Name _____

Periodic Table Activity #2 -- Atoms Combining with Oxygen

For this sheet you need: (1) a textbook (2) graph of <u>oxygen atoms vs. atomic number</u> and (3) periodic table

1) Read p.125.
(a) On the periodic table, what is a *group*?

b) What is a *family*?

c) What is a *period*?

d) Mendeleev's periodic table was succesful because it _____ the properties of elements that had not yet been discovered, like Germanium

2) Look at the Russian stamp on p.118. Can you guess why some of the element data is in black and some is in red?

-- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- You're done with the book. -- -- -- -- -- -- -- -- -- -- -- -- -- -- -

Look at the table on the bottom of the next page, "Oxygen Atoms in Oxide vs. Atomic Number." Atomic Number is the number of protons. Atomic number 1 = Hydrogen, 2 = Helium, etc. It's the big number on the periodic table.

a) Which element has atomic number 14? _____

b) When it combines with Oxygen to form an oxide, how many oxygen atoms are there? _____

c) Circle the correct formula for the oxide: Si_2O or SiO_2

d) Which element has atomic number 15? _____

e) When that element forms an oxide, how many oxygen atoms are there? _____

f) Circle the correct formula for the oxide: $P_{2.5}O$ or $PO_{2.5}$ or P_5O_2 or P_2O_5

3) Do two elements that are next to each other in the same *period* on the periodic table combine the same way with oxygen? I.e., do they have the same number of "oxygen atoms in oxide"? Give two specific examples to support your answer.

{continued}

4) Do two elements that are right above each other in the same *group* on the periodic table combine the same way with oxygen? Give two examples to support your answer.

5) As far as combining with oxygen, which atoms are more similar: atoms in a group or atoms in a period?

6) What does it mean that elements #2, 10 & 18 not on the table?

7) Where are these elements located in the periodic table?

8) Can you guess how many oxygen atoms Krypton (Z = 36) combines with? _____