Phy Sci (Chem)_5

LEARNING AS ONE NATION

Expanded Project

S H S L E A R N I N G A C T I V I T Y

Name: _____ **Score/Mark:** _____

Grade and Section: _____ **Date:** _____

Strand: ☐ STEM ☐ ABM ☐ HUMSS ☐ ICT (*TVL Track*)

Subject: *Physical Science (Chemistry)*

Type of Activity: ☐ Concept Notes ☑ Skills: Exercise/Drill ☐ Illustration ☐ Performance Task ☐ Essay/Report ☐ Others: _____

Activity Title: **LA05: Lewis Electron Dot Structure: Atomic Species**

Learning Targets:
1) To draw the Lewis electron dot structure and write the electron configuration of an atomic species.
2) To recall the concept of the octet rule.

Reference: *(Author, Title, Pages)* Sadudaquil, J. A. *CVIF–DLP Learning Activities*

Complete each step-by-step guide below in drawing the Lewis electron dot structure (LEDS) of atomic species. Recall your Junior High School chemistry lessons on the octet rule, LEDS, and electron configuration. Consult your own copies of periodic table of elements and guide for filling of electrons. The entries for Al^{3+} are filled in as guide.

Atomic Species	**Ne**	**Al^{3+}**	**O^{2-}**
Atomic number (*Z*)		13	
Type (Neutral, Cation, Anion)		Cation	
Electron configuration of neutral (uncharged) form		$1s^2 2s^2 2p^6 3s^2 3p^1$	
Number of valence electrons of neutral form		3	
Orbitals of residence of the valence electrons of the neutral form		3s and 3p	

To draw the LEDS of an atomic species:
i) Write the element symbol.
ii) Place dots around the element symbol equal to the number of valence electrons.
iii) For ions, denote the charges by writing them as superscript to the right of the element symbol. For anions, enclose the octet in brackets.

Atomic Species	**Ne**	**Al^{3+}**	**O^{2-}**
LEDS of the neutral form of atomic species		•Al•	
No. of electrons lost or gained in ion formation	None	3 are lost	2 are gained
Electronic configuration of resulting atomic species		$1s^2 2s^2 2p^6$	$1s^2 2s^2 2p^6$
LEDS of resulting atomic species		Al^{3+}	[:O:]$^{2-}$