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correlated to

Mississippi

Science Framework

Competencies and Objectives

Grades 4-8



YOUR MISSISSIPPI GREAT SOURCE REPRESENTATIVE

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Competencies and Objectives
Fourth Grade

COMPETENCY 1

Investigate the ability of living things to adapt to their environment. (L)

Objectives, Fourth Grade	ScienceSaurus, Grades 4-5
a. Compare food chains and food webs.	Handbook: 137, 138
b. Compare and contrast adaptations necessary for animals and plants to survive in different habitats.	Handbook: 77, 79, 85, 92, 127

COMPETENCY 2

Explore the interactions of components in living systems. (L)

Objectives, Fourth Grade	ScienceSaurus, Grades 4-5
a. Identify parts and basic functions of various body systems (circulatory, respiratory, digestive, skeletal and nervous systems).	Handbook: 108-109, 111, 112-113, 114-115, 116-117, 120-121, 122-123, 124-125
b. Analyze the circulatory system.	Handbook: 108, 109, 111, 122-123
c. Group animals as invertebrates or vertebrates.	Handbook: 146-148, 149, 150, 151, 152, 153, 154, 155
d. Explore the four requirements necessary for photosynthesis.	Handbook: 80-81, 142
e. Compare and contrast flowering and non-flowering plants.	Handbook: 86, 87, 142

COMPETENCY 3

Communicate an understanding of the interaction of bodies in the solar system. (E, P)

Objectives, Fourth Grade	ScienceSaurus, Grades 4-5
a. Explain why the apparent size of an object depends on its distance from the observer.	Handbook: 238
b. Describe the interaction between the Earth, Sun, Earth's moon, and planets of the solar system.	Handbook: 195, 218-219, 220-221, 222-223, 226, 227, 228, 229, 230, 231, 232, 233, 368-369, 413, 426, 430
c. Describe the apparent motion of constellations in the night sky (east to west throughout the night, east to west throughout the year).	Handbook: 236-237

COMPETENCY 4

Identify and describe the visual and telescopic appearance of planets and moons. (E, P)

Objectives, Fourth Grade	ScienceSaurus, Grades 4-5
a. Locate and identify planets as bright, shining bodies that move in front of the background of constellations.	Handbook: 226, 228, 229, 230, 231, 232, 233
b. Explain the nature of telescopes as devices that collect light and enlarge the apparent size of distant objects to reveal otherwise unseen features.	Handbook: 238, 359, 414
c. Describe the physical features of the moon (craters, plains, mountains) and the planets.	Handbook: 225, 229, 230, 231, 232, 233

COMPETENCY 5

Discover the effects of external forces on the Earth's surface. (E)

Objectives, Fourth Grade	ScienceSaurus, Grades 4-5
a. Describe how external forces including heat, wind and water affect the Earth's surface.	Handbook: 158, 170, 171, 172, 173, 178, 179, 182-183
b. Using maps, students identify watershed and run-off patterns of local areas.	Handbook: 403-407
c. Group landform examples by the forces that may have created them.	Handbook: 170, 172, 173, 174-175, 178-179

COMPETENCY 6

Explore changes that occur in the Earth's atmosphere. (E)

Objectives, Fourth Grade	ScienceSaurus, Grades 4-5
a. Analyze and predict the weather using the thermometer, anemometer, rain gauge, barometer and hygrometer.	Handbook: 49, 202, 203, 204, 205, 414, 416
b. Recognize and collect data of extreme weather conditions.	Handbook: 179, 181, 183, 212, 213, 214, 215

COMPETENCY 7

Discover how environmental concerns relate to the hydrosphere, lithosphere, and atmosphere. (E, L)

Objectives, Fourth Grade	ScienceSaurus, Grades 4-5
a. Describe ways to protect the air we breathe.	Handbook: 330, 340, 346
b. Recognize the need for conservation of water resources.	Handbook: 330, 346
c. Discuss the ways man can protect and manage organisms in the environment.	Handbook: 334, 338, 340, 350-351, 352, 353

COMPETENCY 8

Investigate the changes in the states of matter. (P)

Objectives, Fourth Grade	ScienceSaurus, Grades 4-5
a. Observe that matter occupies space and has mass and volume.	Handbook: 242-243, 244, 245
b. Demonstrate transformations of the states of matter.	Handbook: 264-265
c. Explore and classify physical and chemical changes.	Handbook: 261-265, 266-267

COMPETENCY 9

Examine the different forms of energy. (E, L, P)

Objectives, Fourth Grade	ScienceSaurus, Grades 4-5
a. Differentiate energy as potential or kinetic energy.	Handbook: 285, 286, 325
b. Identify and explore forms of energy such as heat, sound, light, or electricity.	Handbook: 80, 285, 287, 288, 289, 290, 296, 309, 315
c. Demonstrate the use of the sun as an energy source.	Handbook: 133, 137, 200, 287

COMPETENCY 10

Develop the process of measurement and the concepts related to units of measurement. (L, E, P)

Objectives, Fourth Grade	ScienceSaurus, Grades 4-5
a. Measure a given object using specified scientific measurement (English and/or metric).	Handbook: 47, 48, 378-379
b. Select, use, compare and convert within the appropriate standard (English and metric) system of measurement.	Handbook: 38-39, 408, 409
c. Identify the attributes of length, weight, capacity/volume, mass, time and temperature using English and metric units of measurement.	Handbook: 39, 40, 41, 46, 49, 50, 244
d. Calculate and solve problems with elapsed time.	Handbook: 380-383, 409



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Competencies and Objectives
Fifth Grade

COMPETENCY 1

Identify and describe structures and functions in living systems. (L, E)

Objectives, Fifth Grade	ScienceSaurus, Grades 4-5
a. Investigate levels of organization in organisms including cells, tissues, organs, organ systems, whole organisms, and ecosystems.	Handbook: 98, 99, 100-101, 102-103, 104-105, 106-107, 108-109, 133, 134-138
b. Explore ecosystems and biomes.	Handbook: 130-131, 133, 138

COMPETENCY 2

Identify and describe reproduction and heredity of organisms. (L, P)

Objectives, Fifth Grade	ScienceSaurus, Grades 4-5
a. Define and recognize examples of sexual and asexual reproduction.	Handbook: 87, 141, 142, 143, 152, 153, 154, 155
b. Explore how traits are used to classify individual inheritance patterns.	Handbook: 82

COMPETENCY 3

Determine the factors that influence the regulation and behavior of organisms. (L, E)

Objectives, Fifth Grade	ScienceSaurus, Grades 4-5
a. Identify and describe resources needed to grow, reproduce, maintain, and survive in a changing environment.	Handbook: 91, 127, 130-131, 190-191, 330
b. Investigate ways organisms adapt to their environment.	Handbook: 77, 79, 85, 92, 96, 127, 141, 142, 143, 149

COMPETENCY 4

Examine the physical factors of populations as they relate to the formation of an ecosystem. (L, E)

Objectives, Fifth Grade	ScienceSaurus, Grades 4-5
a. Identify, describe, and illustrate the roles among producers, consumers, and decomposers in a food web.	Handbook: 133, 134-135, 136, 137, 138
b. Investigate resources and other factors (living and nonliving) that promote and limit growth of populations in an ecosystem.	Handbook: 129, 130-131

COMPETENCY 5

Explore the diversity and adaptations of organisms. (L, E)

Objectives, Fifth Grade	ScienceSaurus, Grades 4-5
a. Classify organisms by their similarities.	Handbook: 139, 140, 141, 142, 143, 144, 145
b. Explore and explain biological adaptations in a particular environment.	Handbook: 85, 90, 91, 127, 149
c. Research and investigate environmental changes and the inability of a species to adapt.	Handbook: 3, 350

COMPETENCY 6

Investigate the structure of the Earth. (E)

Objectives, Fifth Grade	ScienceSaurus, Grades 4-5
a. Investigate the structure of the atmosphere (gas-air), hydrosphere (liquid-water), and lithosphere (solid-land).	Handbook: 64, 158, 198, 199
b. Examine how organisms affect the composition of the Earth and its atmosphere.	Handbook: 185
c. Analyze processes that cause changes on Earth.	Handbook: 158, 165, 168, 170, 171, 172, 173, 174, 175, 176, 177, 178-179, 180-181, 182, 183
d. Explore fossils as indicators of how life and environmental conditions have changed.	Handbook: 177, 184, 185

COMPETENCY 7

Investigate the Earth as a part of the solar system. (E, P)

Objectives, Fifth Grade	ScienceSaurus, Grades 4-5
a. Explore how the Earth's motion defines the day and the year and influences the phases of the moon and eclipses.	Handbook: 218-219, 220-221, 222-223, 224-225
b. Explain how gravity influences the action of the tides.	Handbook: 195
c. Explain and illustrate how the tilt of the Earth's axis and Earth's revolution around the Sun create the seas	Handbook: 216, 219, 220-221

COMPETENCY 8

Identify properties and changes of matter. (E, P)

Objectives, Fifth Grade	ScienceSaurus, Grades 4-5
a. Observe and explore physical and chemical properties such as density, boiling/freezing point, and solubility of a substance.	Handbook: 245, 247, 265
b. Explore, observe, discuss, and record physical and chemical changes using everyday substances.	Handbook: 260, 261, 262, 263, 264, 265, 266-267
c. Recognize elements that combine chemically to produce compounds.	Handbook: 254-255, 256-257
d. Demonstrate the ability to use simple measuring devices using metric and English units.	Handbook: 41, 43, 45, 47, 48, 49, 245

COMPETENCY 9

Investigate the effect motions and forces have on objects. (E, L, P)

Objectives, Fifth Grade	ScienceSaurus, Grades 4-5
a. Explore, measure, and graph the motion of an object.	Handbook: 269, 275-276, 278, 279
b. Explore and measure the effect of force on an object.	Handbook: 268-269, 278

COMPETENCY 10

Examine the transformations of forms of energy. (P)

Objectives, Fifth Grade	ScienceSaurus, Grades 4-5
a. Design and construct simple and compound machines.	Handbook: 280-283
b. Design and construct electrical circuits (open, closed, series, parallel).	Handbook: 300-303
c. Design and construct an electromagnet.	Handbook: 306, 307



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Sixth Grade

COMPETENCY 1

Investigate structure and functions in living systems. (L, E)

Objectives, Sixth Grade	ScienceSaurus, Grades 6-8
a. Identify, compare, and contrast levels of organization including cells, tissues, organs, organ systems, and organisms.	Handbook: 075, 076, 077, 078, 082, 085, 086, 087, 088, 089, 090, 091, 092, 093, 094, 095
b. Compare and contrast patterns and interactions of ecosystems and biomes.	Handbook: 129, 136, 137, 140, 141-149

COMPETENCY 2

Compare and classify the reproduction and heredity of organisms. (L)

Objectives, Sixth Grade	ScienceSaurus, Grades 6-8
a. Differentiate between sexual and asexual reproduction.	Handbook: 114
b. Determine how traits are used to classify individual inherited patterns.	Handbook: 121

COMPETENCY 3

Explore how changing resources will influence the regulation and behavior of organisms. (L, E)

Objectives, Sixth Grade	ScienceSaurus, Grades 6-8
a. Evaluate the significance of resources required by organisms.	Handbook: 130, 131, 132, 133, 134, 135
b. Investigate, compare/contrast ways organisms adapt to their environment.	Handbook: 109, 127

COMPETENCY 4

Explore how different populations determine the formation of an ecosystem. (L, E)

Objectives, Sixth Grade	ScienceSaurus, Grades 6-8
a. Compare/contrast the roles among producers, consumers, and decomposers in a food web.	Handbook: 133, 134, 135
b. Manipulate resources and other factors (living and nonliving) that promote and limit growth of populations in an ecosystem.	Handbook: 130, 131, 132

COMPETENCY 5

Explore the unique characteristics and adaptations of organisms. (L, E)

Objectives, Sixth Grade	ScienceSaurus, Grades 6-8
a. Evaluate and chart the similarities of organisms.	Handbook: 074, 076, 082
b. Propose and relate environmental changes and the adaptive characteristics that influence the extinction of a species.	Handbook: 128, 340

COMPETENCY 6

Model the structure of the Earth system past and present. (E)

Objectives, Sixth Grade	ScienceSaurus, Grades 6-8
a. Construct and explain the structure of the atmosphere (gas-air), hydrosphere (liquid-water), lithosphere (solid-land), and changes that occur within.	Handbook: 183, 213, 214, 215
b. Examine the changes and processes that alter the Earth's system.	Handbook: 194, 195, 214
c. Analyze fossils as indicators of how life and environmental conditions have changed.	Handbook: 126, 128, 198

COMPETENCY 7

Investigate the Earth in relation to the solar system. (E, P)

Objectives, Sixth Grade	ScienceSaurus, Grades 6-8
a. Demonstrate how the Earth's motion influences the day, year, phases of the moon, and eclipses.	Handbook: 233, 234, 235, 236
b. Explore how gravity influences the motion of all celestial bodies.	Handbook: 238, 240
c. Demonstrate how the tilt of the Earth's axis and Earth's revolution around the sun create the seasons.	Handbook: 234

COMPETENCY 8

Investigate structure, properties, and changes of matter. (E, P)

Objectives, Sixth Grade	ScienceSaurus, Grades 6-8
a. Analyze properties such as density, boiling point, and solubility of a substance.	Handbook: 251, 254, 273
b. Record and interpret physical and chemical changes using everyday substances.	Handbook: 252
c. Differentiate between common elements that combine chemically to produce compounds.	Handbook: 259, 262
d. Demonstrate the ability to use simple measuring devices using metric and English units.	Handbook: 002, 054, 058, 060, 062, 064, 066, 070, 071, 072

COMPETENCY 9

Evaluate the effect of force on the motion of an object. (E, L, P)

Objectives, Sixth Grade	ScienceSaurus, Grades 6-8
a. Analyze, measure, and graph the motion of an object.	Handbook: 284, 285, 286
b. Experiment and measure the effect of force on an object.	Handbook: 285, 287, 288

COMPETENCY 10

Examine the transfer of energy in many different forms. (E, L, P)

Objectives, Sixth Grade	ScienceSaurus, Grades 6-8
a. Observe and manipulate energy as potential or kinetic.	Handbook: 300, 301, 302
b. Investigate forms of energy such as heat, sound, light, or electricity.	Handbook: 300, 301, 308, 312, 314
c. Recognize the sun as a major source of energy.	Handbook: 136, 137, 324, 328, 335

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Seventh Grade

COMPETENCY 1

Compare and contrast structure and function in living systems. (L)

Objectives, Seventh Grade	ScienceSaurus, Grades 6-8
a. Compare and contrast plant and animal cells through investigations.	Handbook: 077, 078
b. Describe the process of respiration and the use of its products.	Handbook: 079, 092, 105, 107
c. Illustrate the parts of the digestive system and the interaction of each part.	Handbook: 089
d. Illustrate the parts of and interaction between the respiratory and circulatory system.	Handbook: 091, 092, 093
e. Illustrate the parts of the excretory system and the interaction of each part.	Handbook: 090

COMPETENCY 2

Explore the processes of the reproduction and heredity of organisms. (L)

Objectives, Seventh Grade	ScienceSaurus, Grades 6-8
a. Distinguish genes as sections of DNA molecules that carry the genetic code for inherited traits.	Handbook: 115, 116, 117
c. Explain mitosis and relate it to an organism's growth and repair processes.	Handbook: 080

COMPETENCY 3

Determine how organisms co-exist in their environment. (L)

Objectives, Seventh Grade	ScienceSaurus, Grades 6-8
a. Demonstrate that cells interact with their environment.	Handbook: 076, 078
b. Investigate homeostasis as it relates to plants and animals.	Handbook: 084

COMPETENCY 4

Explore how environmental factors of population influence the formation of an ecosystem. (L, E)

Objectives, Seventh Grade	ScienceSaurus, Grades 6-8
a. Describe the process of photosynthesis and the use of its products.	Handbook: 078, 079, 107, 137, 138
b. Design an experiment in plant behavior to include responses to water, gravity, and light.	Handbook: 111
c. Investigate and research environmental concerns of the land, water, and air.	Handbook: 341, 342, 343, 346, 347, 348, 349, 350, 351, 352, 353
d. Analyze the importance of biological diversity in communities and ecosystems.	Handbook: 130, 131, 132, 133, 134, 135

COMPETENCY 5

Examine survival strategies of organisms over many generations. (L)

Objectives, Seventh Grade	ScienceSaurus, Grades 6-8
a. Apply concepts of adaptation by analyzing how organisms are classified into groups and subgroups.	Handbook: 158-162
b. Research animal adaptations and behaviors as related to survival strategies.	Handbook: 109, 127
c. Explain how natural and man-made pressures cause extinction.	Handbook: 128, 340, 343

COMPETENCY 6

Explore the composition and changes of the Earth system. (E, P)

Objectives, Seventh Grade	ScienceSaurus, Grades 6-8
a. Identify minerals by using any or all of the following tests: streak, cleavage, fracture, hardness, specific gravity, and special properties.	Handbook: 179, 443
b. Research and explain how crustal movements result in earthquakes, volcanoes, mountain formation, etc.	Handbook: 186, 187
c. Distinguish between chemical and physical weathering.	Handbook: 189, 190, 195, 351
d. Identify how forces such as erosion and deposition create landforms.	Handbook: 192, 195
f. Compare properties and composition of salt water, fresh water, and brackish water.	Handbook: 148, 149, 202
g. Investigate the interactive forces that produce weather to include moisture, temperature, fronts, air masses, and cloud formations.	Handbook: 221, 222, 223

COMPETENCY 7

Explain the causes of lunar phases, eclipses, and Earth's seasons. (E)

Objectives, Seventh Grade	ScienceSaurus, Grades 6-8
a. Distinguish between radiating objects (the sun and the stars) and reflecting objects (the planets and their moons).	Handbook: 235, 238, 240, 245, 304
b. Characterize lunar phases in terms of their appearance, their visibility at a given time of day or night, and their progression through time.	Handbook: 235
c. Illustrate the relationship between lunar phases and the phase angle between the sun and the moon as seen from Earth.	Handbook: 235

Objectives, Seventh Grade	ScienceSaurus, Grades 6-8
d. Illustrate the alignments of the Earth, the moon, and the sun, which give rise to solar and lunar eclipses and explain why these eclipses do not occur every month.	Handbook: 236
e. Explain how the position of the earth in relation to the sun has an effect on seasonal weather changes.	Handbook: 234

C O M P E T E N C Y 8

Investigate chemical and physical properties of matter. (P)

Objectives, Seventh Grade	ScienceSaurus, Grades 6-8
a. Determine and measure experimentally: boiling point, melting point, density, and solubility.	Handbook: 251, 254, 273
b. Demonstrate understanding that chemical and physical properties determine a substance's identity.	Handbook: 251
c. Compare common metals, nonmetals, and metalloids by name, symbol, and characteristics.	Handbook: 265, 331
d. Recognize elements that will combine to form compounds.	Handbook: 259, 262
e. Relate density to mass and volume.	Handbook: 068, 251

C O M P E T E N C Y 9

Investigate motions and forces. (P)

Objectives, Seventh Grade	ScienceSaurus, Grades 6-8
a. Using SI units, measure and graph the motion of an object by its position, direction of motion, and speed.	Handbook: 285
b. Investigate Newton's Laws of Motion.	Handbook: 283, 284, 285, 286
c. Using the scientific method, design an experiment to test how different types of surfaces affect friction.	Handbook: 002-016, 017-019, 279, 414-416

COMPETENCY 10

Investigate the sources of energy. (P, E)

Objectives, Seventh Grade	ScienceSaurus, Grades 6-8
a. Investigate the sun as a major source of energy.	Handbook: 136, 137
b. Compare and contrast how the three forms of thermal energy flow.	Handbook: 300, 301-304, 311
c. Research one or more of the sources of energy (nuclear, solar, wind, geothermal, hydro).	Handbook: 300, 326, 328, 420-426



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Eighth Grade

COMPETENCY 1

Analyze and relate structure and function in living systems. (L)

Objectives, Eighth Grade	ScienceSaurus, Grades 6-8
a. Analyze body systems and their functions.	Handbook: 085, 086, 087, 088, 089, 090, 091, 092, 093, 094, 095, 096, 097, 098
b. Relate interactions among body systems.	Handbook: 085, 086, 088, 091, 094, 096
c. Identify the parts of and show the interaction between the reproductive and endocrine systems.	Handbook: 097, 100, 101, 102
d. Examine diseases that are the result of body system failures or infection by other organisms.	Handbook: 098

COMPETENCY 2

Analyze genetic continuity of organisms. (L)

Objectives, Eighth Grade	ScienceSaurus, Grades 6-8
a. Define meiosis by relating the process to genetic continuity.	Handbook: 114
b. Compare and contrast genotype and phenotype.	Handbook: 123
c. Explain the advantages and disadvantages of both hybrid and purebred species of plants and animals.	Handbook: 122
d. Examine genes as a section of a DNA molecule that carries the genetic code for inherited traits.	Handbook: 115, 116, 117

COMPETENCY 3

Determine the economic factors that influence the regulation and behavior of organisms. (L, E)

Objectives, Eighth Grade	ScienceSaurus, Grades 6-8
a. Appraise the economic factors associated with regulations and protection of the environment.	Handbook: 347, 348, 353
b. Explain environmental degradation to include overpopulation, biodiversity, sea-level rise, and enhanced greenhouse effect.	Handbook: 349

COMPETENCY 4

Examine the physical factors of populations as they relate to the formation of ecosystems. (L, E)

Objectives, Eighth Grade	ScienceSaurus, Grades 6-8
a. Analyze the adaptation of representative organisms to aquatic or terrestrial environments.	Handbook: 141, 147, 148, 149
b. Evaluate the effects of urbanization on aquatic or terrestrial ecosystems.	Handbook: 340, 341, 342, 343
c. Analyze how predation and food webs help structure communities.	Handbook: 132

COMPETENCY 5

Investigate atmospheric movements that affect the Earth's system. (E, P)

Objectives, Eighth Grade	ScienceSaurus, Grades 6-8
a. Analyze the cycles including nitrogen, water, carbon dioxide, and oxygen cycle.	Handbook: 138, 139, 216
b. Use weather maps for analyzing and predicting weather.	Handbook: 220, 225
c. Construct a weather map to forecast the weather over a region, giving temperature in degrees Celsius.	Handbook: 219-220, 225

COMPETENCY 6

Investigate the Earth's geological past. (E, L)

Objectives, Eighth Grade	ScienceSaurus, Grades 6-8
a. Identify the components/stages of a geological timetable and discuss how the environment (including animals and landforms) has changed in each period.	Handbook: 200
b. Describe methods and tools used in dating rocks and fossils.	Handbook: 197

COMPETENCY 7

Describe the appearance and nature of our galaxy and the universe. (E)

Objectives, Eighth Grade	ScienceSaurus, Grades 6-8
a. Explain the relationship between distance and light-travel time (light year).	Handbook: 245
b. Identify and describe deep-sky objects visible from Earth (diffuse nebulae, galactic and globular clusters, planetary nebulae, supernova remnants, "spiral nebulae"	Handbook: 244-248
c. Identify and describe the Milky Way as the galaxy to which we belong.	Handbook: 247
d. Identify and describe our galaxy in terms of its components (core of older stars, spiral arms of gas and dust with younger stars, halo, "dark matter") and our location within it.	Handbook: 247
e. Identify and describe "spiral nebulae" as distant galaxies.	Handbook: 247
f. Identify and describe different types of galaxies in terms of their shape (spiral, barred spiral, elliptical, irregular) and level of activity.	Handbook: 247

COMPETENCY 8

Analyze the properties of matter. (P)

Objectives, Eighth Grade	ScienceSaurus, Grades 6-8
a. Determine experimentally physical and chemical properties including density, conductivity, and reactions with water, acids, and bases.	Handbook: 251
b. Interpret information given on the periodic table to predict reactions between elements.	Handbook: 265
c. Write simple formulas for compounds.	Handbook: 262
d. Distinguish among atoms, ions, and molecules.	Handbook: 255, 261, 263, 264
e. Determine the density of regular and irregular objects.	Handbook: 068
f. Determine experimentally how acidic or basic a substance is using a pH scale indicator.	Handbook: 264
g. Introduce the factor label method for unit conversions in the metric system.	Handbook: 438

COMPETENCY 9

Explore the application of simple and complex machines. (P)

Objectives, Eighth Grade	ScienceSaurus, Grades 6-8
a. Apply and demonstrate Newton's Three Laws of Motion using simple machines.	Handbook: 288-294
b. Design and construct simple and complex machines.	Handbook: 288-294

COMPETENCY 10

Investigate the transfer of energy. (P)

Objectives, Eighth Grade	ScienceSaurus, Grades 6-8
a. Measure the transfer of heat between two objects using the Celsius scale.	Handbook: 071

Objectives, Eighth Grade	ScienceSaurus, Grades 6-8
b. Illustrate wave motion in different media.	Handbook: 305-307
c. Research and discuss energy transformation.	Handbook: 311
d. Convert one energy form to another.	Handbook: 311
e. Analyze mechanical waves (sound waves, water waves, earthquake waves, etc.) and electromagnetic waves (light, infrared, x-rays, etc.).	Handbook: 186, 307, 309, 312



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