

AP Chemistry

Past-Paper Exercise Sheets — Question Index
77 subtopics • 384 questions

1.1 Moles and Molar Mass

9 questions • calculation x9

Source	Q	Type
2025	2	calculation
2024	1	calculation
2024	2	calculation
2024	7	calculation
2023	1	calculation
2022	4	calculation
2019	1	calculation
2018	1	calculation
2016	3	calculation

1.2 Mass Spectra of Elements

2 questions • data response, short answer

Source	Q	Type
2025	1	data response
2021	2	short answer

1.3 Elemental Composition of Pure Substances

2 questions • calculation x2

Source	Q	Type
2025	2	calculation
2014	1	calculation

1.5 Atomic Structure and Electron Configuration

9 questions • calculation x7, data response, short answer

Source	Q	Type
2026	1	calculation
2025	1	data response
2023	1	calculation
2022	3	calculation
2021	2	short answer
2019	5	calculation
2018	3	calculation
2016	1	calculation
2015	1	calculation

1.6 Photoelectron Spectroscopy

3 questions • calculation $\times 2$, short answer

Source	Q	Type
2021	2	short answer
2019	5	calculation
2018	7	calculation

1.7 Periodic Trends

11 questions • calculation $\times 8$, short answer $\times 2$, data response

Source	Q	Type
2026	1	calculation
2025	1	data response
2024	3	calculation
2023	1	calculation
2023	6	calculation
2022	3	calculation
2021	2	short answer
2019	2	calculation
2018	3	calculation
2016	1	calculation
2014	5	short answer

1.8 Valence Electrons and Ionic Compounds

1 question • short answer

Source	Q	Type
2015	6	short answer

2.1 Types of Chemical Bonds

3 questions • short answer x2, calculation

Source	Q	Type
2026	5	short answer
2016	3	calculation
2015	6	short answer

2.2 Intramolecular Force and Potential Energy

6 questions • calculation x5, data response

Source	Q	Type
2026	4	calculation
2025	1	data response
2023	2	calculation
2023	6	calculation
2019	2	calculation
2018	3	calculation

2.3 Structure of Ionic Solids

4 questions • calculation x3, short answer

Source	Q	Type
2026	7	calculation
2021	6	short answer
2017	6	calculation
2016	1	calculation

2.4 Structure of Metals and Alloys

1 question • calculation

Source	Q	Type
2024	3	calculation

2.5 Lewis Diagrams

9 questions • calculation x8, short answer

Source	Q	Type
2025	3	calculation
2024	6	calculation
2022	2	calculation
2021	1	calculation
2018	2	calculation
2017	1	calculation
2016	2	calculation
2015	2	calculation
2014	5	short answer

2.6 Resonance and Formal Charge

4 questions • calculation x4

Source	Q	Type
2026	2	calculation
2023	2	calculation
2017	2	calculation
2016	2	calculation

2.7 VSEPR and Bond Hybridization

12 questions • calculation x8, short answer x2, data response x2

Source	Q	Type
2026	2	calculation
2026	5	short answer
2025	4	data response
2025	5	data response
2024	6	calculation
2023	2	calculation
2022	7	calculation
2019	1	calculation
2018	2	calculation
2017	1	calculation
2015	2	calculation
2014	5	short answer

3.1 Intermolecular and Interparticle Forces

12 questions • calculation x8, short answer x2, data response x2

Source	Q	Type
2026	5	short answer
2025	2	calculation
2025	4	data response
2025	5	data response
2023	5	calculation
2023	6	calculation
2022	1	calculation
2022	4	calculation
2021	2	short answer
2019	1	calculation
2019	2	calculation
2018	4	calculation

3.2 Properties of Solids

1 question • calculation

Source	Q	Type
2014	1	calculation

3.3 Solids, Liquids, and Gases

2 questions • data response x2

Source	Q	Type
2025	4	data response
2025	5	data response

3.4 Ideal Gas Law

12 questions • calculation x9, data response x3

Source	Q	Type
2025	5	data response
2024	2	calculation
2023	5	calculation
2022	2	calculation
2021	1	calculation
2021	7	calculation
2019	2	calculation
2019	4	calculation
2018	4	calculation
2017	1	calculation
2016	5	data response
2014	4	data response

3.5 Kinetic Molecular Theory

3 questions • calculation x3

Source	Q	Type
2024	4	calculation
2021	7	calculation
2019	4	calculation

3.6 Deviation from Ideal Gas Law

2 questions • calculation x2

Source	Q	Type
2021	7	calculation
2019	4	calculation

3.7 Solutions and Mixtures

3 questions • calculation x2, data response

Source	Q	Type
2025	1	data response
2022	6	calculation
2019	3	calculation

3.8 Representations of Solutions

8 questions • calculation x7, short answer

Source	Q	Type
2026	6	calculation
2024	7	calculation
2022	3	calculation
2022	6	calculation
2021	3	calculation
2021	6	short answer
2019	3	calculation
2015	4	calculation

3.9 Separation of Solutions and Mixtures

2 questions • calculation, short answer

Source	Q	Type
2024	7	calculation
2017	4	short answer

3.10 Solubility

3 questions • calculation x2, short answer

Source	Q	Type
2022	1	calculation
2021	6	short answer
2019	1	calculation

3.12 Properties of Photons

2 questions • short answer, calculation

Source	Q	Type
2021	2	short answer
2019	5	calculation

3.13 Beer-Lambert Law

3 questions • calculation x3

Source	Q	Type
2026	6	calculation
2022	6	calculation
2021	3	calculation

4.2 Net Ionic Equations

12 questions • calculation x11, short answer

Source	Q	Type
2026	1	calculation
2026	2	calculation
2025	6	calculation
2024	3	calculation
2023	3	calculation
2022	7	calculation
2021	1	calculation
2021	3	calculation
2019	3	calculation
2018	1	calculation
2015	6	short answer
2015	3	calculation

4.3 Representations of Reactions

3 questions • calculation x2, short answer

Source	Q	Type
2022	3	calculation
2021	2	short answer
2018	2	calculation

4.5 Stoichiometry

12 questions • calculation x11, data response

Source	Q	Type
2026	7	calculation
2025	1	data response
2025	2	calculation
2025	3	calculation
2025	6	calculation
2024	2	calculation
2024	3	calculation
2023	1	calculation
2023	2	calculation
2023	3	calculation
2023	4	calculation
2022	1	calculation

4.6 Introduction to Titration

8 questions • calculation x8

Source	Q	Type
2026	3	calculation
2025	2	calculation
2019	7	calculation
2018	2	calculation
2018	3	calculation
2016	7	calculation
2015	3	calculation
2014	2	calculation

4.8 Introduction to Acid-Base Reactions

1 question • calculation

Source	Q	Type
2016	2	calculation

4.9 Oxidation-Reduction (Redox) Reactions

11 questions • calculation x11

Source	Q	Type
2026	2	calculation
2025	6	calculation
2024	3	calculation
2023	1	calculation
2022	2	calculation
2021	1	calculation
2019	2	calculation
2019	7	calculation
2018	1	calculation
2018	3	calculation
2016	3	calculation

5.1 Reaction Rates

2 questions • calculation x2

Source	Q	Type
2024	6	calculation
2023	3	calculation

5.2 Introduction to Rate Law

8 questions • calculation x5, data response x3

Source	Q	Type
2025	2	calculation
2023	3	calculation
2022	5	calculation
2019	6	data response
2017	2	calculation
2016	5	data response
2015	5	data response
2014	7	calculation

5.3 Concentration Changes Over Time

9 questions • calculation x6, data response x3

Source	Q	Type
2026	2	calculation
2024	6	calculation
2022	5	calculation
2019	6	data response
2018	7	calculation
2017	2	calculation
2016	5	data response
2015	5	data response
2014	7	calculation

5.5 Collision Model

5 questions • calculation x5

Source	Q	Type
2024	2	calculation
2023	3	calculation
2017	1	calculation
2016	2	calculation
2014	7	calculation

5.8 Reaction Mechanism and Rate Law

2 questions • calculation, data response

Source	Q	Type
2022	5	calculation
2019	6	data response

5.9 Pre-Equilibrium Approximation

1 question • data response

Source	Q	Type
2019	6	data response

5.11 Catalysis

2 questions • calculation x2

Source	Q	Type
2025	7	calculation
2021	1	calculation

6.1 Endothermic and Exothermic Processes

2 questions • calculation x2

Source	Q	Type
2026	3	calculation
2023	3	calculation

6.3 Heat Transfer and Thermal Equilibrium

1 question • calculation

Source	Q	Type
2018	1	calculation

6.4 Heat Capacity and Calorimetry

12 questions • calculation x12

Source	Q	Type
2026	1	calculation
2025	3	calculation
2024	1	calculation
2024	4	calculation
2023	3	calculation
2022	1	calculation
2021	4	calculation
2019	1	calculation
2018	1	calculation
2017	5	calculation
2016	1	calculation
2015	7	calculation

6.5 Energy of Phase Changes

5 questions • calculation x4, data response

Source	Q	Type
2025	4	data response
2023	6	calculation
2022	1	calculation
2022	4	calculation
2015	7	calculation

6.6 Introduction to Enthalpy of Reaction

6 questions • calculation x6

Source	Q	Type
2026	1	calculation
2026	7	calculation
2025	3	calculation
2024	1	calculation
2023	3	calculation
2018	1	calculation

6.7 Bond Enthalpies

2 questions • calculation x2

Source	Q	Type
2019	2	calculation
2017	2	calculation

6.8 Enthalpy of Formation

3 questions • calculation x3

Source	Q	Type
2026	7	calculation
2025	3	calculation
2014	6	calculation

6.9 Hess's Law

6 questions • calculation x6

Source	Q	Type
2026	7	calculation
2025	3	calculation
2023	2	calculation
2019	2	calculation
2015	7	calculation
2014	6	calculation

7.3 Reaction Quotient and Equilibrium Constant

8 questions • calculation x7, data response

Source	Q	Type
2025	1	data response
2025	3	calculation
2024	5	calculation
2023	2	calculation
2022	2	calculation
2021	1	calculation
2019	2	calculation
2017	3	calculation

7.4 Calculating the Equilibrium Constant

9 questions • calculation x8, data response

Source	Q	Type
2026	3	calculation
2026	4	calculation
2025	3	calculation
2023	2	calculation
2022	2	calculation
2019	2	calculation
2018	2	calculation
2017	3	calculation
2014	4	data response

7.5 Magnitude of the Equilibrium Constant

1 question • calculation

Source	Q	Type
2016	6	calculation

7.6 Properties of the Equilibrium Constant

3 questions • calculation x2, data response

Source	Q	Type
2026	3	calculation
2018	2	calculation
2014	4	data response

7.7 Calculating Equilibrium Concentrations

1 question • calculation

Source	Q	Type
2016	6	calculation

7.8 Representations of Equilibrium

3 questions • calculation x3

Source	Q	Type
2024	5	calculation
2023	2	calculation
2023	7	calculation

7.9 Introduction to Le Chatelier's Principle

2 questions • calculation x2

Source	Q	Type
2025	3	calculation
2019	1	calculation

7.10 Reaction Quotient and Le Chatelier's Principle

8 questions • calculation x6, data response x2

Source	Q	Type
2026	3	calculation
2025	1	data response
2024	5	calculation
2022	2	calculation
2018	2	calculation
2018	5	calculation
2016	6	calculation
2014	4	data response

7.11 Introduction to Solubility Equilibria

8 questions • calculation x6, data response, short answer

Source	Q	Type
2026	1	calculation
2025	1	data response
2023	7	calculation
2022	7	calculation
2021	6	short answer
2017	6	calculation
2015	4	calculation
2014	1	calculation

7.12 Common-Ion Effect

6 questions • calculation x4, data response, short answer

Source	Q	Type
2026	1	calculation
2025	1	data response
2023	7	calculation
2022	7	calculation
2021	6	short answer
2015	4	calculation

8.1 Introduction to Acids and Bases

4 questions • calculation x3, short answer

Source	Q	Type
2026	3	calculation
2025	7	calculation
2015	6	short answer
2014	2	calculation

8.2 pH and pOH of Strong Acids and Bases

4 questions • calculation x3, data response

Source	Q	Type
2026	3	calculation
2025	1	data response
2019	3	calculation
2014	2	calculation

8.3 Weak Acid and Base Equilibria

8 questions • calculation x8

Source	Q	Type
2026	3	calculation
2025	7	calculation
2023	5	calculation
2021	1	calculation
2019	3	calculation
2018	5	calculation
2016	4	calculation
2014	2	calculation

8.4 Acid-Base Reactions and Buffers

9 questions • calculation x9

Source	Q	Type
2025	2	calculation
2023	4	calculation
2022	1	calculation
2021	1	calculation
2019	3	calculation
2018	2	calculation
2017	3	calculation
2016	2	calculation
2014	2	calculation

8.5 Acid-Base Titrations

6 questions • calculation x6

Source	Q	Type
2026	3	calculation
2025	2	calculation
2024	1	calculation
2022	1	calculation
2015	3	calculation
2014	2	calculation

8.6 Molecular Structure of Acids and Bases

2 questions • calculation x2

Source	Q	Type
2025	7	calculation
2024	1	calculation

8.7 pH and pKa

6 questions • calculation x6

Source	Q	Type
2025	2	calculation
2024	1	calculation
2024	2	calculation
2022	1	calculation
2018	2	calculation
2016	4	calculation

8.8 Properties of Buffers

1 question • calculation

Source	Q	Type
2024	1	calculation

8.9 Henderson-Hasselbalch Equation

7 questions • calculation x7

Source	Q	Type
2026	3	calculation
2025	2	calculation
2024	2	calculation
2023	4	calculation
2019	3	calculation
2017	3	calculation
2015	3	calculation

8.10 Buffer Capacity

1 question • calculation

Source	Q	Type
2017	3	calculation

8.11 pH and Solubility

1 question • data response

Source	Q	Type
2025	1	data response

9.1 Introduction to Entropy

3 questions • calculation x3

Source	Q	Type
2025	3	calculation
2024	2	calculation
2019	1	calculation

9.2 Absolute Entropy and Entropy Change

5 questions • calculation $\times 4$, short answer

Source	Q	Type
2025	3	calculation
2022	2	calculation
2021	2	short answer
2019	1	calculation
2017	2	calculation

9.3 Gibbs Free Energy and Thermodynamic Favorability

8 questions • calculation $\times 8$

Source	Q	Type
2026	4	calculation
2025	3	calculation
2024	2	calculation
2023	1	calculation
2022	2	calculation
2019	1	calculation
2016	2	calculation
2015	2	calculation

9.4 Thermodynamic and Kinetic Control

1 question • short answer

Source	Q	Type
2021	2	short answer

9.5 Free Energy and Equilibrium

4 questions • calculation $\times 4$

Source	Q	Type
2025	3	calculation
2022	3	calculation
2017	2	calculation
2015	2	calculation

9.8 Galvanic (Voltaic) and Electrolytic Cells

7 questions • calculation x6, short answer

Source	Q	Type
2025	6	calculation
2024	3	calculation
2023	1	calculation
2021	5	calculation
2018	6	calculation
2015	1	calculation
2014	3	short answer

9.9 Cell Potential and Free Energy

10 questions • calculation x10

Source	Q	Type
2026	2	calculation
2025	6	calculation
2024	3	calculation
2023	1	calculation
2022	3	calculation
2019	2	calculation
2018	6	calculation
2017	7	calculation
2016	3	calculation
2015	1	calculation

9.10 Cell Potential Under Nonstandard Conditions

1 question • calculation

Source	Q	Type
2015	1	calculation

9.11 Electrolysis and Faraday's Law

5 questions • calculation x5

Source	Q	Type
2026	2	calculation
2025	6	calculation
2024	3	calculation
2021	5	calculation
2015	1	calculation