



## CHEMISTRY

### CH: 5 Periodic classification of elements

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Class: XSec: \_\_\_\_

1. Why did Mendeleev leave some gaps in his periodic table?
2. What is common among all the elements in a period?
3. What is atomic radius? What is the variation of atomic radius along a period and group? Explain.
4. Why are noble gases placed in a separate group?
5. An element (2,8,2) combine separately with  $\text{NO}_3^-$ ,  $\text{SO}_4^{2-}$ , and  $\text{PO}_4^{3-}$  radicals. Write formulae of the three compounds so formed. To which group of periodic table does the element X belong? Will it form ionic or covalent compound? Why?
6. 2 elements X and Y have atomic number 12 & 16 respectively. Write the electronic configuration of these elements. To which period of the modern periodic table do these two elements belong? What type of bonds will be formed between them? Why?
7. Arrange the following elements in the descending order of atomic size and give a reason for your answer.  
Mg, Cl, P, Ar.
8. Out of Li, C and N, which forms the most basic oxide and which forms the most acidic oxide?
9. An element X belongs to group 17 and element Y belongs to group 1. What type of bond will they form?
10. There are 8 electrons in the valence "M" shell of an element. Predict the element and the period and group in the periodic table which this element belongs to.
11. (a) State modern Periodic Law. (b) What are groups and periods in periodic Table?



# INDIAN SCHOOL NIZWA - WORKSHEET

12. The electronic configuration of three elements X, Y and Z are given below.

- X 2  
Y 2, 6  
Z 2, 8, 2

(i) Which element belongs to the second period? (ii) Which element belongs to the eighteenth period? (iii) Which element belongs to the second group? (iv) What is the valency of Y? (v) Y and Z, are they metal or a non - metal and why?

13.

group →	1	2	3 to 12	13	14	15	16	17	18
period ↓									
2	A					B			C
3		D			E				F

Using the above table answer the following questions

- Which element will form only covalent compounds?
  - Which element is a metal with valency 2?
  - Which element is nonmetal with valency 3?
  - Out of D & E, which one has a bigger atomic radius and why?
  - Write a common name for the family of elements C & F.
14. What is meant by periodicity in properties of elements with reference to periodic table?
15. The following table shows the position of 5 elements in the modern periodic table.

Group 1	Group 2	Group 3- 12	Group 13	Group 14	Group 15	Group 16	Group 17	Group 18
	A		B	C		D		
						E	F	

- Which has more metallic property, B or C?
- Which has larger atomic radius, D or E and why?
- Write the formula of compound formed by A and F.
- Which two elements have the same valency?