

Krug Chemistry – Deep Run Daily Planning Guide

Date of Lesson: Q2 Day 14 – Molecular Geometry and Polarity

Topic /Big Questions: (Question Stems & Question Creation Chart) • How do chemical bonds determine the shape of molecules? • How do bonding electrons and lone pair electrons influence the shape of the bond? • How does the shape of the molecule reflect the its polarity and IMFs?	
State SOL CH 3	Unpacking the Standards (Video explanation shown at 3:18) The student will investigate and understand that atoms are conserved in chemical reactions. Knowledge of chemical properties of the elements can be used to describe and predict chemical interactions. Key ideas include d) atoms bond based on electron interactions; and e) molecular geometry is predictive of physical and chemical properties;
Visible Learning (For the three items with asterisks*, think from a student perspective. Use simple language)	
*What am I learning today? Lewis dot diagrams are used to represent valence electrons in an element. Lewis structures can be used to determine the shape of molecules using the VSEPR model (bent, linear, trigonal planar, tetrahedral, and trigonal pyramidal).	
*Why is it important? Understanding the shape of a molecule helps identify its physical and chemical properties.	
*How will I know I’ve learned it? I will identify properties of each VSEPR shape (bent, linear, trigonal planar, tetrahedral, and trigonal pyramidal) and apply them to new molecular structures.	
<u>Differentiation strategies:</u> “Molecular Shape of You” – video https://www.youtube.com/watch?v=f8FAJXPdOg PBS Learning Media “Molecular Shapes” https://pbslm-contrib.s3.amazonaws.com/WGBH/arct15/SimBucket/Simulations/chemthink-molecularstructure/content/index.html Organic Model Kit Intro to VSEPR Worksheet VSEPR Shorting Kit Practice Drawing Molecules Homework Packet	

Accommodations and/or modifications are being met for students with IEP's/504's.

Small group activities; frequent checks for understanding; materials available on Schoology

Daily Plan/Sequence of Instruction:

Teacher will show the YouTube video called "The Molecular Shape of You" (Ed Sheeran Parody) by A Capella Science. (<https://www.youtube.com/watch?v=f8FAJXPBdOg>). Student will follow along as teacher demonstrates the PBS Learning Media "Molecular Shapes" simulation (<https://pbslm-contrib.s3.amazonaws.com/WGBH/arct15/SimBucket/Simulations/chemthink-molecularstructure/content/index.html>). Teacher will pass out the **Intro to VSEPR worksheet**. Teacher will ask students to build the molecule shown in a given box on the worksheet. Teacher will lead CER discussion investigating the proper nomenclature, polarity of the bond, bond shape, bond angle, and intermolecular forces involved for each molecule listed. Students will use the VSEPR sorting kit to match chemical formulas to bond shapes and angles. Students will complete the **Practice Drawing Molecules** homework packet for extra practice.

Assessments (List all formative/summative assessments used to check for understanding during this lesson. Summative assessments may occur during a different class period.):

Intro to VSEPR Worksheet – (formative)

VSEPR Shorting Kit – (formative)

After assessing today's lesson are you and your students comfortable moving forward with your next objective?

Yes – students participated in PBS simulation, building models, and took good notes during CER discussion of molecules on Intro to VSEPR Worksheet

No, remediation required to proceed – if students do not participate, they will be warned to catch up on the notes because the VSEPR Quiz will be in two more days; teacher will offer assistance during One Lunch;