Name
TA

Chemistry 11
2021-2022

Chapter Guide #1: Matter and Scientific Calculations

BIG IDEA: Scientific calculations have uncertainty.

Fundamental Knowledge (I know)

- ☐ Atoms and molecules are building blocks of matter
- ☐ How matter can be classified into several categories according to its composition
- ☐ The difference between accuracy and precision in measurements
- ☐ How to create a random dimensional analysis question to convert between amounts

Curricular Competencies (I can)

	Proficiency Scale Teacher and Student self assessment (Circle one)	**Evidence (How do you know?)**
I can: Use appropriate SI units and appropriate equipment, including digital technologies, to systemically and accurately collect and record data.	**Emerging (EMG)** Initial Understanding **Developing (DEV)** Partial/Near Complete Understanding **Proficient (PRF)** Complete Understanding **Extending (EXT)** Sophisticated Understanding	
Apply the concept of accuracy and precision to experimental procedures and data: significant figures, uncertainly, scientific notation.	**Emerging (EMG)** Initial Understanding **Developing (DEV)** Partial/Near Complete Understanding **Proficient (PRF)** Complete Understanding **Extending (EXT)** Sophisticated Understanding	

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
Scientific Method	**Read** Pages 8 – 10 and **complete Review Question**s: 1.1 and 1.2 on Pg. 31.	**Write a paragraph** summarizing the scientific method.	**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.
Classification of Matter and Physical and Chemical Changes	**Read** Pgs. 11-12 and **complete review questions** 1.5, 1.6, 1.7, 1.8, and 1.9 on Pgs. 31 & 32. **Create** a short (3 slides long) Powerpoint Presentation about the states of matter. **Complete *"Problems"*** 1.11, 1.12 and 1.16 on pgs. 32.	**Create** a glossary for the following terms: ***substance, mixture, homogeneous mixture and heterogeneous mixture.*** **Create** a short (3 slides long) Powerpoint Presentation about the states of matter. **Complete *"Problems"*** 1.11, 1.12 and 1.16 on pgs. 32.	
Measurement (SI Units, Mass and Weight, Volume and Density)	**Read** Pgs. 15-20 and **complete review questions** 1.17 – 1.20 on Pg. 31. **Complete *"Example: Practice Exercises"*** 1.1, 1.2 and 1.3 on pgs. 18 -21.	Create a brochure explaining mass and weight, Volume, Density and temperature. **Complete *"Example: Practice Exercises"*** 1.1, 1.2 and 1.3 on pgs. 18 -21.	
Handling Numbers (Sig Figs, Accuracy and Precision)	**Read** Pgs. 21-26 and **complete review questions** 1.27 – 1.28 on Pg. 31. **Complete *"Example: Practice Exercises"*** 1.4 and 1.5 on pgs. 24 - 25.	**Summarize** the "Guidelines for Using Significant Figures" on P. 23 and the Rules for "Handling Significant Figures in Calculations" on 24 and 25 **Complete *"Example: Practice Exercises"*** 1.4 and 1.5 on pgs. 24 -25.	
Dimensional Analysis	**Read** Pgs. 27-30 and **complete *"Example: Practice Exercises"*** 1.6, 1.7 and 1.8 on Pgs.	**Read** Pgs. 27-30 and complete ***"Example: Practice Exercises"*** 1.6, 1.7 and 1.8 on Pgs. Pgs.	
Chapter Review	**Complete *"problems"*** 1.22, 1.26, 1.32, 1.34, 1.36, 1.40, 1.48, 1.96 on pgs.32–35.		
Lab	Read Lab 1A and write a formal lab write up (Link on School Website…download and edit), request lab slip to be signed and sign up to do the lab at the science kiosk. Read over Lab 2A and do a formal lab write up **BEFORE** your teacher will sign the slip for you.		
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***