Atomic Structure

1. Atomic Number is the same as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Atoms overall have a \_\_\_\_\_\_\_\_\_\_\_\_\_ charge because the number of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ equals the number of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. Mass Number/Atomic Mass = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   1. If you have the mass how do you get the number of neutrons?
4. Define 1 amu:
5. For Oxygen-18
   1. Atomic Number\_\_\_\_
   2. Atomic Mass\_\_\_\_
   3. Protons \_\_\_\_
   4. Neutrons \_\_\_\_
   5. Electrons \_\_\_\_
   6. Valence Electrons \_\_\_\_
   7. Write this element in symbol notation
6. Electrons in the outermost energy level are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ electrons.

Periodic Table

1. Term for a Row:
2. Term for a Column:
3. Elements in the same group have similar \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ because they have the same number of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Name the element in Group 6A Period 4:
5. Group Names
   1. Group 1A:
   2. Group 2A:
   3. Group 7A:
   4. Group 8A:
   5. B Groups:
   6. What’s the least reactive group? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Least Reactive Metals \_\_\_\_\_\_\_\_\_\_\_ Least Reactive Nonmetals \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. Types of Elements
   1. Metals
      1. On the \_\_\_\_\_\_\_\_\_ side of the table
      2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Melting and Boiling Points
      3. Usual state:
      4. Brittle OR Ductile and Malleable?
      5. High Luster/Lustrous meaning they are \_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. Nonmetals
      1. On the \_\_\_\_\_\_\_\_\_ side of the table
      2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Melting and Boiling Points
      3. Usual state:
      4. Brittle OR Ductile and Malleable?
   3. Metalloids
      1. Touch the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ on the table
      2. Name the two in Group 4A:

Draw a Bohr Diagram for elements 3, 7, 10, and 13:

Draw a Lewis Structure/Electron Dot Diagram for elements 2, 5, 9, and 18:

Periodic Trends

1. Decreases as you move UP and to the RIGHT on the Periodic Table
   1. Which has a bigger radius? N or O K or Na Br or Cl Ga or S
   2. Which has a bigger radius? N or N3- K or K+
   3. Which has a bigger Ionization Energy? N or O K or Na Br or Cl Ga or S
   4. Which has a bigger Electronegativity? N or O K or Na Br or Cl Ga or S
   5. Define Electronegativity:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Name of element | Isotope Symbol | Atomic Number | Mass Number | Number of protons | Number of Electrons | Number of Neutrons |
|  | 12  C  6 |  |  |  |  |  |
| Helium-4 |  |  |  |  |  |  |
|  |  |  |  | 30 |  | 35 |
| Gold-197 |  | 79 |  |  |  |  |
|  | 16  O  8 |  |  |  |  |  |
|  |  |  | 207 | 82 |  |  |
|  |  |  |  |  | 19 | 20 |