Chemistry Unit 1 Outline: Chemistry as a Science

Chapter 1: The Science of Chemistry

Classes	Topics	Suggested Reading	✓	Assignments	✓
1	Course Outline, Lab Writeup				
2	Lab Safety and Equipment, Common Laboratory Equipment & Apparatus, Common Lab Techniques (Meniscus, Lighting Bunsen Burner, Electronic Balance, Pipetting)	Lab Safety Contract and Video Apparatus and Technique Handout			
3	Chemical, Chemical Reactions, States of Matter and their Properties, Changes of Matter (Physical Changes versus Chemical Changes), Reactants and Products, Evidence of Chemical Change	1.1 What is Chemistry? (pg. 4 − 9)		pg. 9 #3 to 14	
4	Matter, Volume, Mass versus Weight, Unit and Quantity, SI Unit and Conversion Factor (including Imperial Units), Derived Units, Physical Properties, Density, Chemical Properties	1.2 Describing Matter (pg. 10 – 19)		pg. 14 #1 to 3 pg. 19 #1 to 14	
5	Classification of Matter, Pure Substances versus Mixtures , Homogeneous and Heterogeneous Mixtures, Alloys, Solutions, Separating Mixtures, Filtration and Distillation, Elements versus Compounds, Atoms and Molecules, Allotropes	1.3 Describing Matter (pg. 10 – 19)		pg. 28 #1 to 9, 11 to 14	
	Chapter 1 Quiz and Lab Safety Quiz **(C & D Blocks: September 10, Thurs) (F Block: September 11, Fri)**			pg. 31−32 #11, 13, 14, 16 to 23, 26 to 28	

Chapter 2: Matter and Energy

Classes	Topics	Suggested Reading	✓	Assignments	✓
1	Energy, Physical and Chemical Changes, Law of Conservation of Energy, Exothermic versus Endothermic Change (System and Surroundings), Heat, Kinetic Energy, Temperature, Celsius and Kelvin Scales, Heating Curve of Water, Specific Heat, Scientific Method (Observations, Hypothesis, Experimentation, Controlled, Manipulated and Responding Variables, Theory, Scientific Law), Law of Conservation of Mass, Models	2.1 Energy (pg. 38 – 45) 2.2 Studying Matter and Energy (pg. 46 – 53)		pg. 45 #1 to 3, 5, 7 to 13 pg. 53 #1 to 13	
3	Accuracy and Precision, Reliability, Uncertainty, Significant Figures (Significant Digits), Exact Values, Scientific and Standard Notations Calculations and Unit Conversions involving Significant Figures, Specific Heat Calculations	2.3 Measurements and Calculations in Chemistry (pg. 54 − 63)		**pg. 59 #1 to 3; pg. 61 #1 to 4; pg. 63 #1 to 11; pg. 66−68 #8, 9, 13, 15, 18 to 42, 44, 45**	
4	**Lab #1: Lab Safety, Measuring Techniques, Chemical & Physical Changes** **(C & D Blocks: September 15, Tues) (F Block: September 14, Tues)**	Lab #1 Procedure		**Lab #1 Report Due** **(C & F Blocks: Sept 21, Mon)** **(D Block: Sept 22, Tues)**	
5	**Unit 1 Test** **(C & D Blocks: September 18, Fri) (F Block: September 17, Thurs)**				