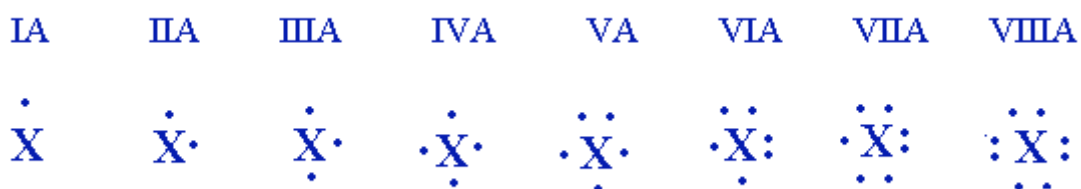


Lewis Dot Notations

Before you start writing Lewis structures, you must know the number of valence electrons in atoms, particularly those of A group elements (Representative elements) and noble gases. Hence, it is desirable to understand Lewis dot notations. *Lewis dot notations are the pictorial representation of number of valence electrons in an atom. It consists of symbol of an atom and one dot for each valence electron.* It is easy to remember this because the number of valence electrons corresponds to the group number as indicated in the following Figure 1.

Figure 1. Lewis dot symbols for A group elements and noble gases.



Remember that one dot represents one electron; Group IA has 1 valence electron, group IIA has 2 valence electrons, group IIIA has 3 valence electrons, group IVA has 4 valence electrons, group VA has 5 valence electrons, group VIA has 6 valence electrons, group VIIA has 7 valence electrons, and group VIIIA (noble gases) has 8 valence electrons.

For example the elements of first and second row in the periodic table are shown in the following Figure 2.

Figure 2. Lewis dot notations for first and second row elements.

IA	IIA										IIIA	IVA	VA	VIA	VIIA	VIIIA	
\cdot H																	$\cdot\cdot$ He
\cdot Li	\cdot Be \cdot										\cdot B \cdot	\cdot C \cdot \cdot	\cdot N \cdot \cdot	$\cdot\cdot$ O \cdot \cdot	$\cdot\cdot$ F \cdot $\cdot\cdot$	$\cdot\cdot$ Ne \cdot $\cdot\cdot$	