**Unit 1 – Atomic Structure Review Assignment**

**Instructions**: Use the class website ([**www.nsdscience.weebly.com**](http://www.nsdscience.weebly.com)) and any other online resource to complete the following questions and prompts. Use complete sentences for all solutions and answers. Do NOT copy and paste material as your written answers. You may however copy/paste images and graphs to support your explanations and descriptions. Show all equations, and work (including units) for any math problem.

1. **Learning Target 1.1** – Know the fundamental particles (proton, neutron, electron) including their charge, location, and purpose.
   1. Complete the following table for the three subatomic particles that make up atoms.

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| --- | --- | --- | --- |
| **Particle** | **Charge** | **Location** | **Purpose/Function** |
|  |  |  |  |
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1. **Learning Target 1.2** – Identify & describe isotopes using mass #, atomic #, & isotope notation.
   1. What is an isotope?
   2. What does the atomic number of an atom tell us?
   3. What is the difference between Average Atomic Mass & The Mass Number?
   4. Draw and label an isotope notation symbol for a neutral carbon atom with a mass number of 14.
   5. Take the subatomic particles practice quiz here: [**https://tinyurl.com/mu6ltnj**](https://tinyurl.com/mu6ltnj)
      1. Click “here to take test”.
      2. Record you score here: \_\_\_\_\_\_\_\_\_\_\_\_
2. **Learning Target 1.3** – Be able to identify/describe ions and be able to calculate their charge.
   1. What is the difference between an Atom and an Ion?
   2. Which two subatomic particles are responsible for the charge on an ion?
   3. How does an atom become a negative ion?
      1. What is a synonym for negative ion?
   4. How does an atom become a positive ion?
      1. What is a synonym for positive ion?
   5. What is the overall charge for the following ions.
      1. An ion with 24 protons and 27 electrons.
      2. An ion with 12 protons and 11 electrons.
3. **Learning Target 1.4** – Use the periodic table to determine the average atomic mass, chemical name, atomic number, chemical symbol, the number of protons, neutrons, electrons (including total and valence electrons).
   1. Draw and label any “square” from the periodic table.
   2. How does one determine the number of protons for an atom?
      1. How many protons does Xenon have?
      2. How many protons does Titanium have?
   3. How does one determine the number of electrons for a neutral atom?
   4. How does one determine the number of neutrons for an atom?
   5. How does one determine the number of valence electrons for an atom?
      1. How many valence electrons does Calcium have?
      2. How many valence electrons does Iodine have?
   6. Use the following link to practice reading the periodic table: **https://tinyurl.com/y8d574q2**
      1. Record your score here: \_\_\_\_\_\_\_\_\_\_\_\_
4. Vocabulary Review: [**https://quizlet.com/\_60zw3m**](https://quizlet.com/_60zw3m)