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AP Chemistry Contents

Table of Contents

Unit 1 Preview

Unit Preview

Example

How to use

This preview is your **map**. Use the TOC to jump into any Topic page. Fill each Topic page later — the links already exist.

Topics in this Unit

- **1.1/Moles and Molar Mass, 1.2/Mass Spectra of Elements, 1.3/Elemental Composition of Pure Substances, 1.4/Composition of Mixtures, 1.5/Atomic Structure and Electron Configuration, 1.6/Photoelectron Spectroscopy, 1.7/Periodic Trends, 1.8/Valence Electrons and Ionic Compounds** 1.1/Moles and Molar Mass, 1.2/Mass Spectra of Elements, 1.3/Elemental Composition of Pure Substances, 1.4/Composition of Mixtures, 1.5/Atomic Structure and Electron Configuration, 1.6/Photoelectron Spectroscopy, 1.7/Periodic Trends, 1.8/Valence Electrons and Ionic Compounds

Main Notes

Definition

Key Idea

Write the core definition/idea here.

Equation

Must-Know Relationship

(equation / proportionality / unit analysis)

Example

Micro Example

(one short worked example or quick check)

Diagram / Figure

Diagram Placeholder

Drop an image later:
`\includegraphics[width=\linewidth]{diagrams/U1/1.1/Moles and Molar Mass, 1.2/Mass Spectra of Elements, 1.3/Elemental Composition of Pure Substances, 1.4/Composition of Mixtures, 1.5/Atomic Structure and Electron Configuration, 1.6/Photoelectron Spectroscopy, 1.7/Periodic Trends, 1.8/Valence Electrons and Ionic Compounds .png}`

Extra Notes

⋆ traps

⋆ quick rules

⋆ units/signs

Unit 2 Preview

Unit Preview

Example

How to use

This preview is your **map**. Use the TOC to jump into any Topic page. Fill each Topic page later — the links already exist.

Topics in this Unit

- **2.1/Types of Chemical Bonds, 2.2/Intramolecular Force and Potential Energy, 2.3/Structure of Ionic Solids, 2.4/Structure of Metals and Alloys, 2.5/Lewis Diagrams, 2.6/Resonance and Formal Charge, 2.7/VSEPR and Hybridization** 2.1/Types of Chemical Bonds, 2.2/Intramolecular Force and Potential Energy, 2.3/Structure of Ionic Solids, 2.4/Structure of Metals and Alloys, 2.5/Lewis Diagrams, 2.6/Resonance and Formal Charge, 2.7/VSEPR and Hybridization

Main Notes

Definition

Key Idea

Write the core definition/idea here.

Equation

Must-Know Relationship

(equation / proportionality / unit analysis)

Example

Micro Example

(one short worked example or quick check)

Diagram / Figure

Diagram Placeholder

Drop an image later:
`\includegraphics[width=\linewidth]{diagrams/U2/2.1/Types of Chemical Bonds, 2.2/Intramolecular Force and Potential Energy, 2.3/Structure of Ionic Solids, 2.4/Structure of Metals and Alloys, 2.5/Lewis Diagrams, 2.6/Resonance and Formal Charge, 2.7/VSEPR and Hybridization .png}`

Extra Notes

⋆ traps

⋆ quick rules

⋆ units/signs

Unit 3 Preview

Unit Preview

Example

How to use

This preview is your **map**. Use the TOC to jump into any Topic page. Fill each Topic page later — the links already exist.

Topics in this Unit

- **3.1/Intermolecular and Interparticle Forces, 3.2/Properties of Solids, 3.3/Solids, Liquids, and Gases, 3.4/Ideal Gas Law, 3.5/Kinetic Molecular Theory, 3.6/Deviations from Ideal Gas Law, 3.7/Solutions and Mixtures, 3.8/Representation of Solutions, 3.9/Separation of Solutions and Mixtures**
  3.1/Intermolecular and Interparticle Forces, 3.2/Properties of Solids, 3.3/Solids, Liquids, and Gases, 3.4/Ideal Gas Law, 3.5/Kinetic Molecular Theory, 3.6/Deviations from Ideal Gas Law, 3.7/Solutions and Mixtures, 3.8/Representation of Solutions, 3.9/Separation of Solutions and Mixtures

Main Notes

Definition

Key Idea

Write the core definition/idea here.

Equation

Must-Know Relationship

(equation / proportionality / unit analysis)

Example

Micro Example

(one short worked example or quick check)

Diagram / Figure

Diagram Placeholder

Drop an image later:

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\includegraphics[width=\linewidth]{diagrams/U3/3.1/Intermolecular and Interparticle Forces, 3.2/Properties of Solids, 3.3/Solids, Liquids, and Gases, 3.4/Ideal Gas Law, 3.5/Kinetic Molecular Theory, 3.6/Deviations from Ideal Gas Law, 3.7/Solutions and Mixtures, 3.8/Representation of Solutions, 3.9/Separation of Solutions and Mixtures .png}
```

Extra Notes

⋆ traps

⋆ quick rules

⋆ units/signs

Unit 4 Preview

Unit Preview

Example

How to use

This preview is your **map**. Use the TOC to jump into any Topic page. Fill each Topic page later — the links already exist.

Topics in this Unit

- **4.1/Introduction for Reactions, 4.2/Net Ionic Equations, 4.3/Representations of Reactions, 4.4/Physical and Chemical Changes, 4.5/Stoichiometry, 4.6/Introduction to Titration, 4.7/Types of Chemical Reactions, 4.8/Introduction to Oxidation-Reduction (Redox), 4.9/Oxidation-Reduction (Redox) Reactions** 4.1/Introduction for Reactions, 4.2/Net Ionic Equations, 4.3/Representations of Reactions, 4.4/Physical and Chemical Changes, 4.5/Stoichiometry, 4.6/Introduction to Titration, 4.7/Types of Chemical Reactions, 4.8/Introduction to Oxidation-Reduction (Redox), 4.9/Oxidation-Reduction (Redox) Reactions

Main Notes

Definition

Key Idea

Write the core definition/idea here.

Equation

Must-Know Relationship

(equation / proportionality / unit analysis)

Example

Micro Example

(one short worked example or quick check)

Diagram / Figure

Diagram Placeholder

Drop an image later:

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\includegraphics[width=\linewidth]{diagrams/U4/
4.1/Introduction for Reactions, 4.2/Net Ionic Equations,
4.3/Representations of Reactions, 4.4/Physical and
Chemical Changes, 4.5/Stoichiometry, 4.6/Introduction
to Titration, 4.7/Types of Chemical Reactions,
4.8/Introduction to Oxidation-Reduction (Redox),
4.9/Oxidation-Reduction (Redox) Reactions .png}
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Extra Notes

⋆ traps

⋆ quick rules

⋆ units/signs

Unit 5 Preview

Unit Preview

Example

How to use

This preview is your **map**. Use the TOC to jump into any Topic page. Fill each Topic page later — the links already exist.

Topics in this Unit

- **5.1/Reaction Rates, 5.2/Introduction to Rate Law, 5.3/Concentration Changes Over Time, 5.4/Elementary Reactions, 5.5/Collision Model, 5.6/Reaction Energy Profile, 5.7/Introduction to Reaction Mechanisms, 5.8/Reaction Mechanism and Rate Law, 5.9/Pre-Equilibrium Approximation, 5.10/Multistep Reaction Energy Profile, 5.11/Catalysis** 5.1/Reaction Rates, 5.2/Introduction to Rate Law, 5.3/Concentration Changes Over Time, 5.4/Elementary Reactions, 5.5/Collision Model, 5.6/Reaction Energy Profile, 5.7/Introduction to Reaction Mechanisms, 5.8/Reaction Mechanism and Rate Law, 5.9/Pre-Equilibrium Approximation, 5.10/Multistep Reaction Energy Profile, 5.11/Catalysis

Main Notes

Definition

Key Idea

Write the core definition/idea here.

Equation

Must-Know Relationship

(equation / proportionality / unit analysis)

Example

Micro Example

(one short worked example or quick check)

Diagram / Figure

Diagram Placeholder

Drop an image later:
`\includegraphics[width=\linewidth]{diagrams/U5/5.1/Reaction Rates, 5.2/Introduction to Rate Law, 5.3/Concentration Changes Over Time, 5.4/Elementary Reactions, 5.5/Collision Model, 5.6/Reaction Energy Profile, 5.7/Introduction to Reaction Mechanisms, 5.8/Reaction Mechanism and Rate Law, 5.9/Pre-Equilibrium Approximation, 5.10/Multistep Reaction Energy Profile, 5.11/Catalysis .png}`

Extra Notes

⋆ traps

⋆ quick rules

⋆ units/signs

Unit 6 Preview

Unit Preview

Example

How to use

This preview is your **map**. Use the TOC to jump into any Topic page. Fill each Topic page later — the links already exist.

Topics in this Unit

- **6.1/Endothermic and Exothermic Processes, 6.2/Energy Diagram, 6.3/Heat Transfer and Thermal Equilibrium, 6.4/Heating Curve, 6.5/Calorimetry, 6.6/Introduction to Enthalpy of Reaction, 6.7/Hess's Law, 6.8/Standard Enthalpies of Formation, 6.9/Bond Enthalpies** 6.1/Endothermic and Exothermic Processes, 6.2/Energy Diagram, 6.3/Heat Transfer and Thermal Equilibrium, 6.4/Heating Curve, 6.5/Calorimetry, 6.6/Introduction to Enthalpy of Reaction, 6.7/Hess's Law, 6.8/Standard Enthalpies of Formation, 6.9/Bond Enthalpies

Main Notes

Definition

Key Idea

Write the core definition/idea here.

Equation

Must-Know Relationship

(equation / proportionality / unit analysis)

Example

Micro Example

(one short worked example or quick check)

Diagram / Figure

Diagram Placeholder

Drop an image later:
`\includegraphics[width=\linewidth]{diagrams/U6/6.1/Endothermic and Exothermic Processes, 6.2/Energy Diagram, 6.3/Heat Transfer and Thermal Equilibrium, 6.4/Heating Curve, 6.5/Calorimetry, 6.6/Introduction to Enthalpy of Reaction, 6.7/Hess's Law, 6.8/Standard Enthalpies of Formation, 6.9/Bond Enthalpies .png}`

Extra Notes

⋆ traps

⋆ quick rules

⋆ units/signs

Unit 7 Preview

Unit Preview

Example

How to use

This preview is your **map**. Use the TOC to jump into any Topic page. Fill each Topic page later — the links already exist.

Topics in this Unit

- **7.1/Introduction to Equilibrium, 7.2/Direction of Reversible Reactions, 7.3/Reaction Quotient and Equilibrium Constant, 7.4/Calculating the Equilibrium Constant, 7.5/Magnitude of the Equilibrium Constant, 7.6/Properties of the Equilibrium Constant, 7.7/Calculating Equilibrium Concentrations, 7.8/Introduction to Le Châtelier's Principle, 7.9/Le Châtelier's Principle, 7.10/Introduction to Solubility Equilibria, 7.11/Common Ion Effect, 7.12/pH and Solubility** 7.1/Introduction to Equilibrium, 7.2/Direction of Reversible Reactions, 7.3/Reaction Quotient and Equilibrium Constant, 7.4/Calculating the Equilibrium Constant, 7.5/Magnitude of the Equilibrium Constant, 7.6/Properties of the Equilibrium Constant, 7.7/Calculating Equilibrium Concentrations, 7.8/Introduction to Le Châtelier's Principle, 7.9/Le Châtelier's Principle, 7.10/Introduction to Solubility Equilibria, 7.11/Common Ion Effect, 7.12/pH and Solubility

Main Notes

Definition

Key Idea

Write the core definition/idea here.

Equation

Must-Know Relationship

(equation / proportionality / unit analysis)

Example

Micro Example

(one short worked example or quick check)

Diagram / Figure

Diagram Placeholder

Drop an image later:

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\includegraphics[width=\linewidth]{diagrams/U7/7.1/Introduction to Equilibrium, 7.2/Direction of Reversible Reactions, 7.3/Reaction Quotient and Equilibrium Constant, 7.4/Calculating the Equilibrium Constant, 7.5/Magnitude of the Equilibrium Constant, 7.6/Properties of the Equilibrium Constant, 7.7/Calculating Equilibrium Concentrations, 7.8/Introduction to Le Châtelier's Principle, 7.9/Le Châtelier's Principle, 7.10/Introduction to Solubility Equilibria, 7.11/Common Ion Effect, 7.12/pH and Solubility .png}
```

Extra Notes

⋆ traps

⋆ quick rules

⋆ units/signs

Unit 8 Preview

Unit Preview

Example

How to use

This preview is your **map**. Use the TOC to jump into any Topic page. Fill each Topic page later — the links already exist.

Topics in this Unit

- **8.1/Introduction to Acids and Bases, 8.2/pH and pOH of Strong Acids and Bases, 8.3/Weak Acid and Base Equilibria, 8.4/Acid-Base Reactions and Buffers, 8.5/Acid-Base Titrations, 8.6/Molecular Structure of Acids and Bases, 8.7/pH and pKa, 8.8/Properties of Buffers, 8.9/Henderson-Hasselbalch Equation, 8.10/Buffer Capacity, 8.11/Titration Curves** 8.1/Introduction to Acids and Bases, 8.2/pH and pOH of Strong Acids and Bases, 8.3/Weak Acid and Base Equilibria, 8.4/Acid-Base Reactions and Buffers, 8.5/Acid-Base Titrations, 8.6/Molecular Structure of Acids and Bases, 8.7/pH and pKa, 8.8/Properties of Buffers, 8.9/Henderson-Hasselbalch Equation, 8.10/Buffer Capacity, 8.11/Titration Curves

Main Notes

Definition

Key Idea

Write the core definition/idea here.

Equation

Must-Know Relationship

(equation / proportionality / unit analysis)

Example

Micro Example

(one short worked example or quick check)

Diagram / Figure

Diagram Placeholder

Drop an image later:
`\includegraphics[width=\linewidth]{diagrams/U8/8.1/Introduction to Acids and Bases, 8.2/pH and pOH of Strong Acids and Bases, 8.3/Weak Acid and Base Equilibria, 8.4/Acid-Base Reactions and Buffers, 8.5/Acid-Base Titrations, 8.6/Molecular Structure of Acids and Bases, 8.7/pH and pKa, 8.8/Properties of Buffers, 8.9/Henderson-Hasselbalch Equation, 8.10/Buffer Capacity, 8.11/Titration Curves .png}`

Extra Notes

⋆ traps

⋆ quick rules

⋆ units/signs

Unit 9 Preview

Unit Preview

Example

How to use

This preview is your **map**. Use the TOC to jump into any Topic page. Fill each Topic page later — the links already exist.

Topics in this Unit

- **9.1/Introduction to Entropy, 9.2/Absolute Entropy and Entropy Change, 9.3/Gibbs Free Energy and Thermodynamic Favorability, 9.4/Thermodynamic and Kinetic Control, 9.5/Free Energy and Equilibrium, 9.6/Free Energy of Dissolution, 9.7/Coupled Reactions, 9.8/Galvanic (Voltaic) and Electrolytic Cells, 9.9/Cell Potential and Free Energy, 9.10/Cell Potential Under Nonstandard Conditions, 9.11/Electrolysis and Faraday's Law**
  9.1/Introduction to Entropy, 9.2/Absolute Entropy and Entropy Change, 9.3/Gibbs Free Energy and Thermodynamic Favorability, 9.4/Thermodynamic and Kinetic Control, 9.5/Free Energy and Equilibrium, 9.6/Free Energy of Dissolution, 9.7/Coupled Reactions, 9.8/Galvanic (Voltaic) and Electrolytic Cells, 9.9/Cell Potential and Free Energy, 9.10/Cell Potential Under Nonstandard Conditions, 9.11/Electrolysis and Faraday's Law

Main Notes

Definition

Key Idea

Write the core definition/idea here.

Equation

Must-Know Relationship

(equation / proportionality / unit analysis)

Example

Micro Example

(one short worked example or quick check)

Diagram / Figure

Diagram Placeholder

Drop an image later:

```
\includegraphics[width=\linewidth]{diagrams/U9/
9.1/Introduction to Entropy, 9.2/Absolute Entropy and
Entropy Change, 9.3/Gibbs Free Energy and Thermodynamic
Favorability, 9.4/Thermodynamic and Kinetic Control,
9.5/Free Energy and Equilibrium, 9.6/Free Energy
of Dissolution, 9.7/Coupled Reactions, 9.8/Galvanic
(Voltaic) and Electrolytic Cells, 9.9/Cell Potential
and Free Energy, 9.10/Cell Potential Under Nonstandard
Conditions, 9.11/Electrolysis and Faraday's Law .png}
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Extra Notes

⋆ traps

⋆ quick rules

⋆ units/signs