

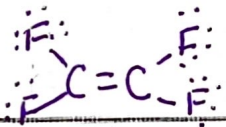
Key

5 • Chemical Bonding

LEWIS STRUCTURES

Indicate the # of VALENCE electrons for each species. Write the correct Lewis electron dot structure for each.

<p>F</p> <p># of electrons = <u>7</u></p> <p>$\cdot\ddot{\text{F}}\cdot$</p>	<p>O</p> <p># of electrons = <u>6</u></p> <p>$\cdot\ddot{\text{O}}\cdot$</p>	<p>K</p> <p># of electrons = <u>1</u></p> <p>$\text{K}\cdot$</p>	<p>Al</p> <p># of electrons = <u>3</u></p> <p>$\cdot\text{Al}\cdot$</p>
<p>F⁻ 7+1</p> <p># of electrons = <u>8</u></p> <p>$[\cdot\ddot{\text{F}}\cdot]^{-}$</p>	<p>O²⁻ 6+2</p> <p># of electrons = <u>8</u></p> <p>$[\cdot\ddot{\text{O}}\cdot]^{2-}$</p>	<p>K⁺ 1-1</p> <p># of electrons = <u>0</u></p> <p>$[\text{K}]^{+}$</p>	<p>Al³⁺ 3-3</p> <p># of electrons = <u>0</u></p> <p>$[\text{Al}]^{3+}$</p>
<p>F₂ 7+7</p> <p># of electrons = <u>14</u></p> <p>$\cdot\ddot{\text{F}}\cdot\ddot{\text{F}}\cdot$ $\cdot\ddot{\text{F}}-\ddot{\text{F}}\cdot$</p>	<p>H₂ 1+1</p> <p># of electrons = <u>2</u></p> <p>$\text{H}:\text{H}$ $\text{H}-\text{H}$</p>	<p>HF 1+7</p> <p># of electrons = <u>8</u></p> <p>$\text{H}:\ddot{\text{F}}\cdot$ $\text{H}-\ddot{\text{F}}\cdot$</p>	<p>NH₃ 5+3</p> <p># of electrons = <u>8</u></p> <p>$\text{H}:\ddot{\text{N}}:\text{H}$ H $\text{H}-\ddot{\text{N}}-\text{H}$</p>
<p>CH₄ 4+4</p> <p># of electrons = <u>8</u></p> <p>$\text{H}:\ddot{\text{C}}:\text{H}$ H $\text{H}-\text{C}-\text{H}$</p>	<p>NF₃ 5+21</p> <p># of electrons = <u>26</u></p> <p>$\cdot\ddot{\text{F}}:\ddot{\text{N}}:\ddot{\text{F}}\cdot$ $\cdot\ddot{\text{F}}\cdot$ $\cdot\ddot{\text{F}}-\ddot{\text{N}}-\ddot{\text{F}}\cdot$</p>	<p>SiF₄ 4+28</p> <p># of electrons = <u>32</u></p> <p>$\cdot\ddot{\text{F}}\cdot$ $\cdot\ddot{\text{F}}:\ddot{\text{Si}}:\ddot{\text{F}}\cdot$ $\cdot\ddot{\text{F}}\cdot$ $\cdot\ddot{\text{F}}-\ddot{\text{Si}}-\ddot{\text{F}}\cdot$ $\cdot\ddot{\text{F}}\cdot$</p>	<p>C₂H₆ 8+6</p> <p># of electrons = <u>14</u></p> <p>$\text{H}:\ddot{\text{C}}:\ddot{\text{C}}:\text{H}$ H H $\text{H}-\text{C}-\text{C}-\text{H}$ H H H H</p>
<p>MgH₂ 2+2</p> <p># of electrons = <u>4</u></p> <p>$\text{H}:\text{Mg}:\text{H}$ $\text{H}-\text{Mg}-\text{H}$</p>	<p>LiH 1+1</p> <p># of electrons = <u>2</u></p> <p>$\text{Li}:\text{H}$ $\text{Li}-\text{H}$</p>	<p>AlH₃ 3+3</p> <p># of electrons = <u>6</u></p> <p>$\text{H}:\text{Al}:\text{H}$ H $\text{H}-\text{Al}-\text{H}$</p>	<p>BH₃ 3+3</p> <p># of electrons = <u>6</u></p> <p>$\text{H}:\text{B}:\text{H}$ H $\text{H}-\text{B}-\text{H}$</p>



<p>C_2H_4 8+4 # of electrons = <u>12</u></p> <p> $\begin{array}{c} \text{H} \quad \text{H} \\ \quad \\ \text{H} : \text{C} : : \text{C} : \text{H} \\ \quad \\ \text{H} \quad \text{H} \\ \text{H} \quad \text{C} = \text{C} \quad \text{H} \\ \quad \\ \text{H} \quad \text{H} \end{array}$ </p>	<p>C_2F_4 8+28 # of electrons = <u>36</u></p> <p> $\begin{array}{c} \text{F} : \text{F} : \\ \quad \\ \text{C} : : \text{C} \\ \quad \\ \text{F} : \text{F} : \end{array}$ </p>	<p>CO 4+6 # of electrons = <u>10</u></p> <p> $\begin{array}{c} \text{C} : : \text{O} : \\ \text{C} \equiv \text{O} : \end{array}$ </p>	<p>O_2 6+6 # of electrons = <u>12</u></p> <p> $\begin{array}{c} \text{O} : : \text{O} \\ \text{O} = \text{O} : \end{array}$ </p>
<p>CO_2 4+6+6 # of electrons = <u>16</u></p> <p> $\begin{array}{c} \text{O} : : \text{C} : : \text{O} \\ \text{O} = \text{C} = \text{O} : \end{array}$ </p>	<p>C_2H_2 (H C C H) 8+2 # of electrons = <u>10</u></p> <p> $\begin{array}{c} \text{H} : \text{C} : : \text{C} : \text{H} \\ \text{H} - \text{C} \equiv \text{C} - \text{H} \end{array}$ </p>	<p>N_2 5+5 # of electrons = <u>10</u></p> <p> $\begin{array}{c} \text{N} : : : \text{N} : \\ \text{N} \equiv \text{N} : \end{array}$ </p>	<p>HCN 1+4+5 # of electrons = <u>10</u></p> <p> $\begin{array}{c} \text{H} : \text{C} : : : \text{N} : \\ \text{H} - \text{C} \equiv \text{N} : \end{array}$ </p>
<p>CN^- 4+5+1 # of electrons = <u>10</u></p> <p> $\begin{array}{c} [: \text{C} : : : \text{N} :]^- \\ [: \text{C} \equiv \text{N} :]^- \end{array}$ </p>	<p>SO_4^{2-} 6+24+2 # of electrons = <u>32</u></p> <p> $\left[\begin{array}{c} \text{O} : \\ : \text{O} : \text{S} : \text{O} : \\ \text{O} : \end{array} \right]^{2-}$ </p>	<p>PO_4^{3-} 5+24+3 # of electrons = <u>32</u></p> <p> $\left[\begin{array}{c} \text{O} : \\ : \text{O} : \text{P} : \text{O} : \\ \text{O} : \end{array} \right]^{3-}$ </p>	<p>ClO_3^- 7+18+1 # of electrons = <u>26</u></p> <p> $\left[\begin{array}{c} \text{O} : \\ : \text{O} : \text{Cl} : \text{O} : \end{array} \right]^-$ </p>
<p>CO_3^{2-} 4+18+2 # of electrons = <u>24</u></p> <p> $\begin{array}{c} \text{O} : \\ : \text{O} : \text{C} : \text{O} : \\ \text{O} : \end{array} \left]^{2-}$ $\begin{array}{c} \text{O} : \\ \text{O} = \text{C} - \text{O} : \end{array} \left]^{2-}$ </p>	<p>NO_3^- 5+18+1 # of electrons = <u>24</u></p> <p> $\begin{array}{c} \text{O} : \\ : \text{O} : \text{N} : \text{O} : \\ \text{O} : \end{array} \left]^-$ $\begin{array}{c} \text{O} : \\ \text{O} = \text{N} - \text{O} : \end{array} \left]^-$ </p>	<p>SO_2 6+12 # of electrons = <u>18</u></p> <p> $\begin{array}{c} \text{O} : \text{S} : \text{O} : \\ \text{O} : \text{S} : \text{O} : \end{array}$ </p>	<p>O_3 (O O O) # of electrons = <u>18</u></p> <p> $\begin{array}{c} \text{O} : : \text{O} : \text{O} : \\ \text{O} = \text{O} - \text{O} : \end{array}$ </p>
<p>SF_6 6+42 # of electrons = <u>48</u></p> <p> $\begin{array}{c} \text{F} : \text{F} : \\ \quad \\ \text{F} : \text{S} : \text{F} : \\ \quad \\ \text{F} : \text{F} : \end{array}$ </p>	<p>XeF_4 8+28 # of electrons = <u>36</u></p> <p> $\begin{array}{c} \text{F} : \\ \quad \\ \text{F} : \text{Xe} : \text{F} : \\ \quad \\ \text{F} : \end{array}$ </p>	<p>PCl_5 5+35 # of electrons = <u>40</u></p> <p> $\begin{array}{c} \text{Cl} : \text{Cl} : \\ \quad \\ \text{Cl} : \text{P} : \text{Cl} : \\ \quad \\ \text{Cl} : \text{Cl} : \end{array}$ </p>	<p>SeF_4 6+28 # of electrons = <u>34</u></p> <p> $\begin{array}{c} \text{F} : \\ \quad \\ \text{F} : \text{Se} : \text{F} : \\ \\ \text{F} : \end{array}$ </p>