

Name
TA

Chemistry 11
2021-2022



Learning Guide # 8: Periodic Table and Law

BIG IDEA: Element Organization, Atomic Radius, Ionization Energy, and Electron Affinity.

Fundamental Knowledge (I know)

- How and why elements are organized the way they are on the periodic table
- How the general trends of atomic radius AND can explain how it affects reactivity
- How to explain ionization energy AND can explain why certain elements form different charges
- What electron affinity is and how elements gain or lose electrons to be similar to noble gases.

Curricular Competencies (I can)

	Proficiency Scale Teacher and Student self assessment (Circle one)	Evidence (How do you know?)
<u>I can:</u> Construct, analyze, and interpret graphs, models, and/or diagrams.	Emerging (EMG) Initial Understanding Developing (DEV) Partial/Near Complete Understanding Proficient (PRF) Complete Understanding Extending (EXT) Sophisticated Understanding	
Formulate physical or mental theoretical models to describe a phenomenon.	Emerging (EMG) Initial Understanding Developing (DEV) Partial/Near Complete Understanding Proficient (PRF) Complete Understanding Extending (EXT) 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
Development of the Periodic Table AND Periodic Classification of the Elements	<p>Create a glossary of the “Key Words” in chapter 8 (Pgs. 314 – 348)</p> <p>Read Pages 316 – 322 and complete Review Questions: 8.1, 8.3, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9, 8.11, 8.12, 8.15, and 8.16 on Pg. 348.</p> <p>Complete “Example: Practice Exercises” 8.1 on Pg. 320</p>	<p>Create a timeline of the discoveries and scientists that lead to the modern view of the periodic table AND explain them.</p> <p>Read Pages 316 – 322 and complete Review Questions: 8.1, 8.3, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9, 8.11, 8.12, 8.15, and 8.16 on Pg. 348.</p> <p>Complete “Example: Practice Exercises” 8.1 on Pg. 320</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>
Periodic Variation in Physical Properties	<p>Read Pages 322 – 329 and complete Review Questions: 8.34, and 8.36 on Pg. 349.</p> <p>Complete “Example: Practice Exercises” 8.2 and 8.3 on Pgs. 324 and 327.</p>	<p>Summarize the information presented on Pgs. 322 – 329 and create rules for trends of increasing or decreasing nuclear forces and atomic radius.</p> <p>Read Pages 322 – 329 and complete Review Questions: 8.34, and 8.36 on Pg. 349.</p> <p>Complete “Example: Practice Exercises” 8.2 and 8.3 on Pgs. 324 and 327.</p>	
Ionization Energy	<p>Read Pages 329 - 332 and complete Review Questions: 8.50 on Pg. 349.</p> <p>Complete “Example: Practice Exercises” 8.4 on Pg. 332.</p>	<p>Create a digital project to explain the concept of ionization. Include a source list.</p> <p>Read Pages 329 - 332 and complete Review Questions: 8.50 on Pg. 349.</p> <p>Complete “Example: Practice Exercises” 8.4 on Pg. 332.</p>	
Electron Affinity AND Variations in Chemical Properties	<p>Read Pages 333 - 347 and complete Review Questions: 8.59 on Pg. 350.</p> <p>Complete “Example: Practice Exercises” 8.5 on Pg. 335.</p>	<p>List and Explain the Variations in chemical properties of the various groups on the periodic table (1A – 8A)</p> <p>Read Pages 333 - 347 and complete Review Questions: 8.59 on Pg. 350.</p> <p>Complete “Example: Practice Exercises” 8.5 on Pg. 335.</p>	
Chapter Review	Complete “problems” 8.20, 8.22, 8.28, 8.38, 8.46, 8.72		
Lab	Lab 9A: Periodic Table (DONE IN CLASS)		
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

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