|  |
| --- |
| 3  Li  2s1 |
| 11  Na  3s1 |
| 19  K  4s1 |
| 37  Rb  5s1 |
| 55  Cs  6s1 |
| 87  Fr  7s1 |

**Chemistry Review Notes**

*Protons are make up a large part of the mass of an atom and are found in the nucleus of the atom. You can find out how many protons an atom has by looking at the periodic table.*

1. How many protons does lithium (Li) have? \_\_\_\_\_\_\_\_\_\_\_\_
2. How many protons does sodium (Na) have? \_\_\_\_\_\_\_\_\_

*Atoms (by themselves) are neutrally charged, meaning they have the same amount of + (positive) charge as – (negative) charge. Since protons have a + charge, there must be something in the atom to balance out the charge. Electrons have a –charge.*

1. How many electrons does lithium (Li) have? \_\_\_\_\_\_\_\_\_\_
2. How many electrons does sodium (Na) have? \_\_\_\_\_\_\_\_\_
3. Draw the following table into your journal. Use a straight edge for the lines, and leave at least 4-5 lines for each Bohr model. **Then, complete the table**. In the model be sure to include the correct number of protons (p+) and electrons (e-).

|  |  |  |  |
| --- | --- | --- | --- |
| **Chemical Name** | **Bohr Model** | **# of valence electrons** | **Dot diagram** |
| Sodium (Na) |  |  |  |
| Chlorine (Cl) |  |  |  |
| Calcium (Ca) |  |  |  |
| Sulfur (S) |  |  |  |
| Oxygen (O) |  |  |  |
| Hydrogen (H) |  |  |  |
| Carbon (C) |  |  |  |
| Potassium (K) |  |  |  |

*Losing, gaining, and sharing electrons are the means by which atoms become stable and form chemical bonds.*

* *When electrons are exchanged (gained or lost), then the chemical bond is called ionic. In ionic bonds the compound as a whole is neutral, but the individual elements within the compound have a charge (either + or-).*
* *When electrons are shared between elements the chemical bond that is formed is called covalent. Since the elements within the compound neither gain nor lose electrons, they do not have charges, rather they are neutral.*

1. Using the dot diagrams and Bohr model you made above, show how the following elements form **ionic bonds**.

**NaCl CaS KCl**

1. Using the dot diagrams and Bohr model you made above, show how the following elements form **covalent bonds**.

**CH4 H2O N­2**

|  |
| --- |
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| 19  K  4s1 |
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