



# ALLEN ACADEMY

## Chemistry

First Trimester	Second Trimester	Third Trimester
<p><b>Unit 1: Physical and Chemical Properties of Matter</b></p> <p><b>Core Laboratory Investigations:</b> 1 – Accuracy and Precision in the Food Industry 2 – Paper Chromatography 3 – Separation of a Mixture 4 – Density as an Intensive Property</p> <p><b>Unit 2: Atomic Theory</b></p> <p><b>Core Laboratory Investigations:</b> 5 – Investigating Rutherford’s Classic Experiment 6 – Pennium 7 – Spaghetti Bridges</p> <p><b>Unit 3: The Electron Cloud</b></p> <p><b>Core Laboratory Investigations:</b> 8 – Flame Tests</p> <p><b>Unit 4: The Periodic Table</b></p> <p><b>Core Laboratory Investigations:</b> 9 – Reactivity within a Group</p> <p><b>Unit 5: Bonding and IMF</b></p> <p><b>Core Laboratory Investigations:</b> 10 – Ionic or Covalent? 11 – Club Fuego and the Case of Intermolecular Forces</p>	<p><b>Unit 6: The Mole Concept and Compounds</b></p> <p><b>Core Laboratory Investigations:</b> 12 – Analysis of a Hydrated Compound</p> <p><b>Unit 7: Chemical Reactions</b></p> <p><b>Core Laboratory Investigations:</b> 13 – Observing Chemical Change 14 – Classifying Reactions 15 – Activity Series</p> <p><b>Unit 8: Stoichiometry</b></p> <p><b>Unit 9: Gas Laws and Gas Stoichiometry</b></p> <p><b>Core Laboratory Investigations:</b> 16 – Boyle’s Law 17 – Mass of Butane 18 – Stoichiometry Rockets</p>	<p><b>Unit 10: Solutions and Solution Stoichiometry</b></p> <p><b>Core Laboratory Investigations:</b> 19 – Effect of Temperature on Solubility of a Salt 20 – Intro to Colorimetry</p> <p><b>Unit 11: Acid-Base Chemistry</b></p> <p><b>Core Laboratory Investigations:</b> 21 – Acid Nomenclature 22 – Exploring pH 23 – pH of Salt Solutions 24 – Weak Acid-Strong Base Titration</p> <p><b>Unit 12: Thermochemistry</b></p> <p><b>Core Laboratory Investigations:</b> 25 – Energy Content of Food 26 – Specific Heat of a Metal 27 – Enthalpy of Solution 28 – Hess’s Law</p> <p><b>Unit 13: Electrochemistry</b></p> <p><b>Core Laboratory Investigations:</b> 29 – Electrolysis 30 – REDOX Reaction</p>

### Instructional Resources:

- Online Text: *Modern Chemistry*, Holt McDougal