



Learning Guide # 2: Atoms, Molecules and Ions

BIG IDEA: Parts of The Atom, the Periodic Table, and Bonding

Fundamental Knowledge (I know)

- How to properly name an randomly chosen Ionic Compound
- The History that lead to the current view of the atomic structure
- The difference between an Ion and an Atom
- How to correctly write symbols for isotopes that show number of protons and neutrons
- How to convert a chemical/empirical formula into a molecular formula
- How the Periodic table is organized AND can explain the difference groups, rows, and trends
- How to properly convert the name of a molecular compound to its formula and vice versa

Curricular Competencies (I can)

	Proficiency Scale Teacher and Student self assessment (Circle one)	Evidence (How do you know?)
<p><u>I can:</u> Seek and analyze patterns, trends, and connections in data, including describing relationships between variables, performing calculations, and identifying inconsistencies.</p>	<p>Emerging (EMG) Initial Understanding</p> <p>Developing (DEV) Partial/Near Complete Understanding</p> <p>Proficient (PRF) Complete Understanding</p> <p>Extending (EXT) Sophisticated Understanding</p>	
<p>Consider the changes in knowledge over time as tools and technologies have developed.</p>	<p>Emerging (EMG) Initial Understanding</p> <p>Developing (DEV) Partial/Near Complete Understanding</p> <p>Proficient (PRF) Complete Understanding</p> <p>Extending (EXT) Sophisticated Understanding</p>	

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
Atomic Theory and Structure of the Atom	<p>Create a glossary of the bolded terms in chapter 2 (Pgs. 42 – 69)</p> <p>Read Pages 42 – 48 and complete Review Questions: 2.1 - 2.6 on Pg. 70.</p>	<p>Create a digital presentation outline the parts of the Atom and summarizing the Scientists and discoveries that lead to our current atomic theory.</p> <p>Read Pages 42 – 48 and complete Review Questions: 1.1 - 1.6 on Pg. 70.</p>	<p>Choose your own adventure!</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>
The Periodic Table: Atomic Number, Atomic Mass, and Isotopes	<p>Read Pages 49 – 51 and complete Review Questions: 2.9 - 2.12 on Pg. 71.</p> <p>Complete “Example: Practice Exercises” 2.1 on pg 50.</p>	<p>Find and SOURCE a video and or link that explains isotopes and complete Review Questions: 2.9 - 2.12 on Pg. 71.</p> <p>Complete “Example: Practice Exercises” 2.1 on pg 50.</p>	
Molecules, Ions, and Chemical Formulas	<p>Read Pages 53 – 58 and complete Review Questions: 2.19 - 2.22, 2.27 – 2.30 on Pg. 71.</p> <p>Complete “Example: Practice Exercises” 2.2, 2.3, and 2.4 on pgs 56 and 58.</p>	<p>Create step by step notes that explain how to convert a chemical/empirical formula into a molecular formula.</p> <p>Complete Review Questions: 2.19 - 2.22, 2.27 – 2.30 on Pg. 71.</p> <p>Complete “Example: Practice Exercises” 2.2, 2.3, and 2.4 on pgs 56 and 58.</p>	
Naming Chemical Compounds	<p>Read Pages 59 – 69 and complete Review Questions: 2.37 - 2.4, 2.51 – 2.56 on Pg. 72.</p> <p>Complete “Example: Practice Exercises” 2.5-2.9 on Pg. 61 – 66.</p>	<p>Create a digital presentation summarizing the information on pages 59 – 69.</p> <p>Complete Review Questions: 2.37 - 2.4, 2.51 – 2.56 on Pg. 72.</p> <p>Complete “Example: Practice Exercises” 2.5-2.9 on Pg. 61 – 66.</p>	
Chapter Review	Complete “problems” 2.16, 2.24, 2.26, 2.36, 2.47, 2.48, 2.50, 2.58, 2.60, 2.63, 2.68, 2.89 on pgs.71–74.		
Lab	Lab 3.1A: Recognizing elements, compounds and mixtures.		
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.		