

## 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 Contract and Video		<b>Lab Safety Quiz</b> <b>(A &amp; B Blocks: August 25, Thursday)</b> <b>(F Block: August 26, Friday)</b>	
2	Formula Manipulations (Algebra-based)			Formula Manipulation Worksheet	
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	<b>Activity 1: Physical and Chemical Changes</b> <b>(A &amp; B Blocks: Aug 30, Tuesday; F Block: Aug 29, Monday)</b>			<b>Activity 1 Due:</b> <b>(A &amp; B Blocks: Sept 8, Thursday)</b> <b>(F Block: Sept 9, Friday)</b>	
5	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	
6	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 Classification of Matter (pg. 21 – 28)		pg. 28 #1 to 9, 11 to 14	
7	<b>Chapter 1 Quiz</b> <b>(A &amp; B Blocks: Sept 8, Thursday) (F Block: Sept 9, Friday)</b>			(Optional) 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	<b>Lab #1: Observations and Explanations of a Burning Candle</b> <b>(A Block: September 13, Tuesday) (B &amp; F Blocks: September 12, Monday)</b>	Lab #1 Procedure		<b>Lab #1 Report Due</b> <b>(A &amp; B Blocks: Sept 22, Thursday)</b> <b>(F Block: Sept 23, Friday)</b>	
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	<b>Lab #2: Measuring Techniques &amp; Diagnostic Tests for Various Gases</b> <b>(A &amp; B Block: September 19, Monday) (F Block: September 20, Tuesday)</b>	Lab #2 Procedure		<b>Lab #2 Report Due</b> <b>(A &amp; B Blocks: Sept 29, Thursday)</b> <b>(F Block: Sept 30, Friday)</b>	
5	<b>Unit 1 Test</b> <b>(A Block: September 27, Tuesday) (B &amp; F Blocks: September 26, Monday)</b>	Chapter 1 & 2 Practice Tests		(Optional) pg. 66–68 #8, 9, 13, 15, 18 to 42, 44, 45	