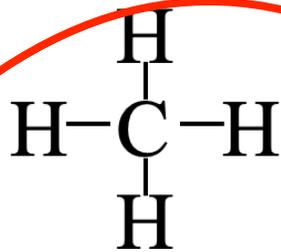
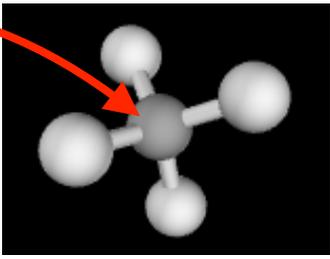
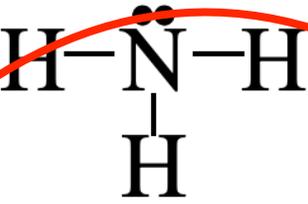
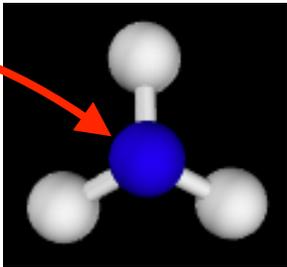
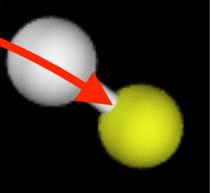
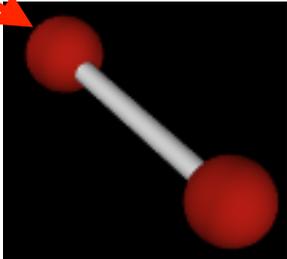


**Build a Molecule Activity**

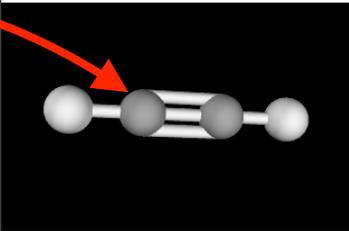
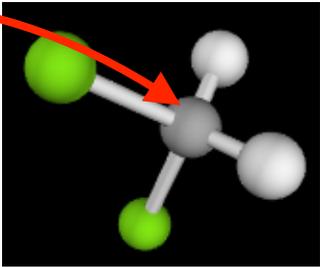
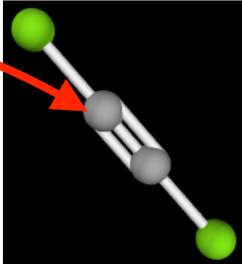
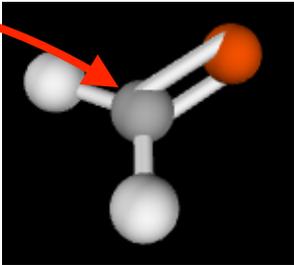
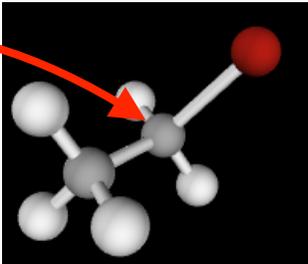
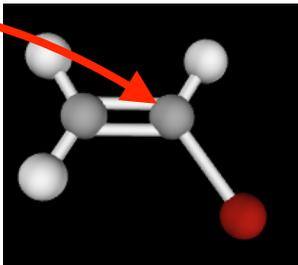
Name:

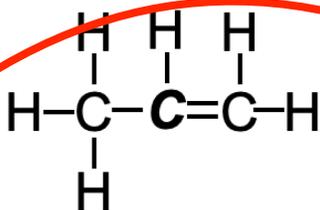
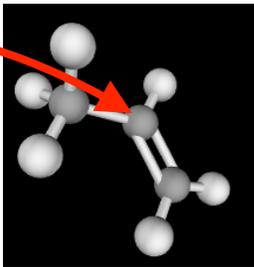
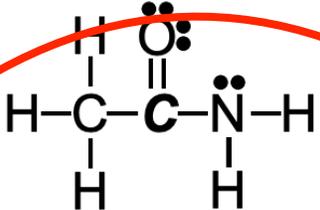
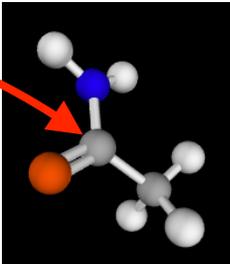
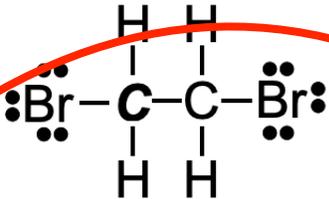
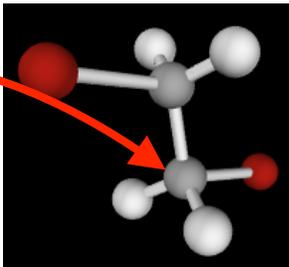
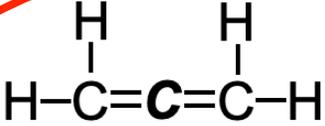
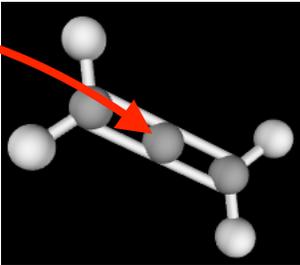
Class:

1. Using the LDMS homework 3 & 4, draw in the LDMS for each of the molecules.
2. Go to [phet.colorado.edu/en/simulations/build-a-molecule](http://phet.colorado.edu/en/simulations/build-a-molecule) click on the play symbol to open the activity.
3. Click on "Playground"
4. Use the "buckets" of atoms to build the the molecules in the chart. Click the arrows to access different atom combinations. Drag and drop the atoms into the space above the buckets to "build" molecules based on their LDMS.
5. Once the molecule is correctly built, its common name will appear. Write its common name.
6. Click "3D" to see its shape. Draw its shape.

Molecule	LDMS	Drawing of 3D molecule	Common name
$\text{CH}_4$ Domain: Tetrahedral Molecular: Tetrahedral Angle: $109.5^\circ$			methane
$\text{NH}_3$ Domain: Tetrahedral Molecular: Trig Pyramid Angle: $<109.5^\circ$			ammonia
$\text{HF}$ Domain: Tetrahedral Molecular: Straight Angle: undefined			hydrogen fluoride
$\text{Br}_2$ Domain: Tetrahedral Molecular: Straight Angle: undefined			molecular bromine

Molecule	LDMS	Drawing of 3D molecule	Common name
<p><b>CH<sub>3</sub>OH</b></p> <p>Domain: Tetrahedral</p> <p>Molecular: Bent</p> <p>Angle: &lt;109.5°</p>			methanol
<p><b>O<sub>2</sub></b></p> <p>Domain: Trig Planar</p> <p>Molecular: Straight</p> <p>Angle: undefined</p>			molecular oxygen
<p><b>N<sub>2</sub></b></p> <p>Domain: Linear</p> <p>Molecular: Straight</p> <p>Angle: undefined</p>			molecular nitrogen
<p><b>CH<sub>3</sub>COOH</b></p> <p>Domain: Trig Planar</p> <p>Molecular: Trig Planar</p> <p>Angle: 120°</p>			acetic acid
<p><b>HCN</b></p> <p>Domain: Linear</p> <p>Molecular: Linear</p> <p>Angle: 180°</p>			hydrogen cyanide
<p><b>HClO</b></p> <p>Domain: Tetrahedral</p> <p>Molecular: Bent</p> <p>Angle: &lt;109.5°</p>			hypochlorous acid

Molecule	LDMS	Drawing of 3D molecule	Common name
$C_2H_2$ Domain: Linear Molecular: Linear Angle: $180^\circ$	$H-C \equiv C-H$		acetylene
$CH_2Cl_2$ Domain: Tetrahedral Molecular: Tetrahedral Angle: $109.5^\circ$	$\begin{array}{c} H \\   \\ :\ddot{Cl}-C-\ddot{Cl}: \\   \\ H \end{array}$		dichloromethane
$C_2Cl_2$ Domain: Linear Molecular: Linear Angle: $180^\circ$	$:\ddot{Cl}-C \equiv C-\ddot{Cl}:$		1,2-dichloroacetylene
$CH_2O$ Domain: Trig Planar Molecular: Trig Planar Angle: $120^\circ$	$\begin{array}{c} H \\   \\ C=O: \\   \\ H \end{array}$		formaldehyde
$CH_3CH_2Br$ Domain: Tetrahedral Molecular: Tetrahedral Angle: $109.5^\circ$	$\begin{array}{c} H & H \\   &   \\ H-C & -C-\ddot{Br}: \\   &   \\ H & H \end{array}$		bromoethane
$CH_2CHBr$ Domain: Trig Planar Molecular: Trig Planar Angle: $120^\circ$	$\begin{array}{c} H & H \\   &   \\ H-C & =C-\ddot{Br}: \end{array}$		bromoethylene

Molecule	LDMS	Drawing of 3D molecule	Common name
$\text{CH}_3\text{CHCH}_2$ Domain: Trig Planar Molecular: Trig Planar Angle: $120^\circ$			prop-1-ene
$\text{CH}_3\text{CONH}_2$ Domain: Trig Planar Molecular: Trig Planar Angle: $120^\circ$			acetamide
$\text{C}_2\text{H}_4\text{Br}_2$ Domain: Tetrahedral Molecular: Tetrahedral Angle: $109.5^\circ$			1,2-dibromoethane
$\text{CH}_2\text{CCH}_2$ Domain: Linear Molecular: Linear Angle: $180^\circ$			allene