

Name - _____

Science 10
SA: Chem #2 - Atoms to Compounds (A)

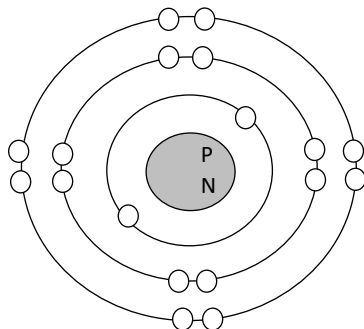
PRACTICE

1. Complete the table below. Read the headers carefully. (21)

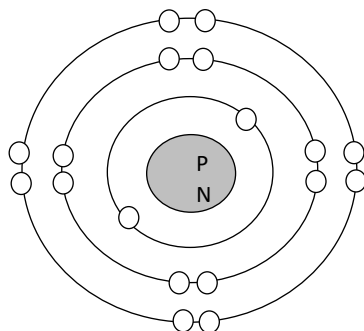
Element Name	Element Symbol	Atomic Number	Number of Protons	Number of Electrons in the Atom	Ion Name	Ion Symbol	Number of Electrons in the Ion
			8				
	Y						
silicon							

2. a) Is aluminum a metal, nonmetal or metalloid? _____ (1)

b) Draw the Bohr-Rutherford diagram for an atom of aluminum. The mass number of aluminum is 27. (3)



c) Draw the Bohr-Rutherford diagram for an ion of aluminum. (3)



d) Is the ion of aluminum a cation or anion? _____ (1)

3. Identify each of the following as a monatomic ion (MI), a polyatomic ion (PI), or the ion of a multivalent metal (IMM), by printing MI, PI or IMM on the line provided. (9)

- | | | |
|---------------------------|--|--------------------------|
| a) calcium ion _____ | d) S ²⁻ _____ | g) hydroxide ion _____ |
| b) Ni ³⁺ _____ | e) fluoride ion _____ | h) chlorite ion _____ |
| c) periodate ion _____ | f) C ₂ O ₄ ²⁻ _____ | i) cobalt (II) ion _____ |

4. Ionic bonds are formed when electrons are _____ . (1)

5. Identify each compound as ionic or molecular. (6)

a) dinitrogen pentoxide _____

b) ammonium iodide _____

c) nickel (II) bromide _____

d) Cl_2 _____

e) scandium fluoride _____

f) osmium hypochlorite _____

6. State the name of each compound. This list includes ionic and molecular compounds. (7)

a) SrI_2 _____

b) H_2O_2 _____

c) $\text{Al}(\text{MnO}_4)_3$ _____

d) P_4 _____

e) CoAs _____

f) CCl_4 _____

g) $\text{V}_4(\text{P}_2\text{O}_7)_5$ _____

7. Write the formula for each chemical compound. This list includes ionic and molecular compounds. (6)

a) molecular iodine _____

b) lead (II) borate _____

c) sodium phosphide _____

d) pentanitrogen hexafluoride _____

e) ammonium sulfite _____

f) tricarbon octabromide _____