

Scope and Sequence

Matter	
Science Cards	Vocabulary
1 Properties of Matter	physical property, chemical property
2 Density	density, mass, volume
3 Atoms	atom, nucleus, electron cloud
4 Molecules	compound, chemical bond, molecule
5 States of Matter	solid, liquid, gas, plasma
6 Phase Changes	vaporization, condensation, sublimation
7 Behavior of Gases	pressure, volume, temperature
8 Physical Changes	composition, physical change, dissolve
9 Chemical Changes	chemical change, law of conservation of mass, precipitate
10 Elements	atom, element, synthetic element
11 Compounds	element, compound, chemical bond, chemical formula
12 Substances and Mixtures	substance, mixture, heterogeneous, homogeneous
13 Solutions	solute, solvent, concentration, saturated
14 Acids	acid, hydrogen ion, hydronium ion, acid rain
15 Bases	base, hydroxide ion, neutralization, indicator
16 pH Scale	pH, acidic, alkaline, neutral
Build Your Vocabulary: Matter (page 76)	
Laboratory Activity 1: Measuring pH of Acids and Bases (pages 77–79)	
Interactions of Matter	
Science Cards	Vocabulary
17 Periodic Table	atomic mass, atomic number, periodic table, isotopes
18 Metals	luster, malleability, ductility, conductor
19 Nonmetals	nonmetal, brittle
20 Metalloids	metalloid, semiconductor
21 Atomic Structure	proton, neutron, electron, energy level
22 Valence Electrons	valence electron, electron dot diagram
23 Ionic Bonds	ion, cation, anion
24 Covalent Bonds	double bond, triple bond, polar molecule
25 Metallic Bonds	free electron, metallic bond, conductor
26 Crystalline vs. Amorphous Solids	crystal, amorphous
27 Chemical Reactions	chemical reaction, chemical equation, reactant, product

Interactions of Matter (continued)

Science Cards	Vocabulary
28 Endothermic and Exothermic Reactions	exothermic, endothermic, activation energy
29 Controlling Reactions	concentration, catalyst, enzyme, inhibitor
30 Combustion	combustion, fuel, rapid oxidation
31 Carbon Compounds	saturated hydrocarbon, unsaturated hydrocarbon, isomers
32 Organic Compounds	carbohydrate, lipid, amino acid, proteins
33 Radioactivity	radioisotope, radiation
34 Nuclear Power	fission, reactor, radioactive waste, fusion
35 Materials Science	alloy, polymer, ceramics, biomaterial
Build Your Vocabulary: Chemical Reactions (page 80)	
Laboratory Activity 2: Chemical Reaction Rates (pages 81–83)	

Energy

Science Cards	Vocabulary
36 Energy	energy, potential energy, kinetic energy
37 Energy Conversion	law of conservation of energy, conversion, turbine
38 Fossil Fuels	photosynthesis, fossil fuel, nonrenewable resource
39 Kinetic Energy	kinetic energy, mass, velocity
40 Potential Energy	potential energy, gravitational potential energy
41 Mechanical Energy	motion, mechanical energy, complex machine
42 Thermal Energy	temperature, Celsius, thermal energy
43 Heat Transfer	conduction, convection, radiation
44 Heat Transfer on Earth	heat, convection current
45 Chemical Energy	chemical bond, chemical energy, combustion, digestion
46 Solar Energy	solar energy, inexhaustible resource, photovoltaic cell
47 Wind Energy	wind turbine, rotor, wind farm
48 Tidal Energy	high tide, low tide, dam
49 Alternative Fuels	fuel, renewable resource
Build Your Vocabulary: Energy (page 84)	
Laboratory Activity 3: Energy Conversion (pages 85–87)	

Scope and Sequence

Pretest and Posttest 4

Motion and Forces	
Science Cards	Vocabulary
50 Motion	frame of reference, relative motion, distance, displacement
51 Speed and Velocity	speed, velocity
52 Acceleration	acceleration, terminal velocity
53 Momentum	momentum, inertia, law of conservation of momentum
54 Forces	force, newton, gravitational force
55 Newton's Laws	motion, law
56 Balanced and Unbalanced Force	net force, balanced forces, unbalanced forces
57 Mass, Weight, and Gravity	mass, weight, weightlessness
58 Friction	sliding friction, rolling friction, efficiency, lubricant
59 Gravity	gravitational force, universal law of gravitation, orbit
60 Fluid Pressure	pascal, fluid, atmosphere
61 Sink or Float?	buoyant force, density
62 Work	work, force, joule
63 Simple Machines	mechanical advantage, inclined plane, pulley
64 Other Simple Machines	lever, fulcrum, wheel and axle
65 Power	power, watt
Build Your Vocabulary: Friction (page 88)	
Laboratory Activity 4: Reducing Friction (pages 89–91)	

Pretest and Posttest 5

Electricity and Magnetism	
Science Cards	Vocabulary
66 Electric Charge	reaction, repulsion, electric charge, electric field
67 Static Electricity	static charge, electric discharge
68 Circuits	series circuit, closed circuit, open circuit, parallel circuit
69 Circuit Measurement	current, resistance, voltage
70 Batteries	terminal, electrolyte
71 Electrical Safety	insulator, grounding, circuit breaker, lightning
72 Using Electricity	transformer, kilowatt-hour, electric power
73 Electronics	electronic signal, transistor, integrated circuit, microprocessor
74 Magnetism	pole, magnetic field, magnetic domain

Electricity and Magnetism (continued)

75 Magnetic Earth	magnetic south pole, magnetic north pole, magnetosphere, aurora
76 Electromagnetism	electromagnet, generator, direct current, alternating current

Build Your Vocabulary: Batteries (page 92)

Laboratory Activity 5: Making a Potato Battery (pages 93–95)

Sound and Light

Science Cards	Vocabulary
77 Waves	wave, mechanical wave, transverse wave, compressional wave
78 Properties of Waves	wavelength, frequency, speed, amplitude
79 Sound Waves	compression, rarefaction, Doppler effect
80 Making Sound	pitch, intensity, decibel
81 Uses of Sound Waves	ultrasound, SONAR, echocardiography
82 Electromagnetic Spectrum	infrared waves, visible light, ultraviolet waves
83 Electromagnetic Waves	electromagnetic wave, radiant energy, vacuum, magnetic field
84 Electromagnetic Technologies	carrier wave, satellite, Global Positioning System
85 Visible Spectrum	absorption, reflection, spectrum, color
86 Reflection and Mirrors	plane mirror, focal point
87 Refraction and Lenses	refraction, convex lens, focal length, concave lens
88 Transmission of Light	transparent, translucent, opaque
89 Seeing Light	pupil, retina, rod, cone
90 Using Light	refracting telescope, reflecting telescope, compound light microscope

Build Your Vocabulary: Sound Waves (page 96)

Laboratory Activity 6: Making Sound (pages 97–99)