

Index

A

acid dissociation constant

13.5: Some Special Types of Equilibria

Acid–Base Titration

11.1.5: Acid–Base Titration

activity series

10.5: Predicting Reactions - Single and Double Displacement Reactions

ammonium ion

12.4: Buffers are Solutions that Resist pH Change

anion

2.6: Ions - Losing and Gaining Electrons

4.5.1: Ions - Monatomic and Polyatomic

atomic mass unit

2.3: The Properties of Protons, Neutrons, and Electrons

atomic theory

2.2: Indivisible - The Atomic Theory

2.9: Summary of Atomic Theory and the Construction of Atoms

atoms

2.9: Summary of Atomic Theory and the Construction of Atoms

autoionization of water

12.3.1: Water - Acid and Base in One

13.5: Some Special Types of Equilibria

B

Bends

9.2.2: Solutions of Gases in Water

Bohr model

3.2.1: The Bohr Model - Atoms with Orbits

Boiling

7.6: Phase Transitions

boiling point

7.6: Phase Transitions

boiling point elevation

9.5.1: Freezing Point Depression and Boiling Point Elevation

buffer

12.4: Buffers are Solutions that Resist pH Change

buffer capacity

12.4: Buffers are Solutions that Resist pH Change

C

cation

2.6: Ions - Losing and Gaining Electrons

4.5.1: Ions - Monatomic and Polyatomic

chemical change

4.1.2: Changes in Matter - Physical and Chemical Changes

4.2: Summary of Matter and Changes

chemical equilibria

13.5: Some Special Types of Equilibria

Chemical Properties

4.2: Summary of Matter and Changes

chemical property

4.1.1: Differences in Matter- Physical and Chemical Properties

colligative properties

9.5.1: Freezing Point Depression and Boiling Point Elevation

Combustion Reaction

10.8.2: Determining Redox Reactions from Oxidation States

complete ionic equation

10.6: Writing Chemical Equations for Reactions in Solution- Complete Chemical, Complete Ionic, and Net Ionic Equations

compound

4.2: Summary of Matter and Changes

condensation

7.6: Phase Transitions

conservation of energy

7.4.1: Energy and Chemical and Physical Change

conservation of mass

4.1.3: Conservation of Mass - There is No New Matter

corrosion

10.9.3: Corrosion - Undesirable Redox Reactions

D

Democritus

2.2: Indivisible - The Atomic Theory

density

1.4: Density

8.5: The Ideal Gas Law and Some Applications

deposition

7.6: Phase Transitions

dilution

9.4.2: Solution Dilution

Dimensional Analysis

1.3.1: Problem Solving and Unit Conversions

Dissociation Constants

13.5: Some Special Types of Equilibria

E

electromagnetic spectrum

3.1.1: The Electromagnetic Spectrum

electron

2.3: The Properties of Protons, Neutrons, and Electrons

2.9: Summary of Atomic Theory and the Construction of Atoms

electron configuration

xx delete-test

element

4.2: Summary of Matter and Changes

endothermic process

7.4.1: Energy and Chemical and Physical Change

energy change

7.6: Phase Transitions

enthalpy of fusion

7.6: Phase Transitions

enthalpy of sublimation

7.6: Phase Transitions

enthalpy of vaporization

7.6: Phase Transitions

equilibrium constant

13.3: The Equilibrium Constant Expression

Exercises

2.E: Atomic Structure (Exercises)

3.E: Electronic Structure (Exercises)

11.E: Stoichiometry Applications (Exercises)

12.E: Acids and Bases

exothermic process

7.4.1: Energy and Chemical and Physical Change

F

fly3

2.E: Atomic Structure (Exercises)

fly4

2.E: Atomic Structure (Exercises)

fly6

2.E: Atomic Structure (Exercises)

freezing point depression

9.5.1: Freezing Point Depression and Boiling Point Elevation

G

Geiger counter

14.4.1: Detecting Radioactivity

H

half life (nuclear)

14.3: Radioactivity and Half-Life

Heat capacity

7.5.2: Temperature Changes - Heat Capacity

Heat Capacity Calculations

7.5.1: Energy and Heat Capacity Calculations

heat of fusion

7.6: Phase Transitions

heterogeneous mixture

4.2: Summary of Matter and Changes

homogeneous mixture

4.2: Summary of Matter and Changes

hydrolysis

12.2.2: Reactions of Acids and Bases

I

ideal gas law

8.5: The Ideal Gas Law and Some Applications

11.1.3: Stoichiometry and the Ideal Gas Law

ions

2.6: Ions - Losing and Gaining Electrons

4.5.1: Ions - Monatomic and Polyatomic

isothermal

7.6: Phase Transitions

isothermal process

7.6: Phase Transitions

isotopes

2.7: Isotopes - When the Number of Neutrons Varies

K

Ka

13.5: Some Special Types of Equilibria

L

Le Chatelier's Principle

13.4: Le Chatelier's Principle

M

matter

2.9: Summary of Atomic Theory and the Construction of Atoms

4.2: Summary of Matter and Changes

melting

7.6: Phase Transitions

melting point

7.6: Phase Transitions

metal

4.2: Summary of Matter and Changes

mixtures

[4.2: Summary of Matter and Changes](#)

molar volumes

[8.5: The Ideal Gas Law and Some Applications](#)

molarity

[9.3.2: Solution Concentration- Molarity](#)

N

net ionic equation

[10.6: Writing Chemical Equations for Reactions in Solution- Complete Chemical, Complete Ionic, and Net Ionic Equations](#)

neutralization reaction

[12.2.2: Reactions of Acids and Bases](#)

neutron

[2.3: The Properties of Protons, Neutrons, and Electrons](#)

[2.9: Summary of Atomic Theory and the Construction of Atoms](#)

noble gas configuration

[_xx_ delete-test](#)

nonmetal

[4.2: Summary of Matter and Changes](#)

normal boiling point

[7.6: Phase Transitions](#)

O

osmosis

[9.5.2: Osmosis](#)

osmotic pressure

[9.5.2: Osmosis](#)

oxidation number

[10.8.2: Determining Redox Reactions from Oxidation States](#)

P

pascal (unit)

[8.2: Pressure - The Result of Constant Molecular Collisions](#)

pH scale

[12.3.2: The pH and pOH Scales - Ways to Express Acidity and Basicity](#)

phase

[4.2: Summary of Matter and Changes](#)

phase change

[7.6: Phase Transitions](#)

phase transitions

[7.6: Phase Transitions](#)

Physical change

[4.1.2: Changes in Matter - Physical and Chemical Changes](#)

[4.2: Summary of Matter and Changes](#)

physical properties

[4.2: Summary of Matter and Changes](#)

physical property

[4.1.1: Differences in Matter- Physical and Chemical Properties](#)

pOH

[12.3.2: The pH and pOH Scales - Ways to Express Acidity and Basicity](#)

Potential energy

[7.4.3: Energy](#)

precipitate

[10.5: Predicting Reactions - Single and Double Displacement Reactions](#)

[10.5.1: Precipitation Reactions](#)

Precipitation reaction

[10.5: Predicting Reactions - Single and Double Displacement Reactions](#)

[10.5.1: Precipitation Reactions](#)

proton

[2.3: The Properties of Protons, Neutrons, and Electrons](#)

[2.9: Summary of Atomic Theory and the Construction of Atoms](#)

R

radiation biology

[14.4.6: The Effects of Radiation on Life](#)

redox reaction

[10.8.2: Determining Redox Reactions from Oxidation States](#)

relative abundances

[2.8: Atomic Mass - The Average Mass of an Element's Atoms](#)

resonance

[6.2.1: Resonance - Equivalent Lewis Structures for the Same Molecule](#)

respiration

[8.5: The Ideal Gas Law and Some Applications](#)

rounding

[1.2.2: Significant Figures in Calculations](#)

S

sacrificial anode

[10.9.3: Corrosion - Undesirable Redox Reactions](#)

scienfitic notation

[1.1.1: Scientific Notation - Writing Large and Small Numbers](#)

Scientific Method

[2.1: The Scientific Method](#)

semimetals

[4.2: Summary of Matter and Changes](#)

semipermeable membrane

[9.5.2: Osmosis](#)

Separation of Mixtures

[4.1.2: Changes in Matter - Physical and Chemical Changes](#)

significant figures

[1.2.1: Significant Figures - Writing Numbers to Reflect Precision](#)

[1.2.2: Significant Figures in Calculations](#)

solidification

[7.6: Phase Transitions](#)

Solubility of gases

[9.2.2: Solutions of Gases in Water](#)

solubility rules

[10.5: Predicting Reactions - Single and Double Displacement Reactions](#)

Solution Stoichiometry

[11.1.2: Solution Stoichiometry](#)

specific heat capacity

[7.5.2: Temperature Changes - Heat Capacity](#)

spectator ions

[10.6: Writing Chemical Equations for Reactions in Solution- Complete Chemical, Complete Ionic, and Net Ionic Equations](#)

Stability of Isotopes

[2.7: Isotopes - When the Number of Neutrons Varies](#)

standard temperature and pressure

[8.5: The Ideal Gas Law and Some Applications](#)

state

[4.2: Summary of Matter and Changes](#)

Stock system

[4.6.1: Naming Ionic Compounds](#)

stoichiometry

[8.5: The Ideal Gas Law and Some Applications](#)

stoichiometry problems

[8.5: The Ideal Gas Law and Some Applications](#)

STP

[8.5: The Ideal Gas Law and Some Applications](#)

sublimation

[7.6: Phase Transitions](#)

Subliming

[7.6: Phase Transitions](#)

substance

[4.2: Summary of Matter and Changes](#)

T

temperature

[1.5: Temperature - Random Motion of Molecules and Atoms](#)

U

unit conversions

[1.3.1: Problem Solving and Unit Conversions](#)

units of energy

[7.4.3: Energy](#)

V

valence shell electron pair repulsion theory

[6.3: Predicting the Shapes of Molecules](#)

vaporization

[7.6: Phase Transitions](#)

VSEPR

[6.3: Predicting the Shapes of Molecules](#)

W

weak acid

[13.5: Some Special Types of Equilibria](#)

weak acids

[13.5: Some Special Types of Equilibria](#)

work

[7.4.3: Energy](#)