Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Homeroom: \_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_ **2.3**

**Elements Homework (SPI.9.3)**

**Part I: Defining ‘Element’**

1. What is an element?
2. Give three examples of elements.
3. Where is an organized list of the elements found?
4. What is the name of the symbol that is used to describe an element?
5. What subatomic particle determines the ***atomic number*** of an element?
6. How do you find the number of protons in an element using the Periodic Table?
7. In a neutral atom, the number of protons equals the number of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
8. (True/False) Two atoms of magnesium (Mg) may have a different number of protons in their nucleus.
9. (True/False) The number of protons in an atom’s nucleus can change.
10. (True/False) The number of electrons an atom has can change.

**Part II: Identifying Elements by Formulas**

*Put a check (*✔*) next the following chemical symbols that are used to identify an* ***element****:*

1. Ne
2. Na
3. Cl
4. H2O
5. CO2
6. NaCl
7. CO
8. CO2
9. HCl
10. O2
11. Ir
12. Fe2O3
13. KF
14. H2SO4

**Part III: Bohr Models**

1. Fill in the following table with the maximum number of electrons each energy level holds.

YOU MAY **NOT** *OVERLOAD* ANY ENERGY LEVEL WITH ELECTRONS

|  |  |
| --- | --- |
| **ENERGY LEVEL** | **MAX # of ELECTRONS** |
| 1 |  |
| 2 |  |
| 3 |  |

*Using the Bohr model to the right, answer questions 2-6.*

**15 p**

**16 n**

2. How many protons are in this atom? \_\_\_\_\_

3. How many electrons are in this atom? \_\_\_\_

4. How many neutrons are in this atom? \_\_\_\_

5. What element is this? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. How did you know?

7*.* What is wrong with the Bohr model to the left?

12P

10N

8. How could you fix it?

1. Draw a model of an atom of Lithium (Li). It has 4 neutrons.
2. Draw a model of an atom of Hydrogen (H). It has 1 neutron.
3. BEAST QUESTION: How many *neutrons* are there in phosphorus (P)?

**YOU WILL HAVE AN EXIT TICKET TOMORROW ON ELEMENTS AND COMPOUNDS, SO MAKE SURE YOU ARE PREPARED!**