

# Year at a Glance

Here's a quick snapshot of how the year breaks down by storyline so you can see at a glance how this program fits into your school year. The pacing is flexible, thoughtfully organized, and designed to make planning easier whether you're on a more traditional or block schedule.

# Experience Chemistry<sup>®</sup>

## STORYLINES (UNITS) 1-5

\*Storyline 3 should be included as needed to meet your local curriculum requirements. Inclusion of Storyline 3 may require excluding other materials.



These week totals are approximations based on standard instructional periods (40–55 mins) and block schedules (75–95 mins), and may vary by classroom or district pacing.

# Scope and Sequence

SCAN or CLICK the QR Code to view and download the full Course Planner & Pacing Guide.



## STORYLINE 1

Atoms, Elements, Molecules, and Materials

**Anchoring Phenomenon: Why does this rock change colors?**

INVESTIGATION 1 Atomic Structure	INVESTIGATION 2 The Periodic Table	INVESTIGATION 3 Chemical Bonding	INVESTIGATION 4 Physical Properties of Materials
FAST TRACK TOTAL <input checked="" type="checkbox"/> 11.5 Periods OR 5.75 Blocks	FAST TRACK TOTAL <input checked="" type="checkbox"/> 7.5 Periods OR 3.75 Blocks	FAST TRACK TOTAL <input checked="" type="checkbox"/> 11.5 Periods OR 5.75 Blocks	FAST TRACK TOTAL <input checked="" type="checkbox"/> 13.5 Periods OR 6.75 Blocks
Experience 1 The Particle Nature of Matter	Experience 1 The Periodic Table: An Overview	Experience 1 Ionic Bonds	Experience 1 States of Matter
Experience 2 Modeling Atoms	Experience 2 The Periodic Table and Atomic Structure	Experience 2 Metallic Bonds	Experience 2 Modeling Phase Changes
Experience 3 Atomic Emission Spectra and the Bohr Model	Experience 3 Periodic Trends	Experience 3 Covalent Bonds	Experience 3 Comparing Ionic and Molecular Compounds
Experience 4 Modern Atomic Theory		Experience 4 Intermolecular Attractions	Experience 4 Comparing Metals and Nonmetals
Experience 5 Electrons in Atoms		Experience 5 Names and Formulas of Compounds	Experience 5 Water and Aqueous Systems
			Experience 6 Properties of Solutions

## STORYLINE 2

Understanding Chemical Reactions

**Engineering Problem: How can you make airbags that inflate but not explode?**

INVESTIGATION 5 Chemical Quantities	INVESTIGATION 6 Chemical Reactions	INVESTIGATION 7 Stoichiometry	INVESTIGATION 8 Thermochemistry
FAST TRACK TOTAL <input checked="" type="checkbox"/> 9.5 Periods OR 4.75 Blocks	FAST TRACK TOTAL <input checked="" type="checkbox"/> 7.5 Periods OR 3.75 Blocks	FAST TRACK TOTAL <input checked="" type="checkbox"/> 8 Periods OR 4 Blocks	FAST TRACK TOTAL <input checked="" type="checkbox"/> 8 Periods OR 4 Blocks
Experience 1 The Mole Concept	Experience 1 Modeling Chemical Reactions	Experience 1 Quantifying Reactants and Products	Experience 1 Energy in Chemical Bonds
Experience 2 Molar Relationships	Experience 2 Predicting Outcomes of Chemical Reactions	Experience 2 Chemical Calculations	Experience 2 Enthalpies of Formation and Reaction
Experience 3 Percent Composition and Empirical Formulas	Experience 3 Reactions in Aqueous Solution	Experience 3 Limiting Reagent and Percent Yield	Experience 3 Enthalpy in Changes of State
Experience 4 Concentrations of Solutions			

Period = 40–55 minutes    Block = 75–95 minutes

## STORYLINE 3

The Chemistry of Climate Change\*

**Anchoring Phenomenon: Why are summers hotter than they used to be?**

\*Storyline 3 should be included as needed to meet your local curriculum requirements. Inclusion of Storyline 3 may require excluding other materials.

INVESTIGATION 9 The Behavior of Gases	INVESTIGATION 10 Weather and Climate	INVESTIGATION 11 Global Climate Change
FAST TRACK TOTAL <input checked="" type="checkbox"/> 9.5 Periods OR 4.75 Blocks	FAST TRACK TOTAL <input checked="" type="checkbox"/> 12 Periods OR 6 Blocks	FAST TRACK TOTAL <input checked="" type="checkbox"/> 14.5 Periods OR 7.25 Blocks
Experience 1 Properties of Gases	Experience 1 Earth's Surface Systems	Experience 1 The Chemistry of Earth's Atmosphere
Experience 2 The Gas Laws	Experience 2 Water and Energy in the Atmosphere	Experience 2 Evidence of Climate Change
Experience 3 Ideal Gases	Experience 3 Atmospheric System Feedbacks	Experience 3 Anthropogenic Carbon Emissions
Experience 4 Gases in Earth's Atmosphere	Experience 4 Long-Term Climate Factors	Experience 4 Climate Models
	Experience 5 Short-Term Climate Factors	Experience 5 Consequences of Climate Change
		Experience 6 Responses to Climate Change

## STORYLINE 4

The Dynamics of Chemical Reactions and Ocean Acidification

**Engineering Problem: How can we reverse ocean acidification?**

INVESTIGATION 12 Reaction Rates and Equilibrium	INVESTIGATION 13 Acid-Base Equilibria	INVESTIGATION 14 Ocean Acidification
FAST TRACK TOTAL <input checked="" type="checkbox"/> 10.5 Periods OR 5.25 Blocks	FAST TRACK TOTAL <input checked="" type="checkbox"/> 10 Periods OR 5 Blocks	FAST TRACK TOTAL <input checked="" type="checkbox"/> 10 Periods OR 5 Blocks
Experience 1 Rates of Reaction	Experience 1 Acids, Bases, and Salts	Experience 1 Ocean pH Levels
Experience 2 The Progress of Chemical Reactions	Experience 2 Strong and Weak Acids and Bases	Experience 2 The Ocean as a Carbon Sink
Experience 3 Reversible Reactions and Equilibrium	Experience 3 Reactions of Acids and Bases	Experience 3 The Ocean and Climate Change
Experience 4 Free Energy and Entropy	Experience 4 Buffers and Equilibria	Experience 4 Consequences of Ocean Acidification

## STORYLINE 5

Energy and Matter

**Engineering Problem: How can we design sustainable solutions to meet the world's energy needs?**

INVESTIGATION 15 Oxidation-Reduction Reactions	INVESTIGATION 16 Organic Chemistry	INVESTIGATION 17 Nuclear Processes	INVESTIGATION 18 Green Chemistry
FAST TRACK TOTAL <input checked="" type="checkbox"/> 7.5 Periods OR 3.75 Blocks	FAST TRACK TOTAL <input checked="" type="checkbox"/> 7.5 Periods OR 3.75 Blocks	FAST TRACK TOTAL <input checked="" type="checkbox"/> 7.5 Periods OR 3.75 Blocks	FAST TRACK TOTAL <input checked="" type="checkbox"/> 8 Periods OR 4 Blocks
Experience 1 Oxidation vs. Reduction	Experience 1 Hydrocarbons	Experience 1 Radioactivity and Half-Life	Experience 1 Industrial Chemicals and the Environment
Experience 2 Modeling Redox Reactions	Experience 2 Functional Groups and Polymers	Experience 2 Fission and Fusion	Experience 2 Principles of Green Chemistry
Experience 3 Electrochemical Cells	Experience 3 The Chemistry of Life	Experience 3 Nuclear Technologies	Experience 3 Designing Sustainable Chemical Processes

Period = 40–55 minutes    Block = 75–95 minutes