**Unit 2: Extra Practice**

**I. Basic Atomic Structure:**

I will give you information in the column on the left. You tell me if that information deals with the proton, neutron, or electron. Just write YES if it deals with that particle. The top 2 are done as examples…

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Proton** | **Neutron** | **Electron** |
| Has a positive charge | **YES** |  |  |
| Makes up the 99.99999% of the mass of an atom | **YES** | **YES** |  |
| Organized into shells or orbitals |  |  |  |
| Found in the nucleus |  |  |  |
| Defines the element |  |  |  |
| Has a negative charge |  |  |  |
| Changing the number of these means that we are dealing with isotopes |  |  |  |
| Mass of 1 AMU |  |  |  |
| Changing the number of these gives the atom a positive or negative charge |  |  |  |
| Found in the electron cloud |  |  |  |
| Has no charge |  |  |  |
| Equal to the number of protons in a NEUTRAL atom |  |  |  |
| These plus protons provide you the atomic mass of an atom |  |  |  |
| Travel in **orbits** around the nucleus |  |  |  |
| Travel in **orbitals** around the nucleus |  |  |  |

**II. Isotopes and Ions**

Fill in the blanks on the image….

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**III. Models:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Element** | **Symbol** | **# of electrons** | **# of VALENCE electrons** | **Lewis Dot** | **Bohr Model** |
| **Magnesium** |  |  |  |  |  |
| **Sulfur** |  |  |  |  |  |
| **Boron** |  |  |  |  |  |
| **Argon** |  |  |  |  |  |
| **Nitrogen** |  |  |  |  |  |

**VI. Atomic Particle Charts – Fill in the table below**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Substance** | **Symbol** | **Atomic Number** | **Mass Number** | **Number of Protons** | **Number of Neutrons** | **Number of Electrons** | **Neutral atom, cation, or anion** | **Write the Isotope/Ion Notation** |
| Aluminum - 27 | Al-1 | 13 | 27 | 13 | 14 | 14 | -1 anion | 1327Al-1 |
| Iodine - 125 |  |  |  |  |  | 54 |  |  |
|  |  | 15 |  |  | 16 |  |  |  |
|  | Ar |  | 40 |  |  |  | Neutral |  |
|  |  |  |  |  |  |  |  | 1939 K +1 |
|  |  |  |  | 28 | 31 |  |  |  |
|  |  | 4 | 9 |  |  |  |  |  |
| Magnesium - 26 |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  | 18 | +2 cation |  |
| **Substance** | **Symbol** | **Atomic Number** | **Mass Number** | **Number of Protons** | **Number of Neutrons** | **Number of Electrons** | **Neutral atom, cation, or anion** | **Write the Isotope/Ion Notation** |

**HONORS ONLY:**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Electron Configuration** | **Orbital Diagram** | **Unpaired Electrons** |
| **He** |  |  |  |
| **Li** |  |  |  |
| **C** |  |  |  |
| **Na** |  |  |  |
| **P** |  |  |  |
| **Ca** |  | Don’t worry about this… | Don’t worry about this… |
| **Br** |  | Don’t worry about this… | Don’t worry about this… |
| **Ba** |  | Don’t worry about this… | Don’t worry about this… |