



## Chemistry Curriculum Bundle #8

<b>Title</b>	 	<b>Suggested Dates</b>
Moles		1/31 – 2/18 (14.5 days)

<b>Big Idea/Enduring Understanding</b>	<b>Guiding Questions</b>
The mole is a basic unit of chemistry.	How do we count the large quantity of particles involved in chemical reactions?

The resources included here provide teaching examples and/or meaningful learning experiences to address the District Curriculum. In order to address the TEKS to the proper depth and complexity, teachers are encouraged to use resources to the degree that they are congruent with the TEKS and research-based best practices. Teaching using only the suggested resources does not guarantee student mastery of all standards. Teachers must use professional judgment to select among these and/or other resources to teach the district curriculum.

Knowledge & Skills with Student Expectations	District Specificity/Examples	Suggested Resources (See note above)
<p><b>8 Science concepts. The student can quantify the changes that occur during chemical reactions. The student is expected to:</b></p> <p>8A define and use the concept of a mole;</p> <p>8B use the mole concept to calculate the number of atoms, ions, or molecules in a sample of material;</p> <p>8C calculate percent composition and empirical and molecular formulas;</p>	<p>Understand the mole concept. CCRS <i>a. Use Avogadro's number and molar mass to convert to moles of a substance.</i></p> <p>Determine the percent composition of a compound. Calculate the empirical formula of a compound from mass or percent composition data. CCRS</p> <p><b>Including</b></p> <ul style="list-style-type: none"> <li>• Use and apply the Law of Conservation of Mass</li> <li>• Calculate                             <ul style="list-style-type: none"> <li>○ Molar Mass</li> <li>○ Percent composition</li> <li>○ Number of particles using Avogadro's constant</li> <li>○ Empirical formulas</li> <li>○ Molecular formulas</li> </ul> </li> </ul>	<p><b>Fun and Games in Chemistry</b> Claudia Wallace and Jane Smith <a href="http://cast2007.smithwallace.googlepages.com/MolarMassConversions.pdf">http://cast2007.smithwallace.googlepages.com/MolarMassConversions.pdf</a> <a href="http://cast2007.smithwallace.googlepages.com/Moles-Puzzled.pdf">http://cast2007.smithwallace.googlepages.com/Moles-Puzzled.pdf</a></p> <p><b>How Big is a Mole Lab?</b> See chemistry resource folder</p> <p><b>Lab: Percent of water in popcorn</b> See chemistry resource folder</p> <p><b>Lab: Mole Airlines</b> See chemistry resource folder</p> <p><b>Lab: Mole Airlines Answer Sheet</b> See chemistry resource folder</p> <p><b>Lab: Mole Airlines Teacher Answers</b> See chemistry resource folder</p> <p><b>Activity: MOLEcular Mathematics</b> See chemistry resource folder</p> <p><b>Lab: Composition of Hydrates (PAP)</b> See chemistry resource folder</p>