

## Molecular Modeling Activity

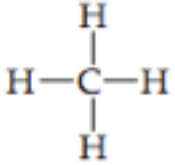
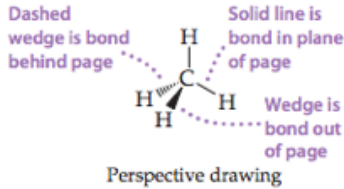
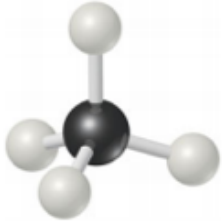
Use the balls and sticks and build the Ball-and-Stick model of the molecular formulas listed in the table below. Fill in the table below.

**Black** ball is carbon: **C**. It can make **4** bonds.

**Blue** ball is nitrogen: **N**. It can make **3** bonds.

**White** ball is hydrogen: **H**. It can make **1** bond.

**Red** ball is Oxygen: **O**. It can make **2** bonds.

Formula	Composition	Structural Formula	Perspective Drawing	Ball-and stick model
<b>CH<sub>4</sub></b>	How many atoms of carbon ( <b>C</b> )? <b>1</b> How many atoms of hydrogen ( <b>H</b> )? <b>4</b>	 <p style="text-align: center;">Structural formula</p>	 <p style="text-align: center;">Perspective drawing</p>	 <p style="text-align: center;">Ball-and-stick model</p>
<b>2 CH<sub>4</sub></b>	How many atoms of carbon ( <b>C</b> )?  How many atoms of hydrogen ( <b>H</b> )?			

Formula	Composition	Structural Formula	Perspective Drawing	Ball-and stick model
<b>C<sub>2</sub>H<sub>6</sub></b>	How many atoms of hydrogen ( <b>H</b> )?  How many atoms of carbon ( <b>C</b> )?			
<b>C<sub>2</sub>H<sub>4</sub></b>	How many atoms of hydrogen ( <b>H</b> )?  How many atoms of carbon ( <b>C</b> )?			
<b>C<sub>2</sub>H<sub>2</sub></b>	How many atoms of hydrogen ( <b>H</b> )?  How many atoms of carbon ( <b>C</b> )?			
<b>H<sub>2</sub>O</b>	How many atoms of oxygen ( <b>O</b> )?  How many atoms of hydrogen ( <b>H</b> )?			

Formula	Composition	Structural Formula	Perspective Drawing	Ball-and stick model
<b>H<sub>2</sub>O<sub>2</sub></b>	How many atoms of oxygen (O)?  How many atoms of hydrogen (H)?			
<b>H<sub>3</sub>NO<sub>2</sub></b>	How many atoms of oxygen (O)?  How many atoms of hydrogen (H)?  How many atoms of nitrogen (N)?			
<b>O<sub>2</sub></b>	How many atoms of oxygen (O)?			
<b>2 O<sub>2</sub></b>	How many atoms of oxygen (O)?			

Formula	Composition	Structural Formula	Perspective Drawing	Ball-and stick model
<b>H<sub>4</sub>CO<sub>3</sub></b>	How many atoms of oxygen ( <b>O</b> )?  How many atoms of hydrogen ( <b>H</b> )?  How many atoms of carbon ( <b>C</b> )?			
<b>C<sub>2</sub>H<sub>6</sub></b>	How many atoms of hydrogen ( <b>H</b> )?  How many atoms of carbon ( <b>C</b> )?			
<b>2 H<sub>2</sub>O</b>	How many molecules of <b>H<sub>2</sub>O</b> ?  How many atoms of oxygen ( <b>O</b> )?  How many atoms of hydrogen ( <b>H</b> )?			