**Reactivity of Elements**  Name

1. What do most metals do when you put them in water?

They fizz and bubble and produce some type of gas.

1. Watch the demonstration and write down what happened with each element when they were placed in water.

Li

Na

K

1. Now you try:

What happens when you put a small piece of:

Mg in water

Ca in water

1. What happens to how reactive the elements are as you go down in the first column? (Alkali metals)

They become increasingly reactive the further down the column you go.

1. What happens to how reactive the elements are as you go down in the second column? (Alkali Earth Metals)

They become increasingly reactive the further down the column you go.

6. Define the following terms:

a) Family or group (on periodic table)

Columns – go top to bottom

b) Period (on periodic table)

Rows of elements

2. Study figure 4.7 on p. 175 and figure 4.12B on p. 178 to help answer the following.

a) What are the Alkali metals and what do they have in common?

Have one electron in their valence shell. Li, Na, K, Rb, Cs, Fr

b) What are the Alkaline Earth metals and what do they have in common?

Have 2 electrons in their valence shell. Be, Mg, Ca, Sr, Ba, Ra

c) What are the Halogens and what do they have in common?

1 electron away from having a full valence shell. F, Cl, Br, I, At

d) What are the Noble gases and what do they have in common?

Full valence shells. He, Ne, Ar, Kr, Xe, Rn, Uno

e) Look at group 15, list the first 2 elements in this group. What do they have in common?

N, P. 3 electrons short of having a full valence shell

f) Look at any group on the periodic table, what happens to the number of electrons?

More energy levels as you move down and it is the same for each group.

3. As you move from left to right on the periodic table, what happens to:

a) the atomic number

Increases

b) the number of protons

Increases

c) the atomic mass

Increases

5. Classify the following as alkali metals, alkaline earth metals, transition metals, halogens, or noble gases.

Calcium 🡪alkaline earth metal Carbon 🡪 nonmetal

Radium 🡪alkaline earth metal Fluorine 🡪Halogen

Manganese 🡪transition metal Magnesium 🡪alkaline earth metal

Strontium 🡪alkaline earth metal Xenon 🡪Noble gas