

Name  
TA

Chemistry 11  
2021-2022



## Learning Guide # 10: Chemical Bonding II

### **BIG IDEA: Molecular Geometry and Dipoles**

#### **Fundamental Knowledge (I know)**

- How to predict the shape of a molecule by look at its electrons
- How to look at an atoms Lewis structure and can predict the molecular shape it will form
- The different classifications of polarity AND can determine if a bond is polar or non-polar

#### **Curricular Competencies (I can)**

	<b>Proficiency Scale Teacher and Student self assessment (Circle one)</b>	<b>Evidence (How do you know?)</b>
<b><u>I can:</u></b> Consider the changes in knowledge over time as tools and technologies have developed.	<b>Emerging (EMG)</b> Initial Understanding  <b>Developing (DEV)</b> Partial/Near Complete Understanding  <b>Proficient (PRF)</b> Complete Understanding  <b>Extending (EXT)</b> Sophisticated Understanding	
Evaluate the validity and limitations of a model or analogy in relation to the phenomenon modelled.	<b>Emerging (EMG)</b> Initial Understanding  <b>Developing (DEV)</b> Partial/Near Complete Understanding  <b>Proficient (PRF)</b> Complete Understanding  <b>Extending (EXT)</b> Sophisticated Understanding	

**Student Signature:**

**Teacher Signature:**

**Date:**

**Instructions** To help guide your learning, make your way through the activities in Option 1, Option 2, or Option 3. You may “mix and match” between the different Option columns.

TOPIC	OPTION 1	OPTION 2	OPTION 3
Molecular Geometry	<p><b>Create</b> a glossary of the “Key Words” in chapter 10 for sections <b>10.1</b> and <b>10.2</b> (Pgs. 400 – 415)</p> <p><b>Read</b> Pages 400 - 409 and <b>complete Review Questions:</b> 10.1, 10.2, 10.3 and 10.4 on Pg. 442.</p> <p><b>Complete “Example: Practice Exercises”</b> 10.1 on Pgs. 408 and 409.</p>	<p><b>Create</b> a digital presentation to summarize the information in 10.1, be sure to include a table of geometric shapes, examples, and class of molecule, and bond angles. (similar to table on P. 406).</p> <p>AND <b>Create</b> flash cards for each of the “Key Words” in chapter 10 sections <b>10.1</b> and <b>10.2</b> (Pgs. 400 – 415)</p> <p><b>Read</b> Pages 400 - 409 and <b>complete Review Questions:</b> 10.1, 10.2, 10.3 and 10.4 on Pg. 442.</p> <p><b>Complete “Example: Practice Exercises”</b> 10.1 on Pgs. 408 and 409.</p>	<p><b>Choose your own adventure!</b></p> <p>Pick up a planning sheet from the Science Kiosk.</p> <p>Create a plan! Make sure you read through the first page of this LG, as you will need to design ways to learn/practice and show your understanding of the topic(s) and skill(s) (competencies.)</p> <p>You will need to have a teacher approve your plan before beginning the LG.</p>
Dipole Moments	<p><b>Read</b> Pages 409 - 415 and <b>complete Review Questions:</b> 10.15, 10.17, and 10.18 on Pg. 442.</p> <p><b>Complete “Example: Practice Exercises”</b> 10.2 on Pgs. 414 and 415.</p>	<p><b>Find, Source, and Explain</b> a dipole simulator (cannot use PHET).</p> <p><b>Read</b> Pages 409 - 415 and <b>complete Review Questions:</b> 10.15, 10.17, and 10.18 on Pg. 442.</p> <p><b>Complete “Example: Practice Exercises”</b> 10.2 on Pgs. 414 and 415.</p>	
<b>Chapter Review</b>	<b>Complete “problems” 10.7 - 10.10, 10.14, 10.19 10.20, 10.59, and 10.70</b>		
Lab	Lab: <a href="https://phet.colorado.edu/en/simulations/molecule-shapes">https://phet.colorado.edu/en/simulations/molecule-shapes</a>		
Self Assessment	Reflect on the Fundamental Knowledge and Curricular Competencies. Use the rubric and make goals to improve for your next learning guide.		
Interview or Quiz	See you teacher for an interview or to have a quiz slip signed for the test center. Bring your work and staple it to your quiz when complete.		

Resources can be found at [www.THSSscience.com](http://www.THSSscience.com) or the Science Kiosk

User: **THSS**

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