UNIT 3 – ATOMS, ELEMENTS, MOLECULES

L12: Breaking the Code

GUIDING QUESTION: EXPLAIN HOW PERIODIC TRENDS ON THE TABLE ALLOW FOR THE PREDICTION OF AN ELEMENT'S PROPERTIES RELATIVE TO OTHER ELEMENTS ON THE PERIODIC TABLE.

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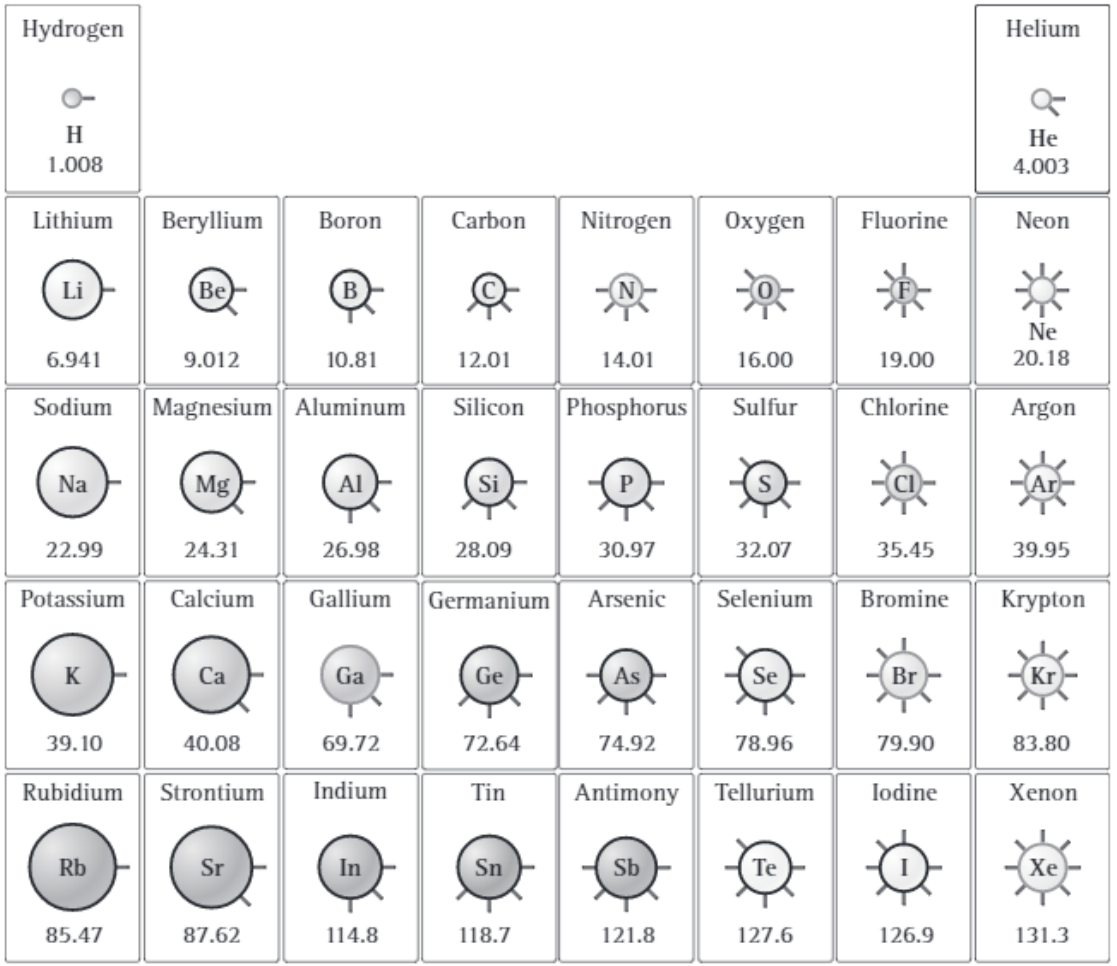
Do Now: The atomic mass of silver is 107.9 amu. The atomic mass of gold is 197.0 amu. Where would you place these elements in the periodic table you created yesterday?



NOTES

There are horizontal patterns on the table (from left to right):

- Atomic Number: The number increases as you go across.
- Atomic Radius: the radius of the circle decreases as you go across the rows.
- Valence Electrons : the number of valence electrons increases by one as you go across the table, then this pattern repeats in the next row. ●Chemical Formula: formula for the compound in the lower right corner increases by one chlorine from column one to column three. Then the chemical formula or the compound decreases by one hydrogen (from four to zero) over the next five columns.

NOTES

There are vertical patterns on the table (from top to bottom):

- Mass Number: the number on the cards increases as you go down.
- Elemental Properties: The elements in each vertical column are color-coded the same.
- Reactivity: As you go down a column, the shading becomes darker if the reactivity increases or lighter if the reactivity decreases.
- Valence Electrons: The elements within each column have the same number of valence electrons.
- Atomic Radius: The radius increases as you go down a column.
- Malleability: the softness of the metals increases as you down

CLOSURE

- Respond to Guiding Question
- Cross of Entire Notes page on page 18
- Achieve 3000: Throw Old Computers in the Trash? No Way! due Friday 12/8 at 11:59pm