

Inquiry Investigations™
Chemistry - A Closer Look at Matter MODULE - 1287240
Grades: 7-10

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Arizona Academic Standards
Science
Grade 7

STRAND	AZ.SC07-S1.	Inquiry Process
CONCEPT / STANDARD	SC07-S1C1.	Observations, Questions, and Hypotheses: Formulate predictions, questions, or hypotheses based on observations. Locate appropriate resources.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SC07-S1C1-02.	<p>Select appropriate resources for background information related to a question, for use in the design of a controlled investigation (See W07-S3C6-01, R07-S3C1-06, and R07-S3C2-03).</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts

		<ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Virtual Laboratory: Titrating an Acid of Unknown Concentration
STRAND	AZ.SC07-S1.	Inquiry Process
CONCEPT / STANDARD	SC07-S1C2.	Scientific Testing (Investigating and Modeling): Design and conduct controlled investigations.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SC07-S1C2-01.	<p>Demonstrate safe behavior and appropriate procedures (e.g., use and care of technology, materials, organisms) in all science inquiry.</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements

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<p>PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL</p>	<p>SC07-S1C2-03.</p>	<p>Conduct a controlled investigation, utilizing multiple trials, to test a hypothesis using scientific processes.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2

		<p>Activity 3: Forming Organic Compounds</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
<p>PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL</p>	<p>SC07-S1C2-04.</p>	<p>Perform measurements using appropriate scientific tools (e.g., balances, microscopes, probes, micrometers).</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1

Activity 1: Modeling Atoms and Ions

- Chemistry - A Closer Look at Matter: Unit 1 Lab 1
Activity 2: Forming Covalent Bonds
- Chemistry - A Closer Look at Matter: Unit 1 Lab 1
Activity 3: Forming Ionic Bonds
- Chemistry - A Closer Look at Matter: Unit 1 Lab 2
Activity 1: Molecular Structure of Acids and Bases
- Chemistry - A Closer Look at Matter: Unit 1 Lab 2
Activity 2: Crystal Structure of Common Salt
- Chemistry - A Closer Look at Matter: Unit 1 Lab 2
Activity 3: Forming Organic Compounds
- Chemistry - A Closer Look at Matter: Unit 1 Lab 2
Activity 4: Chemical Structure of Soaps and Detergents
- Chemistry - A Closer Look at Matter: Unit 2 Lab 3
Activity 1: Classifying Matter
- Chemistry - A Closer Look at Matter: Unit 2 Lab 3
Activity 2: Exploring Changes in Matter
- Chemistry - A Closer Look at Matter: Unit 2 Lab 4
Activity 1: Examining Elements
- Chemistry - A Closer Look at Matter: Unit 2 Lab 4
Activity 2: A Closer Look at the Periodic Table
- Chemistry - A Closer Look at Matter: Unit 2 Lab 5
Activity 1: Investigating Mixtures
- Chemistry - A Closer Look at Matter: Unit 2 Lab 6
Activity 1: Separating the Compound Water
- Chemistry - A Closer Look at Matter: Unit 2 Lab 6
Activity 2: Writing a Description of a Chemical Reaction
- Chemistry - A Closer Look at Matter: Unit 2 Lab 7
Activity 1: Demonstrating Boyle's Gas Law
- Chemistry - A Closer Look at Matter: Unit 3 Lab 10
Activity 1: Testing Properties of Acids, Bases, and Salts
- Chemistry - A Closer Look at Matter: Unit 3 Lab 10
Activity 2: Chemical Reactions of Acids with a Metal
- Chemistry - A Closer Look at Matter: Unit 3 Lab 10
Activity 3: Production of a Salt - Neutralization Reaction
- Chemistry - A Closer Look at Matter: Unit 3 Lab 11
Activity 1: The Traffic Light Reaction
- Chemistry - A Closer Look at Matter: Unit 3 Lab 8
Activity 1: Observing Temperature Change in a Chemical Reaction
- Chemistry - A Closer Look at Matter: Unit 3 Lab 8
Activity 2: Observing Color Change in a Chemical Reaction
- Chemistry - A Closer Look at Matter: Unit 3 Lab 8
Activity 3: Observing Gas Production During a Chemical Reaction
- Chemistry - A Closer Look at Matter: Unit 3 Lab 8
Activity 4: Observing a Biochemical Reaction
- Chemistry - A Closer Look at Matter: Unit 3 Lab 9
Activity 1: An Exothermic Reaction
- Chemistry - A Closer Look at Matter: Unit 3 Lab 9
Activity 2: An Endothermic Reaction
- Chemistry - A Closer Look at Matter: Unit 4 Lab 12

		<p>Activity 1: Water Purification</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Virtual Laboratory: Titrating an Acid of Unknown Concentration
STRAND	AZ.SC07-S1.	Inquiry Process
CONCEPT / STANDARD	SC07-S1C3.	Analysis and Conclusions: Analyze and interpret data to explain correlations and results; formulate new questions.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SC07-S1C3-01.	<p>Analyze data obtained in a scientific investigation to identify trends. (See M07-S2C1-07 and M07-S2C1-08) .</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a

		<p>Chemical Reaction</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
<p>PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL</p>	<p>SC07-S1C3-03.</p>	<p>Analyze results of data collection in order to accept or reject the hypothesis.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and

		<p>Salts</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
<p>PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL</p>	<p>SC07-S1C3-05.</p>	<p>Formulate a conclusion based on data analysis.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures

		<ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Virtual Laboratory: Titrating an Acid of Unknown Concentration
STRAND	AZ.SC07-S1.	Inquiry Process
CONCEPT / STANDARD	SC07-S1C4.	Communication: Communicate results of investigations.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SC07-S1C4-01.	Choose an appropriate graphic representation for collected data: line graph; double bar graph; stem and leaf plot; histogram (See M07-S2C1-03). <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SC07-S1C4-02.	Display data collected from a controlled investigation. (See M07-S2C1-03). <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law
PERFORMANCE	SC07-	Communicate the results of an investigation with appropriate use of

OBJECTIVE / PROFICIENCY LEVEL	S1C4-03.	<p>qualitative and quantitative information. (See W07-S3C2-01) .</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction
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<p>PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL</p>	<p>SC07-S1C4-04.</p>	<p>Write clear, step-by-step instructions for following procedures (without the use of personal pronouns) (See W07-S3C3-01) .</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction

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<p>PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL</p>	<p>SC07-S1C4-05.</p>	<p>Communicate the results and conclusion of the investigation. (See W07-S3C6-02) .</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts

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STRAND	AZ.SC07-S2.	History and Nature of Science
CONCEPT / STANDARD	SC07-S2C2.	Nature of Scientific Knowledge Understand how science is a process for generating knowledge.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SC07-S2C2-03.	<p>Apply the following scientific processes to other problem solving or decision making situations: Observing; questioning; communicating; comparing; measuring; classifying; predicting; organizing data; inferring; generating hypotheses; identifying variables.</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter

		<ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Teacher Resource CD: Matter - Chemical Properties and Changes Virtual Laboratory: Titrating an Acid of Unknown Concentration
STRAND	AZ.SC07-S3.	Science in Personal and Social Perspectives
CONCEPT / STANDARD	SC07-S3C1.	Changes in Environments: Describe the interactions between human populations, natural hazards, and the environment.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SC07-S3C1-01.	<p>Analyze environmental risks (e.g., pollution, destruction of habitat) caused by human interaction with biological or geological systems.</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction

		<ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Teacher Resource CD: Matter - Chemical Properties and Changes Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SC07-S3C1-03.	<p>Propose possible solutions to address the environmental risks in biological or geological systems.</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification
STRAND	AZ.SC07-S3.	Science in Personal and Social Perspectives
CONCEPT / STANDARD	SC07-S3C2.	Science and Technology in Society: Develop viable solutions to a need or problem.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SC07-S3C2-01.	<p>Propose viable methods of responding to an identified need or problem.</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SC07-S3C2-02.	<p>Compare solutions to best address an identified need or problem.</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification
STRAND	AZ.SC07-S4.	Life Science
CONCEPT / STANDARD	SC07-S4C3.	Populations of Organisms in an Ecosystem: Analyze the relationships among various organisms and their environment.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SC07-S4C3-04.	<p>Evaluate data related to problems associated with population growth (e.g., overgrazing, forest management, invasion of non-native species) and the possible solutions.</p> <ul style="list-style-type: none"> Teacher Resource CD: Matter - Chemical Properties and Changes
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SC07-S4C3-05.	<p>Predict how environmental factors (e.g., floods, droughts, temperature changes) affect survival rates in living organisms.</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification
PERFORMANCE OBJECTIVE /	SC07-S4C3-06.	Create a model of the interactions of living organisms within an

PROFICIENCY LEVEL		ecosystem. <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification
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Arizona Academic Standards
Science
Grade 8

STRAND	AZ.SC08-S1.	Inquiry Process
CONCEPT / STANDARD	SC08-S1C2.	Scientific Testing (Investigating and Modeling): Design and conduct controlled investigations.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SC08-S1C2-01.	<p>Demonstrate safe behavior and appropriate procedures (e.g., use and care of technology, materials, organisms) in all science inquiry.</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction

		<ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
<p>PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL</p>	<p>SC08-S1C2-02.</p>	<p>Design a controlled investigation to support or reject a hypothesis.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10

		<p>Activity 1: Testing Properties of Acids, Bases, and Salts</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
<p>PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL</p>	<p>SC08-S1C2-03.</p>	<p>Conduct a controlled investigation to support or reject a hypothesis.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5

		<p>Activity 1: Investigating Mixtures</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
<p>PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL</p>	<p>SC08-S1C2-04.</p>	<p>Perform measurements using appropriate scientific tools (e.g., balances, microscopes, probes, micrometers).</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and

		<p>Detergents</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
STRAND	AZ.SC08-S1.	Inquiry Process
CONCEPT / STANDARD	SC08-S1C3.	Analysis and Conclusions: Analyze and interpret data to explain correlations and results; formulate new questions.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SC08-S1C3-01.	Analyze data obtained in a scientific investigation to identify trends. (See M08-S2C1-08).

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| | | <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction |
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		<ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Virtual Laboratory: Titrating an Acid of Unknown Concentration
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SC08-S1C3-03.	<p>Interpret data that show a variety of possible relationships between two variables, including: positive relationship; negative relationship; no relationship.</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SC08-S1C3-04.	<p>Formulate a future investigation based on the data collected.</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction

		<ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Virtual Laboratory: Titrating an Acid of Unknown Concentration
STRAND	AZ.SC08-S1.	Inquiry Process
CONCEPT / STANDARD	SC08-S1C4.	Communication: Communicate results of investigations.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SC08-S1C4-01.	<p>Communicate the results of an investigation.</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water

		<ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Virtual Laboratory: Titrating an Acid of Unknown Concentration
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SC08-S1C4-02.	<p>Choose an appropriate graphic representation for collected data: line graph; double bar graph; stem and leaf plot; histogram (See W08-S2C1-03).</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SC08-S1C4-03.	<p>Present analyses and conclusions in clear, concise formats (See W08-S3C6-02).</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SC08-S1C4-04.	<p>Write clear, step-by-step instructions for conducting investigations or operating equipment (without the use of personal pronouns) (See W08-S3C3-01).</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions Chemistry - A Closer Look at Matter: Unit 1 Lab 1

		<p>Activity 2: Forming Covalent Bonds</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12
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		<p>Activity 2: Demonstrating Conservation of Mass</p> <ul style="list-style-type: none"> Virtual Laboratory: Titrating an Acid of Unknown Concentration
<p>PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL</p>	<p>SC08-S1C4-05.</p>	<p>Communicate the results and conclusion of the investigation. (See W08-S3C6-02).</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a

		<p>Chemical Reaction</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
STRAND	AZ.SC08-S2.	History and Nature of Science
CONCEPT / STANDARD	SC08-S2C2.	Nature of Scientific Knowledge: Understand how science is a process for generating knowledge.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SC08-S2C2-01.	<p>Apply the following scientific processes to other problem solving or decision making situations: Observing; questioning; communicating; comparing; measuring; classifying; predicting; organizing data; inferring; generating hypotheses; identifying variables.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and

		<p>Salts</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Teacher Resource CD: Matter - Chemical Properties and Changes • Virtual Laboratory: Titrating an Acid of Unknown Concentration
STRAND	AZ.SC08-S3.	Science in Personal and Social Perspectives
CONCEPT / STANDARD	SC08-S3C1.	Changes in Environments: Describe the interactions between human populations, natural hazards, and the environment.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SC08-S3C1-01.	<p>Analyze the risk factors associated with natural, human induced, and/or biological hazards, including: waste disposal of industrial chemicals; greenhouse gases.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Teacher Resource CD: Matter - Chemical Properties and Changes • Teacher Resource CD: Matter - Physical Properties

		and Changes
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SC08-S3C1-02.	Analyze possible solutions to address the environmental risks associated with chemicals and biological systems. <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Teacher Resource CD: Matter - Chemical Properties and Changes Teacher Resource CD: Matter - Physical Properties and Changes
STRAND	AZ.SC08-S3.	Science in Personal and Social Perspectives
CONCEPT / STANDARD	SC08-S3C2.	Science and Technology in Society: Develop viable solutions to a need or problem.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SC08-S3C2-01.	Propose viable methods of responding to an identified need or problem. <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SC08-S3C2-02.	Compare solutions to best address an identified need or problem. <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification
STRAND	AZ.SC08-S5.	Physical Science
CONCEPT / STANDARD	SC08-S5C1.	Properties and Changes of Properties in Matter: Understand physical and chemical properties of matter.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SC08-S5C1-01.	Identify different kinds of matter based on the following physical properties: States; density; boiling point; melting point; solubility. <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law Teacher Resource CD: Matter - Physical Properties

		and Changes
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SC08-S5C1-02.	<p>Identify different kinds of matter based on the following chemical properties: Reactivity; pH; oxidation (corrosion).</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Teacher Resource CD: Matter - Chemical Properties and Changes • Teacher Resource CD: Matter - Physical Properties and Changes • Virtual Laboratory: Titrating an Acid of Unknown Concentration
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SC08-S5C1-03.	<p>Identify the following types of evidence that a chemical reaction has occurred: formation of a precipitate; generation of gas; color change; absorption or release of heat.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction

		<ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Teacher Resource CD: Matter - Chemical Properties and Changes • Virtual Laboratory: Titrating an Acid of Unknown Concentration
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SC08-S5C1-04.	<p>Classify matter in terms of elements, compounds, or mixtures.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Teacher Resource CD: Matter - Chemical Properties and Changes • Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SC08-S5C1-05.	<p>Classify mixtures as being homogeneous or heterogeneous.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Teacher Resource CD: Matter - Physical Properties

		and Changes
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SC08-S5C1-07.	<p>Investigate how the transfer of energy can affect the physical and chemical properties of matter.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Teacher Resource CD: Matter - Physical Properties and Changes

**Arizona Academic Standards
Science
Grade 9**

STRAND	AZ.SCHS-S1.	Inquiry Process
CONCEPT / STANDARD	SCHS-S1C1.	Observations, Questions, and Hypotheses: Formulate predictions, questions, or hypotheses based on observations. Evaluate appropriate resources.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S1C1-04.	<p>Predict the outcome of an investigation based on prior evidence, probability, and/or modeling (not guessing or inferring).</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10

		<p>Activity 3: Production of a Salt - Neutralization Reaction</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
STRAND	AZ.SCHS-S1.	Inquiry Process
CONCEPT / STANDARD	SCHS-S1C2.	Scientific Testing (Investigating and Modeling): Design and conduct controlled investigations.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S1C2-01.	<p>Demonstrate safe and ethical procedures (e.g., use and care of technology, materials, organisms) and behavior in all science inquiry.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures

		<ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
<p>PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL</p>	<p>SCHS-S1C2-02.</p>	<p>Identify the resources needed to conduct an investigation.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter

		<ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
<p>PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL</p>	<p>SCHS-S1C2-03.</p>	<p>Design an appropriate protocol (written plan of action) for testing a hypothesis: Identify dependent and independent variables in a controlled investigation. Determine an appropriate method for data collection (e.g., using balances, thermometers, microscopes, spectrophotometer, using qualitative changes). Determine an appropriate method for recording data (e.g., notes, sketches, photographs, videos, journals (logs), charts, computers/calculators).</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2

		<ul style="list-style-type: none"> Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
PERFORMANCE OBJECTIVE / PROFICIENCY	SCHS-S1C2-04.	<p>Conduct a scientific investigation that is based on a research design.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1

LEVEL		<p>Activity 1: Modeling Atoms and Ions</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass
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		<ul style="list-style-type: none"> Virtual Laboratory: Titrating an Acid of Unknown Concentration
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S1C2-05.	<p>Record observations, notes, sketches, questions, and ideas using tools such as journals, charts, graphs, and computers. .</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9

		<p>Activity 1: An Exothermic Reaction</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Virtual Laboratory: Titrating an Acid of Unknown Concentration
STRAND	AZ.SCHS-S1.	Inquiry Process
CONCEPT / STANDARD	SCHS-S1C3.	Analysis, Conclusions, and Refinements: Evaluate experimental design, analyze data to explain results and propose further investigations. Design models.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S1C3-01.	<p>Interpret data that show a variety of possible relationships between variables, including: positive relationship; negative relationship; no relationship.</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S1C3-02.	<p>Evaluate whether investigational data support or do not support the proposed hypothesis.</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts

		<ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
<p>PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL</p>	<p>SCHS-S1C3-04.</p>	<p>Evaluate the design of an investigation to identify possible sources of procedural error, including: sample size; trials; controls; analyses.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6

		<p>Activity 1: Separating the Compound Water</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
<p>PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL</p>	<p>SCHS-S1C3-05.</p>	<p>Design models (conceptual or physical) of the following to represent 'real world' scenarios: carbon cycle; water cycle; phase change; collisions.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Teacher Resource CD: Matter - Physical Properties and Changes
<p>PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL</p>	<p>SCHS-S1C3-07.</p>	<p>Propose further investigations based on the findings of a conducted investigation.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt

		<ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
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STRAND	AZ.SCHS-S1.	Inquiry Process
CONCEPT / STANDARD	SCHS-S1C4.	Communication: Communicate results of investigations.
PERFORMANCE OBJECTIVE /	SCHS-S1C4-01.	For a specific investigation, choose an appropriate method for communicating

<p>PROFICIENCY LEVEL</p>		<p>the results. (See W09-S3C2-01 and W10-S3C3-01).</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12
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		<p>Activity 1: Water Purification</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 <p>Activity 2: Demonstrating Conservation of Mass</p> <ul style="list-style-type: none"> Virtual Laboratory: Titrating an Acid of Unknown Concentration
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S1C4-02.	<p>Produce graphs that communicate data. (See MHS-S2C1-02).</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 7 <p>Activity 1: Demonstrating Boyle's Gas Law</p>
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S1C4-03.	<p>Communicate results clearly and logically. .</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 <p>Activity 1: Modeling Atoms and Ions</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 <p>Activity 2: Forming Covalent Bonds</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 <p>Activity 3: Forming Ionic Bonds</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 2 <p>Activity 1: Molecular Structure of Acids and Bases</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 2 <p>Activity 2: Crystal Structure of Common Salt</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 2 <p>Activity 3: Forming Organic Compounds</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 2 <p>Activity 4: Chemical Structure of Soaps and Detergents</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 3 <p>Activity 1: Classifying Matter</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 3 <p>Activity 2: Exploring Changes in Matter</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 4 <p>Activity 1: Examining Elements</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 4 <p>Activity 2: A Closer Look at the Periodic Table</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 5 <p>Activity 1: Investigating Mixtures</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 6 <p>Activity 1: Separating the Compound Water</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 6 <p>Activity 2: Writing a Description of a Chemical Reaction</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 7 <p>Activity 1: Demonstrating Boyle's Gas Law</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 10 <p>Activity 1: Testing Properties of Acids, Bases, and Salts</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 10 <p>Activity 2: Chemical Reactions of Acids with a Metal</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 10 <p>Activity 3: Production of a Salt - Neutralization Reaction</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 11 <p>Activity 1: The Traffic Light Reaction</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 8 <p>Activity 1: Observing Temperature Change in a Chemical Reaction</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 8

		<p>Activity 2: Observing Color Change in a Chemical Reaction</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
STRAND	AZ.SCHS-S2.	History and Nature of Science
CONCEPT / STANDARD	SCHS-S2C2.	Nature of Scientific Knowledge: Understand how science is a process for generating knowledge.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S2C2-01.	<p>Specify the requirements of a valid, scientific explanation (theory), including that it be logical; subject to peer review; public; respectful of rules of evidence.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10

		<p>Activity 1: Testing Properties of Acids, Bases, and Salts</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
STRAND	AZ.SCHS-S3.	Science in Personal and Social Perspectives
CONCEPT / STANDARD	SCHS-S3C1.	Changes in Environments: Describe the interactions between human populations, natural hazards, and the environment.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S3C1-01.	<p>Evaluate how the processes of natural ecosystems affect, and are affected by, humans.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S3C1-02.	<p>Describe the environmental effects of the following natural and/or human-caused hazards: Flooding; drought; earthquakes; fires; pollution; extreme weather.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S3C1-03.	<p>Assess how human activities (e.g., clear cutting, water management, tree thinning) can affect the potential for hazards.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S3C1-04.	<p>Evaluate the following factors that affect the quality of the environment: urban development; smoke; volcanic dust.</p>

		<ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S3C1-05.	<p>Evaluate the effectiveness of conservation practices and preservation techniques on environmental quality and biodiversity.</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification
STRAND	AZ.SCHS-S3.	Science in Personal and Social Perspectives
CONCEPT / STANDARD	SCHS-S3C3.	Human Population Characteristics: Analyze factors that affect human populations.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S3C3-01.	<p>Analyze social factors that limit the growth of a human population, including: Affluence; education; access to health care; cultural influences.</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S3C3-03.	<p>Predict the effect of a change in a specific factor on a human population.</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification
STRAND	AZ.SCHS-S4.	Life Science
CONCEPT / STANDARD	SCHS-S4C3.	Interdependence of Organisms: Analyze the relationships among various organisms and their environment.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S4C3-03.	<p>Assess how the size and the rate of growth of a population are determined by birth rate, death rate, immigration, emigration, and carrying capacity of the environment.</p> <ul style="list-style-type: none"> Teacher Resource CD: Matter - Chemical Properties and Changes
STRAND	AZ.SCHS-S4.	Life Science
CONCEPT / STANDARD	SCHS-S4C5.	Matter, Energy, and Organization in Living Systems (Including Human Systems): Understand the organization of living systems, and the role of energy within those systems.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S4C5-01.	<p>Compare the processes of photosynthesis and cellular respiration in terms of energy flow, reactants, and products.</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S4C5-02.	<p>Describe the role of organic and inorganic chemicals (e.g., carbohydrates, proteins, lipids, nucleic acids, water, ATP) important to living things.</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction
STRAND	AZ.SCHS-S5.	Physical Science
CONCEPT /	SCHS-	Structure and Properties of Matter: Understand physical, chemical,

STANDARD	S5C1.	and atomic properties of matter.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C1-01.	<p>Describe substances based on their physical properties.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C1-02.	<p>Describe substances based on their chemical properties.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal

		<ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Teacher Resource CD: Matter - Chemical Properties and Changes • Teacher Resource CD: Matter - Physical Properties and Changes • Virtual Laboratory: Titrating an Acid of Unknown Concentration
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C1-03.	<p>Predict properties of elements and compounds using trends of the periodic table (e.g., metals, non-metals, bonding - ionic/covalent).</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Teacher Resource CD: Matter - Chemical Properties and Changes • Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C1-04.	<p>Separate mixtures of substances based on their physical properties.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C1-05.	<p>Describe the properties of electric charge and the conservation of electric charge.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water
PERFORMANCE OBJECTIVE /	SCHS-S5C1-06.	<p>Describe the following features and components of the atom: Protons; neutrons; electrons; mass; number and type of particles; structure;</p>

PROFICIENCY LEVEL		<p>organization.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Teacher Resource CD: Matter - Chemical Properties and Changes • Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C1-07.	<p>Describe the historical development of models of the atom.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C1-08.	<p>Explain the details of atomic structure (e.g., electron configuration, energy levels, isotopes).</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Teacher Resource CD: Matter - Physical Properties and Changes

STRAND	AZ.SCHS-S5.	Physical Science
CONCEPT / STANDARD	SCHS-S5C2.	Motions and Forces: Analyze relationships between forces and motion.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C2-01.	Determine the rate of change of a quantity (e.g., rate of erosion, rate of reaction, rate of growth, velocity). <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction Teacher Resource CD: Matter - Chemical Properties and Changes
STRAND	AZ.SCHS-S5.	Physical Science
CONCEPT / STANDARD	SCHS-S5C3.	Conservation of Energy and Increase in Disorder: Understand ways that energy is conserved, stored, and transferred.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C3-01.	Describe the following ways in which energy is stored in a system: Mechanical; electrical; chemical; nuclear. <ul style="list-style-type: none"> Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C3-06.	Distinguish between heat and temperature. <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C3-07.	Explain how molecular motion is related to temperature and phase changes. <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction Teacher Resource CD: Matter - Chemical Properties and Changes Teacher Resource CD: Matter - Physical Properties and Changes
STRAND	AZ.SCHS-S5.	Physical Science
CONCEPT / STANDARD	SCHS-S5C4.	Chemical Reactions: Investigate relationships between reactants and products in chemical reactions.

PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C4-02.	<p>Identify the indicators of chemical change, including formation of a precipitate, evolution of a gas, color change, absorption or release of heat energy.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Teacher Resource CD: Matter - Chemical Properties and Changes • Virtual Laboratory: Titrating an Acid of Unknown Concentration
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C4-03.	<p>Represent a chemical reaction by using a balanced equation.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Teacher Resource CD: Matter - Chemical Properties and Changes
PERFORMANCE	SCHS-	Distinguish among the types of bonds (i.e., ionic, covalent, metallic,

OBJECTIVE / PROFICIENCY LEVEL	S5C4-04.	<p>hydrogen bonding).</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Teacher Resource CD: Matter - Chemical Properties and Changes • Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C4-05.	<p>Describe the mole concept and its relationship to Avogadro's number.</p> <ul style="list-style-type: none"> • Teacher Resource CD: Matter - Chemical Properties and Changes
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C4-06.	<p>Solve problems involving such quantities as moles, mass, molecules, volume of a gas, and molarity using the mole concept and Avogadro's number.</p> <ul style="list-style-type: none"> • Teacher Resource CD: Matter - Chemical Properties and Changes
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C4-07.	<p>Predict the properties (e.g., melting point, boiling point, conductivity) of substances based upon bond type.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Teacher Resource CD: Matter - Chemical Properties and Changes • Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C4-09.	<p>Predict the products of a chemical reaction using types of reactions (e.g., synthesis, decomposition, replacement, combustion).</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction

		<ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Teacher Resource CD: Matter - Chemical Properties and Changes • Virtual Laboratory: Titrating an Acid of Unknown Concentration
<p>PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL</p>	<p>SCHS-S5C4-11.</p>	<p>Predict the effect of various factors (e.g., temperature, concentration, pressure, catalyst) on the equilibrium state and on the rates of chemical reaction.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Teacher Resource CD: Matter - Chemical Properties and Changes
<p>PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL</p>	<p>SCHS-S5C4-12.</p>	<p>Compare the nature, behavior, concentration, and strengths of acids and bases.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization

		<p>Reaction</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Teacher Resource CD: Matter - Chemical Properties and Changes • Virtual Laboratory: Titrating an Acid of Unknown Concentration
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C4-13.	<p>Determine the transfer of electrons in oxidation/reduction reactions.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Teacher Resource CD: Matter - Chemical Properties and Changes
STRAND	AZ.SCHS-S5.	Physical Science
CONCEPT / STANDARD	SCHS-S5C5.	Interactions of Energy and Matter: Understand the interactions of energy and matter.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C5-01.	<p>Describe various ways in which matter and energy interact (e.g., photosynthesis, phase change).</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction

		<ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Teacher Resource CD: Matter - Chemical Properties and Changes Teacher Resource CD: Matter - Physical Properties and Changes Virtual Laboratory: Titrating an Acid of Unknown Concentration
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C5-04.	Describe the basic assumptions of kinetic molecular theory. <ul style="list-style-type: none"> Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C5-05.	Apply kinetic molecular theory to the behavior of matter (e.g., gas laws). <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law Teacher Resource CD: Matter - Chemical Properties and Changes Teacher Resource CD: Matter - Physical Properties and Changes
STRAND	AZ.SCHS-S6.	Earth and Space Science
CONCEPT / STANDARD	SCHS-S6C1.	Geochemical Cycles: Analyze the interactions between the Earth's structures, atmosphere, and geochemical cycles.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S6C1-05.	Describe factors that impact current and future water quantity and quality including surface, ground, and local water issues. . <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S6C1-06.	Analyze methods of reclamation and conservation of water. . <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification
STRAND	AZ.SCHS-S6.	Earth and Space Science
CONCEPT / STANDARD	SCHS-S6C2.	Energy in the Earth System (Both Internal and External): Understand the relationships between the Earth's land masses, oceans, and atmosphere.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S6C2-17.	External Energy: Investigate the effects of acid rain, smoke, volcanic dust, urban development, and greenhouse gases, on climate change over various

LEVEL		<p>periods of time.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Teacher Resource CD: Matter - Chemical Properties and Changes • Teacher Resource CD: Matter - Physical Properties and Changes
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**Arizona Academic Standards
Science
Grade 10**

STRAND	AZ.SCHS-S1.	Inquiry Process
CONCEPT / STANDARD	SCHS-S1C1.	Observations, Questions, and Hypotheses: Formulate predictions, questions, or hypotheses based on observations. Evaluate appropriate resources.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S1C1-04.	<p>Predict the outcome of an investigation based on prior evidence, probability, and/or modeling (not guessing or inferring).</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6

		<p>Activity 2: Writing a Description of a Chemical Reaction</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Virtual Laboratory: Titrating an Acid of Unknown Concentration
STRAND	AZ.SCHS-S1.	Inquiry Process
CONCEPT / STANDARD	SCHS-S1C2.	Scientific Testing (Investigating and Modeling): Design and conduct controlled investigations.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S1C2-01.	<p>Demonstrate safe and ethical procedures (e.g., use and care of technology, materials, organisms) and behavior in all science inquiry.</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter

		<ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
<p>PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL</p>	<p>SCHS-S1C2-02.</p>	<p>Identify the resources needed to conduct an investigation.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt

		<ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S1C2-03.	Design an appropriate protocol (written plan of action) for testing a hypothesis: Identify dependent and independent variables in a controlled investigation. Determine an appropriate method for data collection (e.g., using balances, thermometers, microscopes, spectrophotometer, using qualitative changes). Determine an appropriate method for recording data (e.g., notes, sketches, photographs, videos, journals (logs), charts,

computers/calculators).

- Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions
- Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds
- Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds
- Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases
- Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt
- Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds
- Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents
- Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter
- Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter
- Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements
- Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table
- Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures
- Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water
- Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction
- Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law
- Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts
- Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal
- Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction
- Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction
- Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction
- Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction
- Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction
- Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction
- Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction
- Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction
- Chemistry - A Closer Look at Matter: Unit 4 Lab 12

		<p>Activity 1: Water Purification</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Virtual Laboratory: Titrating an Acid of Unknown Concentration
<p>PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL</p>	<p>SCHS-S1C2-04.</p>	<p>Conduct a scientific investigation that is based on a research design.</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8

		<p>Activity 4: Observing a Biochemical Reaction</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
<p>PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL</p>	<p>SCHS-S1C2-05.</p>	<p>Record observations, notes, sketches, questions, and ideas using tools such as journals, charts, graphs, and computers. .</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction

		<ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Virtual Laboratory: Titrating an Acid of Unknown Concentration
STRAND	AZ.SCHS-S1.	Inquiry Process
CONCEPT / STANDARD	SCHS-S1C3.	Analysis, Conclusions, and Refinements: Evaluate experimental design, analyze data to explain results and propose further investigations. Design models.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S1C3-01.	<p>Interpret data that show a variety of possible relationships between variables, including: positive relationship; negative relationship; no relationship.</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S1C3-02.	<p>Evaluate whether investigational data support or do not support the proposed hypothesis.</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table Chemistry - A Closer Look at Matter: Unit 2 Lab 5

		<p>Activity 1: Investigating Mixtures</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
<p>PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL</p>	<p>SCHS-S1C3-04.</p>	<p>Evaluate the design of an investigation to identify possible sources of procedural error, including: sample size; trials; controls; analyses.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter

		<ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S1C3-05.	<p>Design models (conceptual or physical) of the following to represent 'real world' scenarios: carbon cycle; water cycle; phase change; collisions.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S1C3-07.	Propose further investigations based on the findings of a conducted investigation.

- Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions
- Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds
- Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds
- Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases
- Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt
- Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds
- Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents
- Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter
- Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter
- Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements
- Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table
- Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures
- Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water
- Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction
- Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law
- Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts
- Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal
- Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction
- Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction
- Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction
- Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction
- Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction
- Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction
- Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction
- Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction
- Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification
- Chemistry - A Closer Look at Matter: Unit 4 Lab 12

		<p>Activity 2: Demonstrating Conservation of Mass</p> <ul style="list-style-type: none"> Virtual Laboratory: Titrating an Acid of Unknown Concentration
STRAND	AZ.SCHS-S1.	Inquiry Process
CONCEPT / STANDARD	SCHS-S1C4.	Communication: Communicate results of investigations.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S1C4-01.	<p>For a specific investigation, choose an appropriate method for communicating the results. (See W09-S3C2-01 and W10-S3C3-01).</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8

		<p>Activity 3: Observing Gas Production During a Chemical Reaction</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S1C4-02.	<p>Produce graphs that communicate data. (See MHS-S2C1-02).</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S1C4-03.	<p>Communicate results clearly and logically. .</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal

		<ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
STRAND	AZ.SCHS-S2.	History and Nature of Science
CONCEPT / STANDARD	SCHS-S2C2.	Nature of Scientific Knowledge: Understand how science is a process for generating knowledge.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S2C2-01.	<p>Specify the requirements of a valid, scientific explanation (theory), including that it be logical; subject to peer review; public; respectful of rules of evidence.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table

		<ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Virtual Laboratory: Titrating an Acid of Unknown Concentration
STRAND	AZ.SCHS-S3.	Science in Personal and Social Perspectives
CONCEPT / STANDARD	SCHS-S3C1.	Changes in Environments: Describe the interactions between human populations, natural hazards, and the environment.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S3C1-01.	Evaluate how the processes of natural ecosystems affect, and are affected by, humans. <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S3C1-02.	Describe the environmental effects of the following natural and/or human-caused hazards: Flooding; drought; earthquakes; fires; pollution; extreme weather. <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification

PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S3C1-03.	Assess how human activities (e.g., clear cutting, water management, tree thinning) can affect the potential for hazards. <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S3C1-04.	Evaluate the following factors that affect the quality of the environment: urban development; smoke; volcanic dust. <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S3C1-05.	Evaluate the effectiveness of conservation practices and preservation techniques on environmental quality and biodiversity. <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification
STRAND	AZ.SCHS-S3.	Science in Personal and Social Perspectives
CONCEPT / STANDARD	SCHS-S3C3.	Human Population Characteristics: Analyze factors that affect human populations.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S3C3-01.	Analyze social factors that limit the growth of a human population, including: Affluence; education; access to health care; cultural influences. <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S3C3-03.	Predict the effect of a change in a specific factor on a human population. <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification
STRAND	AZ.SCHS-S4.	Life Science
CONCEPT / STANDARD	SCHS-S4C3.	Interdependence of Organisms: Analyze the relationships among various organisms and their environment.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S4C3-03.	Assess how the size and the rate of growth of a population are determined by birth rate, death rate, immigration, emigration, and carrying capacity of the environment. <ul style="list-style-type: none"> Teacher Resource CD: Matter - Chemical Properties and Changes
STRAND	AZ.SCHS-S4.	Life Science
CONCEPT / STANDARD	SCHS-S4C5.	Matter, Energy, and Organization in Living Systems (Including Human Systems): Understand the organization of living systems, and the role of energy within those systems.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S4C5-01.	Compare the processes of photosynthesis and cellular respiration in terms of energy flow, reactants, and products. <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction

PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S4C5-02.	Describe the role of organic and inorganic chemicals (e.g., carbohydrates, proteins, lipids, nucleic acids, water, ATP) important to living things. <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction
STRAND	AZ.SCHS-S5.	Physical Science
CONCEPT / STANDARD	SCHS-S5C1.	Structure and Properties of Matter: Understand physical, chemical, and atomic properties of matter.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C1-01.	Describe substances based on their physical properties. <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C1-02.	Describe substances based on their chemical properties. <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 5

		<p>Activity 1: Investigating Mixtures</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Teacher Resource CD: Matter - Chemical Properties and Changes Teacher Resource CD: Matter - Physical Properties and Changes Virtual Laboratory: Titrating an Acid of Unknown Concentration
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C1-03.	<p>Predict properties of elements and compounds using trends of the periodic table (e.g., metals, non-metals, bonding - ionic/covalent).</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table Teacher Resource CD: Matter - Chemical Properties and Changes Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C1-04.	<p>Separate mixtures of substances based on their physical properties.</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures Chemistry - A Closer Look at Matter: Unit 4 Lab 12

		Activity 1: Water Purification
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C1-05.	Describe the properties of electric charge and the conservation of electric charge. <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C1-06.	Describe the following features and components of the atom: Protons; neutrons; electrons; mass; number and type of particles; structure; organization. <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table Teacher Resource CD: Matter - Chemical Properties and Changes Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C1-07.	Describe the historical development of models of the atom. <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C1-08.	Explain the details of atomic structure (e.g., electron configuration, energy levels, isotopes). <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt Chemistry - A Closer Look at Matter: Unit 1 Lab 2

		<p>Activity 3: Forming Organic Compounds</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table Teacher Resource CD: Matter - Physical Properties and Changes
STRAND	AZ.SCHS-S5.	Physical Science
CONCEPT / STANDARD	SCHS-S5C2.	Motions and Forces: Analyze relationships between forces and motion.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C2-01.	<p>Determine the rate of change of a quantity (e.g., rate of erosion, rate of reaction, rate of growth, velocity).</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction Teacher Resource CD: Matter - Chemical Properties and Changes Teacher Resource CD: Matter - Physical Properties and Changes
STRAND	AZ.SCHS-S5.	Physical Science
CONCEPT / STANDARD	SCHS-S5C3.	Conservation of Energy and Increase in Disorder: Understand ways that energy is conserved, stored, and transferred.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C3-01.	<p>Describe the following ways in which energy is stored in a system: Mechanical; electrical; chemical; nuclear.</p> <ul style="list-style-type: none"> Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C3-06.	<p>Distinguish between heat and temperature.</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9

		<p>Activity 2: An Endothermic Reaction</p> <ul style="list-style-type: none"> Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C3-07.	<p>Explain how molecular motion is related to temperature and phase changes.</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law Teacher Resource CD: Matter - Chemical Properties and Changes Teacher Resource CD: Matter - Physical Properties and Changes
STRAND	AZ.SCHS-S5.	Physical Science
CONCEPT / STANDARD	SCHS-S5C4.	Chemical Reactions: Investigate relationships between reactants and products in chemical reactions.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C4-02.	<p>Identify the indicators of chemical change, including formation of a precipitate, evolution of a gas, color change, absorption or release of heat energy.</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Teacher Resource CD: Matter - Chemical Properties and Changes Virtual Laboratory: Titrating an Acid of Unknown Concentration
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C4-03.	<p>Represent a chemical reaction by using a balanced equation.</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction

		<ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Teacher Resource CD: Matter - Chemical Properties and Changes
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C4-04.	<p>Distinguish among the types of bonds (i.e., ionic, covalent, metallic, hydrogen bonding).</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Teacher Resource CD: Matter - Chemical Properties and Changes • Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C4-05.	<p>Describe the mole concept and its relationship to Avogadro's number.</p> <ul style="list-style-type: none"> • Teacher Resource CD: Matter - Chemical Properties and Changes
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C4-06.	<p>Solve problems involving such quantities as moles, mass, molecules, volume of a gas, and molarity using the mole concept and Avogadro's number.</p> <ul style="list-style-type: none"> • Teacher Resource CD: Matter - Chemical Properties and Changes
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C4-07.	<p>Predict the properties (e.g., melting point, boiling point, conductivity) of substances based upon bond type.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt

		<ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Teacher Resource CD: Matter - Chemical Properties and Changes • Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C4-09.	<p>Predict the products of a chemical reaction using types of reactions (e.g., synthesis, decomposition, replacement, combustion).</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Teacher Resource CD: Matter - Chemical Properties and Changes • Virtual Laboratory: Titrating an Acid of Unknown Concentration
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C4-11.	<p>Predict the effect of various factors (e.g., temperature, concentration, pressure, catalyst) on the equilibrium state and on the rates of chemical reaction.</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction

		<ul style="list-style-type: none"> Teacher Resource CD: Matter - Chemical Properties and Changes
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C4-12.	<p>Compare the nature, behavior, concentration, and strengths of acids and bases.</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Teacher Resource CD: Matter - Chemical Properties and Changes Virtual Laboratory: Titrating an Acid of Unknown Concentration
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C4-13.	<p>Determine the transfer of electrons in oxidation/reduction reactions.</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction Teacher Resource CD: Matter - Chemical Properties and Changes
STRAND	AZ.SCHS-S5.	Physical Science
CONCEPT / STANDARD	SCHS-S5C5.	Interactions of Energy and Matter: Understand the interactions of energy and matter.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C5-01.	<p>Describe various ways in which matter and energy interact (e.g., photosynthesis, phase change).</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures Chemistry - A Closer Look at Matter: Unit 2 Lab 6

		<p>Activity 1: Separating the Compound Water</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 6 <p>Activity 2: Writing a Description of a Chemical Reaction</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 10 <p>Activity 1: Testing Properties of Acids, Bases, and Salts</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 10 <p>Activity 2: Chemical Reactions of Acids with a Metal</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 10 <p>Activity 3: Production of a Salt - Neutralization Reaction</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 11 <p>Activity 1: The Traffic Light Reaction</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 8 <p>Activity 1: Observing Temperature Change in a Chemical Reaction</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 8 <p>Activity 2: Observing Color Change in a Chemical Reaction</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 8 <p>Activity 3: Observing Gas Production During a Chemical Reaction</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 8 <p>Activity 4: Observing a Biochemical Reaction</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 9 <p>Activity 1: An Exothermic Reaction</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 9 <p>Activity 2: An Endothermic Reaction</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 <p>Activity 2: Demonstrating Conservation of Mass</p> <ul style="list-style-type: none"> Teacher Resource CD: Matter - Chemical Properties and Changes Teacher Resource CD: Matter - Physical Properties and Changes Virtual Laboratory: Titrating an Acid of Unknown Concentration
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C5-04.	<p>Describe the basic assumptions of kinetic molecular theory.</p> <ul style="list-style-type: none"> Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S5C5-05.	<p>Apply kinetic molecular theory to the behavior of matter (e.g., gas laws).</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 7 <p>Activity 1: Demonstrating Boyle's Gas Law</p> <ul style="list-style-type: none"> Teacher Resource CD: Matter - Chemical Properties and Changes Teacher Resource CD: Matter - Physical Properties and Changes
STRAND	AZ.SCHS-S6.	Earth and Space Science
CONCEPT / STANDARD	SCHS-S6C1.	Geochemical Cycles: Analyze the interactions between the Earth's structures, atmosphere, and geochemical cycles.
PERFORMANCE OBJECTIVE /	SCHS-S6C1-05.	Describe factors that impact current and future water quantity and quality

PROFICIENCY LEVEL		including surface, ground, and local water issues. . <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S6C1-06.	Analyze methods of reclamation and conservation of water. . <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification
STRAND	AZ.SCHS-S6.	Earth and Space Science
CONCEPT / STANDARD	SCHS-S6C2.	Energy in the Earth System (Both Internal and External): Understand the relationships between the Earth's land masses, oceans, and atmosphere.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	SCHS-S6C2-17.	External Energy: Investigate the effects of acid rain, smoke, volcanic dust, urban development, and greenhouse gases, on climate change over various periods of time. <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Teacher Resource CD: Matter - Chemical Properties and Changes Teacher Resource CD: Matter - Physical Properties and Changes