Atomic Structure & Measurement Considerations

By test time I should be able to…

1. locate and describe the three parts of an atom.

2. know what an isotope is and write a symbol for an isotope.

3. determine atomic number, mass number, and number of protons, neutrons, and electrons if given an isotope symbol.

4. calculate the atomic weight for an element if given the number of isotopes for that element, the mass of the isotopes and the percent abundance for each isotope.

5. explain the progression of how we view the atom from John Dalton all the way until the modern Wave Mechanical Model.

6. understand what energy levels are and how they relate to the energy and distance an electron is from the nucleus of an atom.

7. explain the colored light given off by fireworks on the atomic level and know the difference between an atom at ground state and excited state.

8. relate the amount of energy released by an atom to the color of light the atom produces in the visible spectrum.

9. solve for the energy emitted by a photon by manipulating algebraic formulas.

10. carry out unit conversions for a given measurement.

11. measure with the correct level of precision and accuracy based on the measuring tools available to me.

12. record measurements with the proper uncertainty and units.

13. determine the number of significant figures present in a measurement.

14. - calculate an experimental result using measurements and round that result to the proper number of significant figures.