FLINNPREP™ AP* Chemistry Lab Solution

SYLLABUS

Welcome to your AP* Chemistry Lab experience. Use this digital course to prepare yourself for the lab by watching helpful overview, technique and summary videos. Also, learn how what you do in the lab may show up on the AP exam. Finally, answer the exam-style questions at the end of each lab to get yourself even more ready for the exam! This course includes the following advanced inquiry labs and digital components.

Safety in the Lab

- Prelab Safety
- Safety Equipment
- Personal Protective Equipment
- Chemical Labels and Safety Data Sheets
- Responsible Chemical Disposal
- Common Lab Procedures
- Exposure Response
- Safety Guidelines and Agreement

Lab 1 – Analysis of Food Dyes in Beverages

- Overview
- How to Collect Absorbance Readings Using a Spectrophotometer
- Conclusion—Connect the Lab to the AP Exam
- Open Educational Resources
- Practice Exam Questions
- Reteach Videos

Lab 2 – Percent Copper in Brass

- Overview
- Using a Spectrophotometer
- Applying What You've Learned on the AP Exam
- Open Educational Resources
- Practice Exam Questions
- Reteach Videos

Lab 3 – Gravimetric Analysis of Calcium and Hard Water

- Overview
- How to Set Up and Perform a Vacuum Filtration
- How This Lab Topic May Appear on the AP Exam
- Practice Exam Questions
- Reteach Videos

Lab 4 – Acidity of Beverages

- Overview
- Standardization of NaOH
- Titration Techniques
- pH Monitoring
- How Will This Show Up on the AP Exam?
- Open Educational Resources
- Practice Exam Questions
- Reteach Videos

Lab 5 – Separation of a Dye Mixture Using Chromatography

- Overview
- Preparing, Developing and Analyzing Chromatography Paper
- Preparing Your Own Capillary Spotter
- What Kinds of Chromatography Problems Can Show Up on the Exam?
- Open Educational Resources
- Practice Exam Questions
- Reteach Videos

Lab 6 – Qualitative Analysis and Chemical Bonding

- Overview
- Review of Bond Types
- How to Perform a Conductivity Test
- How to Perform a Melting Point Test
- Summary—Connect the Lab to the AP Exam
- Open Educational Resources
- Practice Exam Questions
- Reteach Videos

Lab 7 – Green Chemistry Analysis of a Mixture

- An Introduction to the Stoichiometric Calculation and Experimental Technique Used to Determine Weight Percent
- How to Set Up and Perform a High Temperature Heat Treatment Safely
- How This Lab Topic May Appear on the AP Exam
- Reteach Videos

Lab 8 – Analysis of Hydrogen Peroxide

- Overview
- How to Balance Redox Reactions in Acidic Solution
- How to Balance Redox Reactions in Basic Solution
- Titration Techniques
- Summary—Connect the Lab to the AP Exam
- Open Educational Resources
- Practice Exam Questions
- Reteach Videos

Lab 9 – Separating a Synthetic Pain Relief Mixture

- Overview
- How to Perform a Liquid – Liquid Extraction
- How This Topic May Show Up on the AP Exam
- Open Educational Resources
- Practice Exam Questions
- Reteach Videos

Lab 10 – Rate of Decomposition of Calcium Carbonate

- Overview
- Setting Up Your Experiment
- How This Lab Topic May Show Up on the AP Exam
- Practice Exam Questions
- Reteach Videos

Lab 11 – Kinetics of Crystal Violet Fading

- Overview
- Integrated Rate Laws
- Derivation of Integrated Rate Laws
- Using a Spectrophotometer
- Summary—Connect the Lab to the AP Exam
- Open Educational Resources
- Practice Exam Questions
- Reteach Videos

Lab 12 – Designing a Hand Warmer

- Overview
- Summary—Connect the Lab to the AP Exam
- Open Educational Resources
- VR Simulation
- Practice Exam Questions
- Reteach Videos

Lab 13 – Applications of LeChatelier's Principle

- Overview
- Iodine, Triiodide Equilibria
- How This Lab Topic May Appear on the AP Exam
- Open Educational Resources
- VR Simulation
- Practice Exam Questions
- Reteach Videos

Lab 14 – Acid–Base Titrations

- Overview
- How to Perform a Titration
- Introductory Activity Set Up
- Summary of Titration Concepts on AP Exam
- VR Simulation
- Practice Exam Questions
- Reteach Videos

Lab 15 – Buffers in Household Products

- How Buffers Work
- How to Set Up and Carry Out a Titration
- What Do AP Exam Questions on Buffers Look Like?
- Practice Exam Questions
- Reteach Videos

Lab 16 – Properties of Buffer Solutions

- Overview
- How to Do Problems That Involve Logarithms Without a Calculator
- Summary—Connect the Lab to the AP Exam
- Practice Exam Questions
- Reteach Videos

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Flinn*PREP*™ Online Student Prep Course for AP* Chemistry

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