Station #1:

Draw a diagram to show the relationship between the following terms: mixture, matter, solution, pure substance, mechanical mixture. Write out a definition and an example for each of the terms.

Where do elements and compounds fit into your diagram?

Station #2:

What is a chemical property? List a few common chemical properties. What is a physical property? List a few common physical properties. Is density a chemical or physical property? How can you calculate density?

Station #3:

What are characteristics of a metal? What are characteristics of non-metals? What is a metalloid? Where are these classes of elements found on the periodic table? Are there more metal or non-metal elements? How do you know?

Station #4:

What contribution (s) did the following people make to the atomic theory?

Democritus, John Dalton, JJ Thomson, Earnest Rutherford, Niels Bohr

Station #5:

What are the characteristics of a proton, neutron, and electron? Include charge, location and relative mass.

Station #6:

Draw a complete Bohr-Rutherford diagram (including protons, neutrons and electrons in their proper locations) for potassium and chlorine and suggest how each may become chemically stable like a Noble gas. What is the compounds chemical formula? What type of bonding does this represent? Come up with another pair of elements that would bond in the same way. What is your compounds chemical formula?

Station # 7:

Draw a complete Bohr-Rutherford diagram (including protons, neutrons and electrons in their proper locations) for nitrogen and hydrogen and suggest how each may become chemically stable like a Noble gas. What is the compounds chemical formula? What type of bonding does this represent? Come up with another pair of elements that would bond in the same way. What is your compounds chemical formula?

Station #8:

Draw and outline of the periodic table and label the following: the number of valence electrons, the energy levels, Alkali metals, Halogens, Noble gases, Alkaline Earth metals, metals, non-metals, Transition metals.