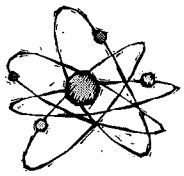
✶✶✶3D Atom Model is due: Monday, March 6, 2017✶✶✶

3D Atomic Model



This is a project used to demonstrate students understanding of the structure of an element. Students should have a working knowledge of the structure of the atom, including atomic number, atomic mass, and electron configuration.

Atom Model Project Directions:

1. From your element cube, determine the electron configuration. Most elements have several isotopes with different mass numbers. Remember, isotopes have the same number of protons and electrons, but different numbers of neutrons, so the mass numbers (protons + neutrons) of the isotopes will be different. The electron configuration (number of electrons in each energy level) of all of the isotopes will be the same. This information can be found at the following web sites:

   www.chemicalelements.com www.webelements.com http://periodic.lanl.gov/

2. **Construction of 3-Dimensional model. Requirements:**
   - *The 3D model needs to hang or stand by itself.*
   - *Size should not exceed 18 inches wide or high.*
   - *It is encouraged to use cheap, easy to find materials such as wire, Styrofoam balls, or beads; no perishable food, but candy is acceptable.*
   - *The protons, neutrons, and electrons should be color coded, and a key should be included on the label.*
   - *Build the nucleus showing the actual number of protons and neutrons for smaller atoms. For atoms with a large number of protons and neutrons, you don't need to use the exact number. You may glue protons and neutrons onto the surface of a Styrofoam or other type of ball to give the appearance of a larger nucleus. The protons should be evenly mixed with the neutrons.*
   - *Your model should have the correct number of energy levels, and the correct number of electrons in each energy level. Electrons repel each other, so the electrons in each energy level should be evenly distributed.*
   - *You may not use a store bought model*

3. **Labels/Color Coded Key**

Neatly write or type the following information:

a) Your name and hour
b) Your element name and symbol
c) Number of protons, neutrons and electrons
d) electron configuration (e.g., 2, 8, 18 for cadmium)