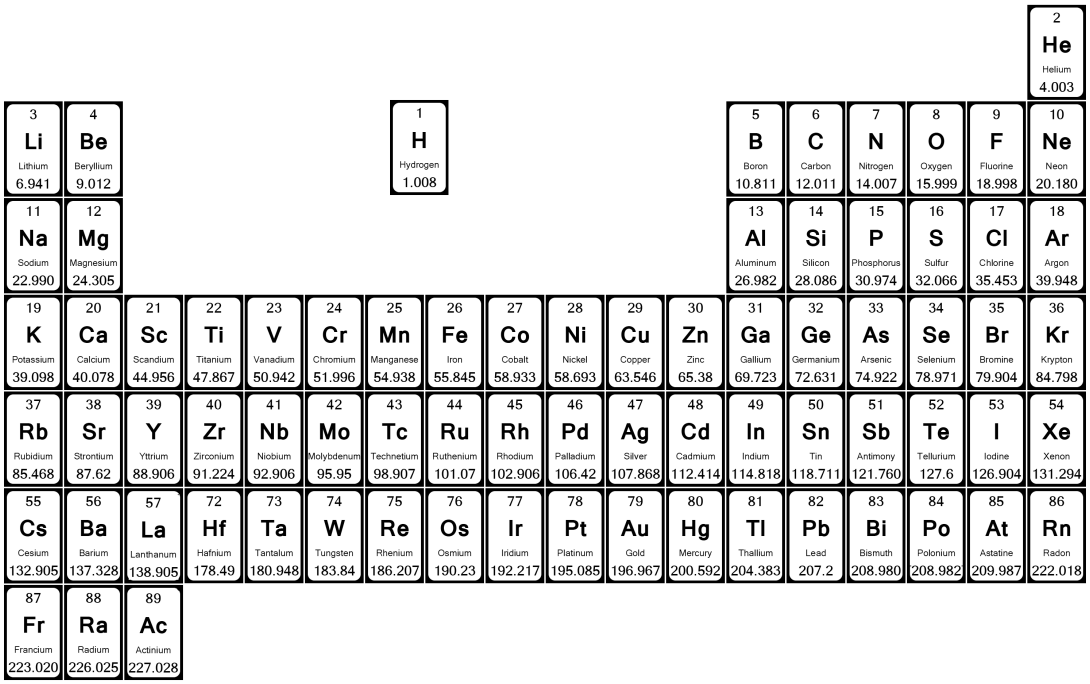
Here are your objectives for this activity:

- ✓ Identify the classifications of elements
- ✓ Answer questions about the properties of elements found on the Periodic Table
- ✓ Observe patterns on the behaviour of element groups and period
- ✓ Be familiar with the International Union of Pure and Applied Chemistry (IUPAC) terminology

Exercise

1. Below is the Periodic Table of Elements. Using different shades, colour and label the following groups of elements:

a. Group 1 - The alkali metals
b. Group 2 - The alkali earth metals
c. Group 7 - Halogens
d. Group 0 - The noble gases



All Rights Reserved © Boost Education

Date: _____

2. Draw a stepped line to separate the metals from the non-metals and label each group.

3. Draw an arrow pointing to the stepped line and write the note, 'Metalloids can be found on both sides of this line.'

Answer these questions:

1. Compare metals and non-metals in terms of:

   a. Physical appearance, state, and material behaviour when you hammer it
   b. Densities and melting points
   c. Electrical and heat conduction

2. The number below the names of each element is called the atomic mass. Analyse the following statements and fill each blank with **'increases'** or **'decreases'** on the blank to make each statement correct.

   a. The atomic mass _____ as you move down a group.
   b. The atomic mass _____ by one as you move across a period.
   c. The atomic mass _____ by one as you move down a group.
   d. The atomic mass _____ as you move across a period.

3. Beryllium, magnesium, and calcium are the first three elements in Group 2. They make nitride when they all react with nitrogen. Given this information, what substance is created when strontium reacts with nitrogen? Explain.

4. What property classification is discussed in Question 3?

5. If the Boron's density is 2.08 g/cm^3 and Aluminium's density is 2.70 g/cm^3, what could be the density of gallium? Explain.

6. What property classification is discussed in Question 4?

7. Dmitri Mendeleev made predictions about undiscovered elements. One of these is gallium which he originally called 'eka-aluminium'. What could be his reason for giving this undiscovered element this name? Look at the Periodic Table for a hint.

All Rights Reserved © Boost Education