Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Homeroom: \_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_**3.8**

**Trends in the Periodic Table (SPI.9.9)**

|  |  |
| --- | --- |
| ***Key Point*** | ***Notes*** |
| **Identifying Trends** | Based on the information from my catalyst questions, I predict the following trends in the periodic table:* The **atomic number** of elements in the periodic table (increases/decreases) as you move from right to left across a period and (increases/decreases) as you move from top to bottom down a group.
* The **atomic mass** of elements in the periodic table (increases/decreases) as you move from right to left across a period and (increases/decreases) as you move from top to bottom down a group.
 |
| **Trend in Atomic Number (# of protons, # of electrons)** | * The periodic table is organized in order of increasing atomic \_\_\_\_\_\_\_\_\_\_! Therefore, atomic number will \_\_\_\_\_\_\_\_\_ as you move from left to right across a period and as you move from top to bottom down a group.
* We also know that the atomic number is exactly \_\_\_\_\_\_\_\_ to the number of protons so the trend for protons will be the same
* In a neutral atom, the number of protons equals the number of \_\_\_\_\_\_\_\_, so the trend for electrons will be the same as well

   |
| **Trend in Atomic Mass** | * Atomic mass is equal to the number of protons \_\_\_\_\_ the number of neutrons in the atom of an element
* We can think of atomic mass of how *heavy* a substance is
* Since the number of protons is increasing across and down the periodic table, the atomic mass is generally going to \_\_\_\_\_\_\_\_\_\_ as well
* Therefore, elements get \_\_\_\_\_\_\_\_\_\_\_\_ as you move from left to right across a period and as you move from top to bottom down a group

  |
| **Trend in # of Neutrons** | * # of neutrons = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* As a result of the atomic mass and atomic number increases, the number of neutrons will generally increase as well as you move across a period from left to right and as you move down a group

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**“I Own This”**

*Work on your “Hard Work” Study Guide RAFT. You should complete the following:*

☐ Draw the trends we went over in class (*show how these increase/decrease from right to left across a period and increase/decrease from top to bottom down a group)*:

 ☐Atomic number

 ☐# of protons

 ☐# of electrons

☐Atomic mass number

 ☐# of neutrons

☐ Write a minimum of **one complete sentence including an explanation** explaining each of the trends. (Ex: The number of protons increases in the elements of the periodic table as you move from left to right across a period and top to bottom as you move down a group *because* the atomic number increases and the atomic number represent the number of protons in the atom of an element.

☐Atomic number

 ☐# of protons

 ☐# of electrons

☐Atomic mass number

 ☐# of neutrons