**Chemical Bonds – Ionic Bonds**

1. **Identify the *Number of Valance Electrons* and *Draw the Lewis Dot Structure***

Notes: Scientists use *Lewis Dot Structures* to show the valance electrons of an element as dots. Since bonding involves the valance shell electrons only, it is only necessary to illustrate those outer electrons.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Bohr Diagram** | **Group Number (PT)** | **# of Valance Electrons** | **Lewis Dot Structure** |
| Calcium |  |  |  |  |
| Carbon |  |  |  |  |
| Hydrogen |  |  |  |  |
| Helium |  |  |  |  |
| Oxygen |  |  |  |  |
| Fluorine |  |  |  |  |
| Neon |  |  |  |  |
| Sodium |  |  |  |  |
| Aluminum |  |  |  |  |

**Determining the Ionic Charge**

|  |  |  |  |
| --- | --- | --- | --- |
| **Element** | **Property** | **Before Making an Octet** | **After Making an Octet** |
| **Li** | **electron config** |  |  |
| **# protons** |  |  |
| **#electrons** |  |  |
| **charge** |  |  |
| **Bohr Diagram** |  |  |
| **Lewis Dot Structure** |  |  |
| **Be** | **electron config** |  |  |
| **# protons** |  |  |
| **#electrons** |  |  |
| **charge** |  |  |
| **Bohr Diagram** |  |  |
| **Lewis Dot Structure** |  |  |
| **B** | **electron config** |  |  |
| **# protons** |  |  |
| **#electrons** |  |  |
| **charge** |  |  |
| **Bohr Diagram** |  |  |
| **Lewis Dot Structure** |  |  |

Skip Carbon

|  |  |  |  |
| --- | --- | --- | --- |
| **N** | **electron config** |  |  |
| **# protons** |  |  |
| **#electrons** |  |  |
| **charge** |  |  |
| **Bohr Diagram** |  |  |
| **Lewis Dot Structure** |  |  |
| **O** | **electron config** |  |  |
| **# protons** |  |  |
| **#electrons** |  |  |
| **charge** |  |  |
| **Bohr Diagram** |  |  |
| **Lewis Dot Structure** |  |  |
| **F** | **electron config** |  |  |
| **# protons** |  |  |
| **#electrons** |  |  |
| **charge** |  |  |
| **Bohr Diagram** |  |  |
| **Lewis Dot Structure** |  |  |
| **Ne** | **electron config** |  |  |
| **# protons** |  |  |
| **#electrons** |  |  |
| **charge** |  |  |
| **Bohr Diagram** |  |  |
| **Lewis Dot**  |  |  |