Station #1

Atoms of Ar, K and Ca are all found to have mass numbers of 40.

a) How many protons and neutrons are there in each nuclei?
b) How can they have the same mass #?
c) Could each element have the same atomic #?

Station #2

Copy and fill in the chart below:

	atomic #	# p	# n	# e	mass #
$^{34}_{16}S$					
$^{34}_{16}S^{2-}$					
	26		28	24	
		90		88	231
I^-					

Station #3

Determine the average atomic mass for the following elements:

	Isotope	%
a)	Cl-35	75.78%
	Cl-37	24.22 %
b)	Ag-107	51.83%
	Ag-109	48.71%
c)	Cr-50	4.35%
	Cr-52	83.79%
	Cr-53	9.50%
	Cr-54	2.36%

Station #4

What "model" and "analogy" do we use to describe the contribution that each of the following people made to the atomic theory?

a) Dalton
b) Thomson
c) Rutherford (describe the Gold Foil Experiment)
d) Bohr
e) Chadwick

Station #5

Summarize the following periodic trends and state WHY this trend is observed.

a) atomic radius
b) ion radius (cations and anions)
c) ionization energy

Station #6

Summarize the following periodic trends and state WHY this trend is observed.

a) electron affinity
b) electronegativity
c) metal reactivity
d) non-metal reactivity

Station #7

Why do elements combine to form compounds?

Define the following by explaining

1. How the bond is formed
2. Which elements combine to form these
3. Give an example
   a) ionic bond
   b) covalent bond

Station #8

Write 3 equations to show how Mg and F bond.

Use Lewis dot diagrams to show how Na and O bond.

Use the crossover method to show how Ca and Cl would bond.

Station #9

Draw Lewis structures for the following and indicate

a) shape
b) bond polarity
c) molecule polarity
d) intermolecular forces

N and N H and P N and H

Station #10

Summarize the properties of ionic and covalent compounds.

You have a sample that when dissolved in water it conducts electricity and is hard and brittle. Do you have enough information to classify it as ionic or covalent?

Station #11 and #12

Check your answers to Review #3, Review #4 and Unit Review