

Chemistry Unit 1 Outline: Chemistry as a Science

Chapter 1: The Science of Chemistry

Classes	Topics	Suggested Reading	✓	Assignments	✓
1	Course Outline, Lab Write up, Lab Safety and Equipment, Common Laboratory Equipment & Apparatus, Common Lab Techniques (Meniscus, Lighting Bunsen Burner, Electronic Balance, Pipetting) Lab Safety Quiz (August 27, Wed)	Lab Safety Contract and Video Apparatus and Technique Handout			
2	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	
3	Matter, Volume, Mass versus Weight, Unit and Quantity, SI Unit and Conversion Factor (including Imperial Units), Derived Units, Physical Properties, Density, Chemical Properties, Manipulation of Formulas	1.2 Describing Matter (pg. 10 – 19)		pg. 14 #1 to 3 pg. 19 #1 to 14 Formula Manipulation Worksheet	
4	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 (C Block: September 11, Thursday) (F & G Blocks: September 12, Friday)			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	
2	Lab #1: Observations and Explanations of a Burning Candle (C & F Blocks: September 15, Monday) (G Block: September 16, Tuesday)	Lab #1 Procedure		Lab #1 Report Due (C Block: Sept 22, Mon) (F & G Blocks: Sept 23, Tues)	
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	
4	Lab #2: Lab Safety, Measuring Techniques, Chemical & Physical Changes (C Block: September 18, Thursday) (F & G Blocks: September 19, Friday)	Lab #2 Procedure		Lab #2 Report Due (C & F Blocks: Sept 24, Wed) (G Block: Sept 25, Thurs)	
5	Unit 1 Test (C & F Blocks: September 29, Monday) (G Block: September 30, Tuesday)			pg. 66–68 #8, 9, 13, 15, 18 to 42, 44, 45 Chapter 1 & 2 Practice Tests	

