

Index

A

adhesive force

16.6: Properties of Liquids

ampere

3.1: Base Units and Derived Units

amplitude

5.1: The Nature of Light and Electromagnetic Radiation

anion

4.5.1: Ions - Differences in Electrons

aqueous solution

11.2: Aqueous Solutions and Dissolution

atomic mass unit

3.1: Base Units and Derived Units

atomic radius

6.5: Periodic Trends

aufbau principle

6.2: Electron Configurations - The Quantum Model and Periodic Structure

Avogadro's constant

3.5.3: Molar Mass and Avogadro's Number

Avogadro's number

3.5.3: Molar Mass and Avogadro's Number

B

Balancing a Chemical Equation

10.1: Chemical Reactions and Balanced Chemical Equations

barometer

14.1: Kinetic Molecular Theory and Gas Pressure

blackbody radiation

5.3: Blackbody Radiation and The UV Catastrophe - Evidence of Quantization

bomb calorimeter

13.3.1: Calorimetry

Boyle's law

14.2: The Gas Laws

15.2: The Gas Laws

Brownian motion

4.1: Evidence for Atoms - Brownian Motion

C

calorimeter

13.3.1: Calorimetry

calorimetry

13.3.1: Calorimetry

candela

3.1: Base Units and Derived Units

capillary action

16.6: Properties of Liquids

cation

4.5.1: Ions - Differences in Electrons

Charles's law

14.2: The Gas Laws

15.2: The Gas Laws

chemical change

2.3: Intensive vs. Extensive Properties

2.4: Changes in Matter

chemical equation

10.1.1: Coefficients and Mole Ratios

chemical property

2.3: Intensive vs. Extensive Properties

Chemical Reactions

10.1.1: Coefficients and Mole Ratios

11.2.1: Solute Dissociation Equations

Coefficients and Subscripts

10.1: Chemical Reactions and Balanced Chemical Equations

cohesive force

16.6: Properties of Liquids

combination reaction

10.2: General Types of Chemical Reactions

combined gas law

14.2.1: Other Gas Relationships

15.3: Other Gas Relationships

Combustion Reaction

10.2: General Types of Chemical Reactions

complete ionic equation

11.2.1: Solute Dissociation Equations

concentrated

11: Solutions, Concentration, and Dilution

concentration

11: Solutions, Concentration, and Dilution

condensation

2.3: Intensive vs. Extensive Properties

constant pressure

14.2: The Gas Laws

15.2: The Gas Laws

conversion factors

10.1.1: Coefficients and Mole Ratios

Coulombic force

16.7: Solids

D

Dalton's Law of Partial Pressure

14.4: Dalton's Law of Partial Pressure

15.5: Dalton's Law of Partial Pressures

Decomposition reaction

10.2: General Types of Chemical Reactions

density

2.3: Intensive vs. Extensive Properties

3.5.2: Compound Unit Conversion Factors - Density

14.6: Gas Stoichiometry

15.7: Gas Stoichiometry

Dilute

11: Solutions, Concentration, and Dilution

dispersion forces

16.7: Solids

dissociate

11.2.1: Solute Dissociation Equations

dissociation

11.2.1: Solute Dissociation Equations

E

effective nuclear charge

6.4: Effective Nuclear Charge and Shielding

electromagnetic radiation

5.1: The Nature of Light and Electromagnetic Radiation

electron affinity

6.5: Periodic Trends

electron configuration

6.2: Electron Configurations - The Quantum Model and Periodic Structure

electron sea

16.7: Solids

Electron Spin

6.2: Electron Configurations - The Quantum Model and Periodic Structure

electronegativity

6.5: Periodic Trends

6.5.2: Electronegativity

Electronegativity Trends

6.5: Periodic Trends

electrostatic force

16.7: Solids

enthalpy

13.3: Enthalpy, ΔH , and Heat of Reaction

enthalpy of combustion

13.3: Enthalpy, ΔH , and Heat of Reaction

enthalpy of fusion

13.3: Enthalpy, ΔH , and Heat of Reaction

13.3.2: Hess' Law

enthalpy of reaction

13.3: Enthalpy, ΔH , and Heat of Reaction

13.3.2: Hess' Law

enthalpy of solution

13.3: Enthalpy, ΔH , and Heat of Reaction

enthalpy of vaporization

13.3: Enthalpy, ΔH , and Heat of Reaction

13.3.2: Hess' Law

equation of state

14.3: The Ideal Gas Law

Exemplar

6.1: The Development of The Periodic Table

extensive property

2.3: Intensive vs. Extensive Properties

F

freezing

2.3: Intensive vs. Extensive Properties

frequency

5.1: The Nature of Light and Electromagnetic Radiation

G

gas

14.2: The Gas Laws

15.2: The Gas Laws

gas law

14.2: The Gas Laws

14.2.1: Other Gas Relationships

15.2: The Gas Laws

15.3: Other Gas Relationships

gas laws

14.2: The Gas Laws

14.2.1: Other Gas Relationships

15.2: The Gas Laws

15.3: Other Gas Relationships

H

Hess's law

13.3.2: Hess' Law

hydrogen bonding

16.7: Solids

I

ideal gas law

14.3: The Ideal Gas Law

14.6: Gas Stoichiometry

15.4: Ideal Gases and The Ideal Gas Law

15.7: Gas Stoichiometry

ideal gases

14.3.1: Real vs. Ideal Gases

15.6: Ideal Gases and Real Gases

immiscible

11.2: Aqueous Solutions and Dissolution

intensive property

2.3: Intensive vs. Extensive Properties

internal energy

13.3: Enthalpy, ΔH , and Heat of Reaction

International System of Units

3.1: Base Units and Derived Units

ionic compounds

11.2.1: Solute Dissociation Equations

Ionic Equations

11.2.1: Solute Dissociation Equations

ionic solid

16.7: Solids

ionization energy

6.5: Periodic Trends

ions

4.5.1: Ions - Differences in Electrons

K

kilogram

3.1: Base Units and Derived Units

kinetic molecular theory

14.1: Kinetic Molecular Theory and Gas Pressure

L

Lattice Energy

16.7: Solids

limiting reactant

10.5: The Limiting Reactant, Theoretical Yield, and Percent Yield

liter

3.1: Base Units and Derived Units

luster

16.7: Solids

M

matter

2: Matter - An Introduction

measurements

3: Units, Measurements, and Conversions

melting

2.3: Intensive vs. Extensive Properties

melting point

6.5: Periodic Trends

meniscus

16.6: Properties of Liquids

metallic character

6.5: Periodic Trends

metallic solid

16.7: Solids

meter

3.1: Base Units and Derived Units

metric ton

3.1: Base Units and Derived Units

mol

10.1.1: Coefficients and Mole Ratios

molar volume

3.5.3: Molar Mass and Avogadro's Number

molar volumes

14.6: Gas Stoichiometry

15.7: Gas Stoichiometry

mole

3.1: Base Units and Derived Units

10.1.1: Coefficients and Mole Ratios

mole fraction

14.4: Dalton's Law of Partial Pressure

15.5: Dalton's Law of Partial Pressures

molecular orbital theory

9.5: Molecular Orbital Theory

molecular solid

16.7: Solids

N

network solid

16.7: Solids

neutralization reaction

12.3.1: Neutralization Reactions

nutritional calorie

13.3.1: Calorimetry

O

orbital

5.7.1: Visualizing Atomic Orbitals as Probability Densities

P

paramagnetic

9.5.1: The Predictive Power of MO Theory - The Case of Oxygen

partial pressure

14.4: Dalton's Law of Partial Pressure

15.5: Dalton's Law of Partial Pressures

Pauli exclusion principle

6.2: Electron Configurations - The Quantum Model and Periodic Structure

penetration

6.4: Effective Nuclear Charge and Shielding

periodic law

6.5: Periodic Trends

periodic table

6.5: Periodic Trends

periodic table of elements

6.1: The Development of The Periodic Table

Periodic trends

6.5: Periodic Trends

photoelectric effect

5.2: The Photoelectric Effect - Light as a Particle

Physical change

2.3: Intensive vs. Extensive Properties

2.4: Changes in Matter

physical property

2.3: Intensive vs. Extensive Properties

pressure

14.2: The Gas Laws

15.2: The Gas Laws

principal quantum number

5.7.1: Visualizing Atomic Orbitals as Probability Densities

Q

qualitative

11: Solutions, Concentration, and Dilution

quantitative

11: Solutions, Concentration, and Dilution

R

respiration

14.6: Gas Stoichiometry

15.7: Gas Stoichiometry

S

salt

12.3.1: Neutralization Reactions

Schrödinger's Cat

5: The Quantum Model of the Atom

Scientific Method

1.1: Thinking Scientifically - The Scientific Method

second

3.1: Base Units and Derived Units

Separation of Mixtures

2.4: Changes in Matter

shielding

6.4: Effective Nuclear Charge and Shielding

SI units

3.1: Base Units and Derived Units

significant figures

3.4: Significant Figures - Approximating Uncertainty

simple gas laws

14.2.1: Other Gas Relationships

15.3: Other Gas Relationships

solubility

11: Solutions, Concentration, and Dilution

solute

11: Solutions, Concentration, and Dilution

solution

11.2: Aqueous Solutions and Dissolution

solvent

11: Solutions, Concentration, and Dilution

speed

5.1: The Nature of Light and Electromagnetic Radiation

speed of light

5.1: The Nature of Light and Electromagnetic Radiation

spin quantum number

6.2: Electron Configurations - The Quantum Model and Periodic Structure

standard temperature and pressure

14.6: Gas Stoichiometry

15.7: Gas Stoichiometry

stoichiometry

10.3: Mole Quantities

14.6: Gas Stoichiometry

15.7: Gas Stoichiometry

stoichiometry problems

14.6: Gas Stoichiometry

15.7: Gas Stoichiometry

STP

14.6: Gas Stoichiometry

15.7: Gas Stoichiometry

supersaturated

11: Solutions, Concentration, and Dilution

surface tension

16.6: Properties of Liquids

surfactant

16.6: Properties of Liquids

surroundings

13.3.1: Calorimetry

system

13.3.1: Calorimetry

T

temperature

14.2: The Gas Laws

15.2: The Gas Laws

Trends

6.5: Periodic Trends

U

Ultraviolet Catastrophe

[5.3: Blackbody Radiation and The UV Catastrophe - Evidence of Quantization](#)

unit

[3.1: Base Units and Derived Units](#)

unit conversion

[3.5.1: Metric and Imperial Unit Conversions](#)

units

[3: Units, Measurements, and Conversions](#)

unsaturated

[11: Solutions, Concentration, and Dilution](#)

V

Valence Electrons

[4.5.1: Ions - Differences in Electrons](#)

[6.2: Electron Configurations - The Quantum Model and Periodic Structure](#)

vapor pressure

[14.5: Vapor Pressure](#)

[15.5.1: Vapor Pressure](#)

vaporization

[2.3: Intensive vs. Extensive Properties](#)

viscosity

[16.6: Properties of Liquids](#)

W

Wave

[5.1: The Nature of Light and Electromagnetic Radiation](#)

wavelength

[5.1: The Nature of Light and Electromagnetic Radiation](#)

Wien's Displacement Law

[5.3: Blackbody Radiation and The UV Catastrophe - Evidence of Quantization](#)