

SNC2D CHEMISTRY

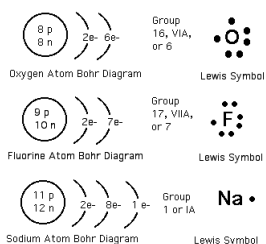
CHEMICAL REACTIONS

Lewis Diagrams (P.??)

Lewis Diagrams

When elements form compounds they either lose, gain or share electrons so that they have the same electron arrangement of the closest noble gas. We can illustrate this using Bohr-Rutherford diagrams - but drawing these diagrams can become tedious. Instead, we will use **Lewis diagrams** (also known as Lewis dot diagrams, or electron dot diagrams).

Lewis Element Symbols



February 18, 2013

2DCHEM - Lewis Diagrams

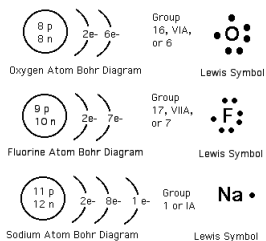
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Lewis Diagrams

NOTE!

A Lewis diagram depicts a molecule using an element symbol to represent the nucleus and core electrons of each atom. Valence electrons are represented by dots.

Lewis Element Symbols



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Lewis Diagrams – How to Draw!

DRAWING LEWIS DIAGRAMS – DO NOT COPY!

- Imagine a square around the symbol for an element. You can place a dot (representing an electron) on any side of the imaginary square.
- When an element has more than 4 valence electrons, you arrange the dots in 2's.
- While there is no rule for where you place your first dot, and subsequent dots, you may find it easiest to start at the top (the "12 o'clock" position) and add the dots clockwise ("3, 6, and 9 o'clock" positions).

Be

$\cdot \ddot{\text{N}} \cdot$
 $\cdot \ddot{\text{Cl}} \cdot$

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Lewis Diagrams

LEWIS DIAGRAMS

- ❖ element symbol represents the nucleus and inner shell electrons
- ❖ valence electrons are shown as dots around the symbol
- ❖ for example:

Be•

• $\ddot{\text{N}}$ •

• $\ddot{\text{Cl}}$ •


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✓ Check Your Learning

- Draw a Lewis diagram for the first 20 elements.

H			He				
Li	Be	B	C	N	O	F	Ne
Na	Mg	Al	Si	P	S	Cl	Ar
K	Ca						

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 **Check Your Learning**

WIKI (CHEMISTRY)
2DCHEM - QUIZ1 (Safety Symbols, Matter & Atomic Review)

REMEMBER!

- ① Use the on-line quiz answers to check your answers (& for help when you run into difficulty).
- ② Mark your answers right or wrong as you check (& include the correct answers when necessary).
- ③ Include a total at the top of the quiz before handing it in.

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