

Lewis Dot Diagrams

Instructions:

- Draw lewis dot diagrams for each of the following. Remember to show your work!!

Formula	Lewis Diagram	Formula	Lewis diagram
HOCl	$\text{H}-\ddot{\text{O}}-\text{Cl}$	H_2CO	$\begin{array}{c} \text{:}\ddot{\text{O}}\text{:} \\ \parallel \\ \text{H}-\text{C}-\text{H} \end{array}$
NBr_3	$\begin{array}{c} \text{:}\ddot{\text{Br}}\text{:} \\ \\ \text{:}\ddot{\text{Br}}-\text{N}-\ddot{\text{Br}}\text{:} \\ \\ \text{:}\ddot{\text{Br}}\text{:} \end{array}$	H_2O_2	$\text{H}-\ddot{\text{O}}-\ddot{\text{O}}-\text{H}$
CHI_3	$\begin{array}{c} \text{:}\ddot{\text{I}}\text{:} \\ \\ \text{:}\ddot{\text{I}}-\text{C}-\ddot{\text{I}}\text{:} \\ \\ \text{H} \end{array}$	C_2H_6	$\begin{array}{c} \text{H} \quad \text{H} \\ \quad \\ \text{H}-\text{C}-\text{C}-\text{H} \\ \quad \\ \text{H} \quad \text{H} \end{array}$
H_2Se	$\text{H}-\ddot{\text{Se}}-\text{H}$	I_2	$\text{:}\ddot{\text{I}}-\ddot{\text{I}}\text{:}$
C_2F_4	$\begin{array}{c} \text{:}\ddot{\text{F}}\text{:} \quad \text{:}\ddot{\text{F}}\text{:} \\ \quad \\ \text{:}\ddot{\text{F}}-\text{C}-\text{C}-\ddot{\text{F}}\text{:} \\ \quad \\ \text{:}\ddot{\text{F}}\text{:} \quad \text{:}\ddot{\text{F}}\text{:} \end{array}$	CH_3OH	$\begin{array}{c} \text{H} \\ \\ \text{H}-\text{C}-\ddot{\text{O}}-\text{H} \\ \\ \text{H} \end{array}$

Instructions:

- Draw Lewis dot diagrams for each of the following Ions. Remember to show your work!!

Formula	Lewis Diagram	Formula	Lewis diagram
NH_4^+		SO_4^{2-}	
NO_3^-		SO_3^{2-}	
PO_4^{3-}		ClO_3^-	
HCO_3^-			

Lewis Structures for Molecules with Multiple Bonds:

Key

<p>1. CO₂</p> $\begin{array}{r} 1 \times 4 = 4 \\ 2 \times 6 = 12 \\ \hline 16 \end{array}$ $:\ddot{\text{O}}=\text{C}=\ddot{\text{O}}:$	<p>2. SO₂</p> $\begin{array}{r} 1 \times 6 = 6 \\ 2 \times 6 = 12 \\ \hline 18 \end{array}$ <p>.....</p> $:\ddot{\text{O}}-\text{S}=\ddot{\text{O}}:$
<p>3. CH₂O (*hint: Carbon is the central atom)</p> $\begin{array}{r} 2 \times 1 = 2 \\ 1 \times 4 = 4 \\ 1 \times 6 = 6 \\ \hline 12 \quad 12 \end{array}$ $\begin{array}{c} \ddot{\text{O}} \\ \\ \text{H}-\text{C}-\text{H} \end{array}$	<p>4. CO₃²⁻ (*hint: 2- adds 2 electrons to the total number of valence electrons)</p> $\begin{array}{r} 1 \times 4 = 4 \\ 3 \times 6 = 18 \\ \hline 2 = 2 \\ \hline 24 \end{array}$ $\left[\begin{array}{c} \ddot{\text{O}} \\ \\ \text{C} \\ / \quad \backslash \\ \ddot{\text{O}} \quad \ddot{\text{O}} \end{array} \right]^{-2}$
<p>5. CN⁻ (*hint: - adds 1 electron to the total number of valence electrons)</p> $\begin{array}{r} 1 \times 4 = 4 \\ 1 \times 5 = 5 \\ 1 = 1 \\ \hline 10 \end{array}$ $\left[\text{:C} \equiv \text{N:} \right]^{-1}$	<p>6. SCO (*hint: C is the central atom)</p> $\begin{array}{r} 1 \times 6 = 6 \\ 1 \times 4 = 4 \\ 1 \times 6 = 6 \\ \hline 16 \end{array}$ $:\ddot{\text{S}}=\text{C}=\ddot{\text{O}}:$

