

ATTINGAL EDUCATIONAL DISTRICT

STANDARD 10

SUBJECT : CHEMISTRY

UNIT 1 : PERIODIC TABLE AND ELECTRONIC CONFIGURATION

Worksheet : 1

Activity 1

Pick out the wrong electronic configuration and correct them.

- a) $1s^2 2s^2 2p^1$
- b) $1s^2 2s^2 2p^6 3s^1$
- c) $1s^2 2s^2 2p^7$
- d) $1s^2 2s^2 2p^5 3s^1$
- e) $1s^2 2s^2 2p^6 3s^2 3p^6 3d^2$
- f) $1s^2 2s^1 2p^2$

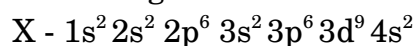
Activity 2

The outermost subshell electronic configuration of an element is $3s^2 3p^5$

- a) Write the complete subshell electronic configuration
- b) Find the atomic number of the element
- c) Write the subshell electronic configuration using the symbol of nearest noble gas

Activity 3

The subshell electronic configuration of an element 'X' is given below. (Symbol is not real)



- a) Find the total number of electrons in the atom
- b) Write the atomic number
- c) Check whether the above configuration is right or wrong
- d) If wrong, correct it and justify your answer

Activity 4

**My last electron fills in d subshell
*I have 5 electrons in d subshell
*I have 7 subshells totally
I belong to d block



a) Complete the given table and find whom am I

Subshell electronic configuration	
Atomic number	
Subshell electronic configuration in short form	
Element	
Symbol	

b) If this element undergoes chemical reaction to form an ion with oxidation number +2, then write the symbol of ion and subshell electronic configuration of the ion

Activity 5

The sum of the oxidation numbers of the elements of a compound is Zero

Oxidation state
Cl = -1

Oxidation state
O = -2

Atomic Number
Fe=26, Mn=25

Complete the table using the hints given above

Compound	Oxidation State (Fe/Mn)	Symbol of Ion	Subshell Electronic Configuration
FeCl ₂	+2	Fe ²⁺	1s ² 2s ² 2p ⁶ 3s ² 3p ⁶ 3d ⁶
FeCl ₃	---(A)---	---(B)---	---(C)---
MnCl ₂	+2	---(D)---	1s ² 2s ² 2p ⁶ 3s ² 3p ⁶ 3d ⁵
MnO ₂	---(E)---	---(F)---	---(G)---
Mn ₂ O ₇	+7	Mn ⁷⁺	---(H)---
Mn ₂ O ₃	---(I)---	---(J)---	---(K)---

Activity 6

Find the odd one

- Transition element are d block elements
- In transition elements last electrons are filled up in penultimate shell
- Transition elements shows variable oxidation state
- Transition elements are known as representative elements
- Transition elements form coloured compounds

Activity 7

Complete the following table. (Symbols are not real)

Element	Subshell Electronic Configuration	Subshell in which last electron enters	Does it receive or donate electron?	Valency	Compound formation
$_{11}\mathbf{A}$	$1s^2 2s^2 2p^6 3s^1$	s	donate	1	Compound formed between A & X Valency of A – 1 Valency of X – 2 $A^1 X^2 \rightarrow A_2 X_1$ (after interchanging valency) Formula - $A_2 X$
$_{12}\mathbf{B}$	-----	-----	-----	-----	Compound formed between B & Y -----
$_{16}\mathbf{X}$	-----	-----	receive	-----	Compound formed between X & B -----
$_{17}\mathbf{Y}$	-----	-----	-----	-----	Compound formed between Y & A -----