



Learning Guide # 7: Covalent Compounds

BIG IDEA: The electron arrangement of elements impacts their ability to form Covalent Compounds.

Fundamental Knowledge (I know)

- ☐ Recognize Covalent Compounds
- ☐ Name and write the formula for Covalent Compounds
- ☐ Compare Ionic and Covalent Compounds
- ☐ Model & Draw Bohr Models for covalent bonds (including Halogens)
- ☐ Model & Draw Lewis Diagrams for covalent bonds and all diatomic bonds
- ☐ Compare and Contrast Bohr Models and Lewis Diagram

Curricular Competencies (I can)

	Proficiency Scale Teacher and Student self- assessment (Circle one)	Evidence (How do you know?)
I can: Construct, analyze and interpret models and diagrams. (Bohr models, Lewis Dot Diagrams) (P.A.D.I 4)	Emerging (EMG) Initial Understanding Developing (DEV) Partial/Near Complete Understanding Proficient (PRF) Complete Understanding Extending (EXT) Sophisticated Understanding	
Communicate ideas using scientific language and representations. (Naming and writing formulas) (C 2)	Emerging (EMG) Initial Understanding Developing (DEV) Partial/Near Complete Understanding Proficient (PRF) Complete Understanding Extending (EXT) Sophisticated Understanding	
Transfer and apply learning to new situations. (Comparing types of chemical bonds) (A.I 2)	Emerging (EMG) Developing (DEV) Proficient (PRF) Extending (EXT)	

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
Drawing Covalent Compounds	A. Use the Youtube video “GCSE Chemistry - Covalent Bonding #16” https://www.youtube.com/watch?v=5I_1jRGSR9E as a reference. On a sheet of paper, draw the following covalent compounds using Bohr or Lewis models. HF, H_2O, H_3P, CO_2, H_2O_2, CH_4 On the same sheet of paper: - Define what a diatomic molecule is - List all diatomic molecules that can form (google the list) - Draw one diatomic molecule	A and B. Create a visual on Covalent Compounds (video, poster, model, brochure, slideshow) where you: - Explain how a covalent bond works and how it can form between atoms (include drawings using Bohr or Lewis models) - Explain how to name and write the formula of a covalent compound using 5 examples - Include information about diatomic molecules, and a list of all possible diatomic molecules - Compare ionic and covalent bonds. - Provide examples of materials of where Covalent compounds can be found.	Choose your own adventure! Pick up a planning sheet from the Science Kiosk. 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.) You will need to have a teacher approve your plan before beginning the LG.
Naming and Creating Formulas for Covalent Compounds	B. Complete the worksheet “ Naming and Creating Formulas for Covalent Compounds ”.		
Identifying Compound Types for Naming and Creating Formulas	C. Complete the worksheet “ Covalent and Ionic Compounds – Mixed ”	C. Complete the worksheet “ Covalent and Ionic Compounds – Mixed ”	
Lab	Lab: Complete the “Comparing Ionic and Covalent Compounds” Lab. The lab procedure and guided lab report are posted on THSSscience.com		
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 or the Science Kiosk

User: **THSS**

Password: **science**