

Name
TA

Chemistry 11
2023-2024



Learning Guide # 4: Reactions in Water (aq)

BIG IDEA: Solubility, Acids and Bases, Concentration, Dilution, and Titration

Fundamental Knowledge (I know)

- How to determine if a solution will dissolve and produce ions
- How to properly BALANCE a total and net ionic equation
- The properties of acids and bases according to Arrhenius
- How to calculate the concentration of a solution
- How to do the various calculations involved in a titration

Curricular Competencies (I can)

	Proficiency Scale Teacher and Student self assessment (Circle one)	Evidence (How do you know?)
I can: Demonstrate a sustained intellectual curiosity about a scientific topic or problem of personal interest.	Emerging (EMG) Initial Understanding Developing (DEV) Partial/Near Complete Understanding Proficient (PRF) Complete Understanding Extending (EXT) Sophisticated Understanding	
Assess risks and address ethical, cultural, and/or environmental issues associated with their proposed methods	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
General Properties of Aqueous Solutions and Precipitation Reactions	<p>Create a glossary of the bolded terms in chapter 4 (Pgs. 120 – 154)</p> <p>Read Pages 120 – 126 and complete Review Questions: 4.1 – 4.3, 4.5, and 4.6, on Pg. 157.</p> <p>Complete “Example: Practice Exercises” 4.1 and 4.2 on Pgs. 123/124 and 125/126.</p>	<p>Complete Review Questions: 4.1 – 4.3, 4.5, and 4.6, on Pg. 157.</p> <p>Complete “Example: Practice Exercises” 4.1 and 4.2 on Pgs. 123/124 and 125/126.</p>	<p>Choose your own adventure!</p> <p>Pick up a planning sheet from the Science Kiosk.</p>
Acid-Base Reactions	<p>Read Pages 127 and 130– 131 and complete Review Questions: 4.25, and 4.28 on pg. 158.</p>	<p>Complete Review Questions: 4.25, and 4.28 on pg. 158.</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>
Oxidation-Reduction Reactions	<p>Read Pages 137 - and 138 and complete Review Questions: 4.35 on pg.158.</p>	<p>Complete Review Questions: 4.35 on pg.158.</p>	
Concentration of Solutions	<p>Read Pages 142 – 148 and complete Review Questions: 4.57, 4.58, 4.67, and 4.68, on Pg. 159.</p> <p>Complete “Example: Practice Exercises” 4.6, 4.7, and 4.8 on Pgs. 144, - 147.</p>	<p>Complete Review Questions: 4.57, 4.58, 4.67, and 4.68, on Pg. 159.</p> <p>Complete “Example: Practice Exercises” 4.6, 4.7, and 4.8 on Pgs. 144, - 147.</p>	
Gravimetric Analysis, Acid-Base Titrations	<p>Read Pages 148 – 150 and complete Review Question 4. 82 on pg. 160.</p> <p>Complete “Example: Practice Exercises” 4.10, and 4.11 on Pgs. 150 - 155.</p>	<p>Complete Review Question 4. 82 on pg. 160.</p> <p>Complete “Example: Practice Exercises” 4.10, and 4.11 on Pgs. 150 - 155.</p>	
Chapter Review	<p>Complete “problems” 4.8, 4.10, 4.12, 4.14, 4.18, 4.34, 4.60, 4.62, 4.64, 4.70, 4.72, 4.78, 4.86, and 4.88</p>		
Lab	<p>Lab 5B: Types of Chemical Reactions (ASK YOUR TEACHER ABOUT THIS)</p> <p>Lab 6A: Stoichiometric Analysis of an Iron-Copper Single Replacement Reaction</p> <p>Lab 10B: Spectrophotometric Analysis</p>		
Self Assessment	<p>Reflect on the Fundamental Knowledge and Curricular Competencies. Use the rubric and make goals to improve for your next learning guide.</p>		
Interview AND Quiz	<p>See you teacher for an interview (Bring all your complete work to the interview) AND to have a quiz slip signed for the test center.</p>		

Resources can be found at www.THSSscience.com or the Science Kiosk

User: THSS

Password: science