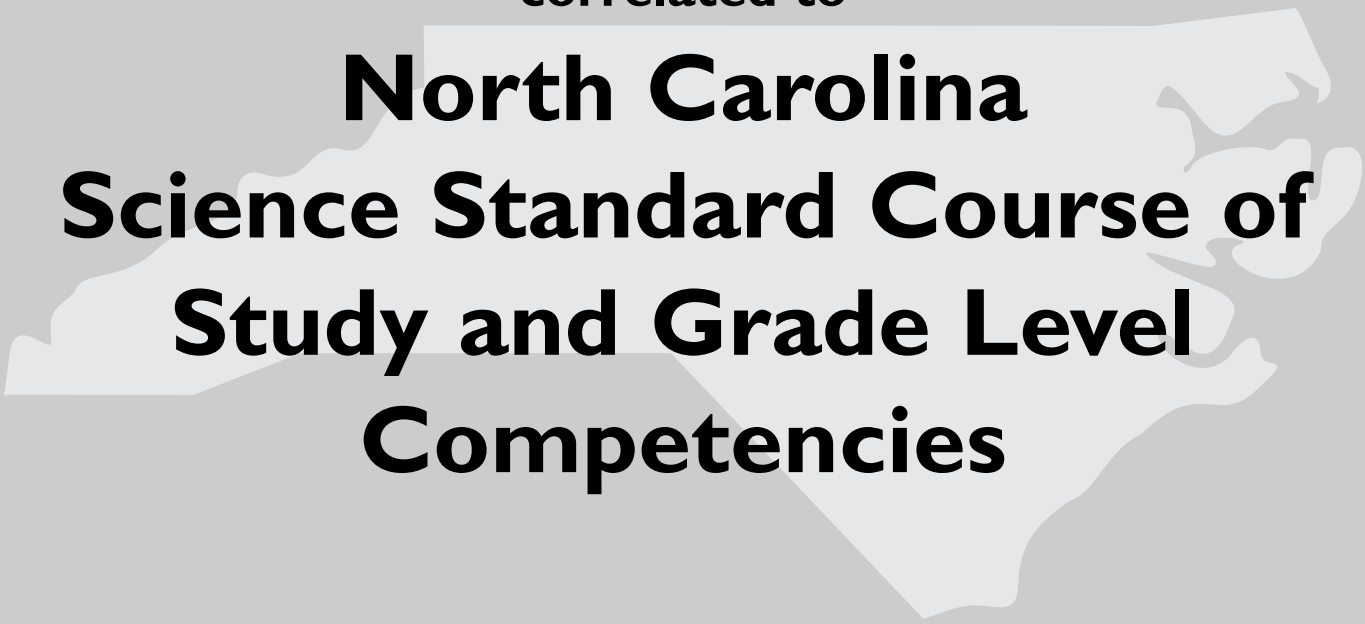
ScienceSaurus: A Student Handbook ©2002

Grades 6-8

correlated to

North Carolina Science Standard Course of Study and Grade Level Competencies



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Your North Carolina Great Source Representatives

Mary Lou Harris
(All areas except Western NC)
800-289-4490, option 4
Mary_Lou_Harris@hmco.com

Vicky Robinson
(Western NC)
800-289-4490, option 4
Vicky_Robinson@hmco.com

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North Carolina Science
Standard Course of Study and Grade Level Competencies
Grade 6

COMPETENCY GOAL 1

The learner will design and conduct investigations to demonstrate an understanding of scientific inquiry.

Competency Objective, Grade 6	ScienceSaurus, Grades 6-8
1.01 Identify and create questions and hypotheses that can be answered through scientific investigations.	**Student Handbook:** 002, 006-008, 017, 415-416
1.02 Develop appropriate experimental procedures for: • Given questions. • Student generated questions.	**Student Handbook:** 003-004, 017-018, 414, 415, 416
1.03 Apply safety procedures in the laboratory and in field studies: • Recognize potential hazards. • Manipulate materials and equipment. • Conduct appropriate procedures.	**Student Handbook:** 021-045
1.04 Analyze variables in scientific investigations: • Identify dependent and independent. • Use of a control. • Manipulate. • Describe relationships between. • Define operationally.	**Student Handbook:** 008, 015, 016, 396
1.05 Analyze evidence to: • Explain observations. • Make inferences and predictions. • Develop the relationship between evidence and explanation.	**Student Handbook:** 002, 012, 013, 017

Competency Objective, Grade 6	ScienceSaurus, Grades 6-8
1.06 Use mathematics to gather, organize, and present quantitative data resulting from scientific investigations: • Measurement. • Analysis of data. • Graphing. • Prediction models.	**Student Handbook:** 002, 012, 017, 053, 058-072, 390-401
1.07 Prepare models and/or computer simulations to: • Test hypotheses. • Evaluate how data fit.	**Student Handbook:** 007-010, 012
1.08 Use oral and written language to: • Communicate findings. • Defend conclusions of scientific investigations.	**Student Handbook:** 014, 015
1.09 Use technologies and information systems to: • Research. • Gather and analyze data. • Visualize data. • Disseminate findings to others.	**Student Handbook:** 009
1.10 Analyze and evaluate information from a scientifically literate viewpoint by reading, hearing, and/or viewing: • Scientific text. • Articles. • Events in the popular press.	**Student Handbook:** 015

COMPETENCY GOAL 2

The learner will demonstrate an understanding of technological design.

Competency Objective, Grade 6	ScienceSaurus, Grades 6-8
2.01 Explore evidence that "technology" has many definitions. • Artifact or hardware. • Methodology or technique. • System of production. • Social-technical system.	**Student Handbook:** 354-373

Competency Objective, Grade 6	ScienceSaurus, Grades 6-8
2.02 Use information systems to: • Identify scientific needs, human needs, or problems that are subject to technological solution. • Locate resources to obtain and test ideas.	**Student Handbook:** 354-357
2.03 Evaluate technological designs for: • Application of scientific principles. • Risks and benefits. • Constraints of design. • Consistent testing protocols.	**Student Handbook:** 357-373
2.04 Apply tenets of technological design to make informed consumer decisions about: • Products. • Processes. • Systems.	**Student Handbook:** 355-373

COMPETENCY GOAL 3

The learner will build an understanding of the geological cycles, forces, processes, and agents which shape the lithosphere.

Competency Objective, Grade 6	ScienceSaurus, Grades 6-8
3.01 Evaluate the forces that shape the lithosphere including: • Crustal plate movement. • Folding and faulting. • Deposition. • Volcanic Activity. • Earthquakes.	**Student Handbook:** 181-187
3.02 Examine earthquake and volcano patterns.	**Student Handbook:** 186-187
3.03 Explain the model for the interior of the earth.	**Student Handbook:** 177, 180

Competency Objective, Grade 6	ScienceSaurus, Grades 6-8
3.04 Describe the processes which form and the uses of earth materials. • Rock cycle. • Minerals. • Characteristics of rocks. • Economic use of rocks and minerals. • Value of gems and precious metals. • Common gems, minerals, precious metals and rocks found in N.C.	**Student Handbook:** 179, 180, 331
3.05 Analyze soil properties that can be observed and measured to predict soil quality including: • Color. • Horizon profile. • Infiltration. • Soil temperature. • Structure. • Consistency. • Texture. • Particle size. • pH. • Fertility. • Soil moisture.	**Student Handbook:** 140, 191
3.06 Evaluate ways in which human activities have affected Earth's pedosphere and the measures taken to control the impact: • Vegetative cover. • Agriculture. • Land use. • Nutrient balance. • Soil as a vector.	**Student Handbook:** 340-344, 346
3.07 Assess the use of technology and information systems in monitoring lithospheric phenomenon.	**Student Handbook:** 183, 186
3.08 Conclude that the good health of environments and organisms requires: • Monitoring of the pedosphere. • Taking steps to maintain soil quality. • Stewardship.	**Student Handbook:** 332-353

COMPETENCY GOAL 4

The learner will investigate the cycling of matter.

Competency Objective, Grade 6	ScienceSaurus, Grades 6-8
4.01 Describe the flow of energy and matter in natural systems: • Energy flows through ecosystems in one direction, from the sun through producers to consumers to decomposers. • Matter is transferred from one organism to another and between organisms and their environments. • Water, nitrogen, carbon dioxide, and oxygen are substances cycled between the living and non-living environments.	**Student Handbook:** 136-139
4.02 Evaluate the significant role of decomposers.	**Student Handbook:** 133-135
4.03 Examine evidence that green plants make food. • Photosynthesis is a process carried on by green plants and other organisms containing chlorophyll. • During photosynthesis, light energy is converted into stored energy which the plant, in turn, uses to carry out its life processes.	**Student Handbook:** 078, 079, 107, 138, 153, 330
4.04 Evaluate the significance of photosynthesis to other organisms: • The major source of atmospheric oxygen is photosynthesis. • Carbon dioxide is removed from the atmosphere and oxygen is released during photosynthesis. • Green plants are the producers of food that is used directly or indirectly by consumers.	**Student Handbook:** 078, 079, 107, 138, 153, 330
4.05 Evaluate designed systems for ability to enable growth of certain plants and animals.	**Student Handbook:** 076-081, 097

COMPETENCY GOAL 5

The learner will build understanding of the Solar System.

Competency Objective, Grade 6	ScienceSaurus, Grades 6-8
5.01 Analyze the components and cycles of the solar system including: • Sun. • Planets and moons. • Asteroids and meteors. • Comets. • Phases. • Seasons. • Day/year. • Eclipses.	**Student Handbook:** 231-243
5.02 Compare and contrast the Earth to other planets in terms of: • Size. • Composition. • Relative distance from the sun. • Ability to support life.	**Student Handbook:** 175-178, 180, 212-216, 245
5.03 Relate the influence of the sun and the moon's orbit to the gravitational effects produced on Earth. • Solar storms. • Tides.	**Student Handbook:** 237, 242
5.04 Describe space explorations and the understandings gained from them including: • N.A.S.A. • Technologies used to explore space. • Historic timeline. • Apollo mission to the moon. • Space Shuttle. • International Space Station. • Future goals.	**Student Handbook:** 359
5.05 Describe the setting of the solar system in the universe including: • Galaxy. • Size. • The uniqueness of Earth.	**Student Handbook:** 178, 245, 247

Competency Objective, Grade 6	ScienceSaurus, Grades 6-8
5.06 Analyze the spin-off benefits generated by space exploration technology including: • Medical. • Materials. • Transportation. • Processes. • Future research.	**Student Handbook:** 366

COMPETENCY GOAL 6

The learner will conduct investigations and examine models and devices to build an understanding of the characteristics of energy transfer and/or transformation.

Competency Objective, Grade 6	ScienceSaurus, Grades 6-8
6.01 Determine how convection and radiation transfer energy.	**Student Handbook:** 304
6.02 Analyze heat flow through materials or across space from warm objects to cooler objects until both objects are at equilibrium.	**Student Handbook:** 302, 303
6.03 Analyze sound as an example that vibrating materials generate waves that transfer energy. • Frequency. • Amplitude. • Loudness. • How sound travels through different material. • Form and function of the human ear.	**Student Handbook:** 096, 300, 306, 312, 313
6.04 Evaluate data for qualitative and quantitative relationships associated with energy transfer and/or transformation.	**Student Handbook:** 300, 304
6.05 Analyze the physical interactions of light and matter: • Absorption. • Scattering. • Color perception. • Form and function of the human eye.	**Student Handbook:** 075, 096, 309, 311

Competency Objective, Grade 6	ScienceSaurus, Grades 6-8
6.06 Analyze response to heat to determine the suitability of materials for use in technological design: • Conduction. • Expansion. • Contraction.	**Student Handbook:** 304

COMPETENCY GOAL 7

The learner will conduct investigations and use technologies and information systems to build an understanding of population dynamics.

Competency Objective, Grade 6	ScienceSaurus, Grades 6-8
7.01 Describe ways in which organisms interact with each other and with non-living parts of the environment: • Coexistence/Cooperation/Competition. • Symbiosis. • Mutual dependence.	**Student Handbook:** 130, 132
7.02 Investigate factors that determine the growth and survival of organisms including: • Light. • Temperature range. • Mineral availability. • Soil/rock type. • Water. • Energy.	**Student Handbook:** 136-137, 141-149
7.03 Explain how changes in habitat may affect organisms.	**Student Handbook:** 340
7.04 Evaluate data related to human population growth, along with problems and solutions: • Waste disposal. • Food supplies. • Resource availability. • Transportation. • Socio-economic patterns.	**Student Handbook:** 131, 340-343
7.05 Examine evidence that overpopulation by any species impacts the environment.	**Student Handbook:** 131, 345

Competency Objective, Grade 6	ScienceSaurus, Grades 6-8
7.06 Investigate processes which, operating over long periods of time, have resulted in the diversity of plant and animal life present today: • Natural selection. • Adaptation.	**Student Handbook:** 127

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Grade 7

COMPETENCY GOAL 1

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Competency Objective, Grade 7	ScienceSaurus, Grades 6-8
1.01 Identify and create questions and hypotheses that can be answered through scientific investigations.	**Student Handbook:** 002, 006-008, 017, 415-416
1.02 Develop appropriate experimental procedures for: • Given questions. • Student generated questions.	**Student Handbook:** 003-004, 017-018, 414, 415, 416
1.03 Apply safety procedures in the laboratory and in field studies. • Recognize potential hazards. • Safely manipulate materials and equipment. • Conduct appropriate procedures.	**Student Handbook:** 021-045
1.04 Analyze variables in scientific investigations: • Identify dependent and independent. • Use of a Control. • Manipulate. • Describe relationships between. • Define operationally.	**Student Handbook:** 008, 015, 016, 396
1.05 Analyze evidence to: • Explain observations. • Make inferences and predictions. • Develop the relationship between evidence and explanation.	**Student Handbook:** 002, 012, 013, 017

Competency Objective, Grade 7	ScienceSaurus, Grades 6-8
1.06 Use mathematics to gather, organize, and present quantitative data resulting from scientific investigations: • Measurement. • Analysis of data. • Graphing. • Prediction models.	**Student Handbook:** 002, 012, 017, 053, 058-072, 390-401
1.07 Prepare models and/or computer simulations to: • Test hypotheses. • Evaluate how data fit.	**Student Handbook:** 007-010, 012
1.08 Use oral and written language to: • Communicate findings. • Defend conclusions of scientific investigations.	**Student Handbook:** 014, 015
1.09 Use technologies and information systems to: • Research. • Gather and analyze data. • Visualize data. • Disseminate findings to others.	**Student Handbook:** 009
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COMPETENCY GOAL 2

The learner will demonstrate an understanding of technological design.

Competency Objective, Grade 7	ScienceSaurus, Grades 6-8
2.01 Explore evidence that "technology" has many definitions. • Artifact or hardware. • Methodology or technique. • System of production. • Social-technical system.	**Student Handbook:** 354-373
2.02 Use information systems to: • Identify scientific needs, human needs, or problems that are subject to technological solution. • Locate resources to obtain and test ideas.	**Student Handbook:** 354-357
2.03 Evaluate technological designs for: • Application of scientific principles. • Risks and benefits. • Constraints of design. • Consistent testing protocols.	**Student Handbook:** 357-373
2.04 Apply tenets of technological design to make informed consumer decisions about: • Products. • Processes. • Systems.	**Student Handbook:** 355-373

COMPETENCY GOAL 3

The learner will conduct investigations and utilize appropriate technologies and information systems to build an understanding of the atmosphere.

Competency Objective, Grade 7	ScienceSaurus, Grades 6-8
3.01 Explain the composition, properties and structure of the atmosphere: • Mixture of gases. • Stratified layers. • Each layer has distinct properties. • As altitude increases, air pressure decreases. • Equilibrium.	**Student Handbook:** 213-215

Competency Objective, Grade 7	ScienceSaurus, Grades 6-8
3.02 Describe properties that can be observed and measured to predict air quality: • Particulate matter. • Ozone.	**Student Handbook:** 214
3.03 Conclude that the good health of environments and organisms requires: • The monitoring of air quality. • Taking steps to maintain healthy air quality. • Stewardship.	**Student Handbook:** 348
3.04 Evaluate how humans impact air quality including: • Air quality standards. • Point and non-point sources of air pollution in North Carolina. • Financial and economic trade-offs. • Local air quality issues.	**Student Handbook:** 348, 370
3.05 Examine evidence that atmospheric properties can be studied to predict atmospheric conditions and weather hazards: • Humidity. • Temperature. • Wind speed and direction. • Air pressure. • Precipitation. • Tornados. • Hurricanes. • Floods. • Storms.	**Student Handbook:** 216-230, 492, 519
3.06 Assess the use of technology in studying atmospheric phenomena and weather hazards: • Satellites. • Weather maps. • Predicting. • Recording. • Communicating information about conditions.	**Student Handbook:** 219-220, 225

COMPETENCY GOAL 4

The learner will conduct investigations, use models, simulations, and appropriate technologies and information systems to build an understanding of the complementary nature of the human body system.

Competency Objective, Grade 7	ScienceSaurus, Grades 6-8
4.01 Analyze how human body systems interact to provide for the needs of the human organism: • Musculoskeletal. • Cardiovascular. • Endocrine and Nervous. • Digestive and Circulatory. • Excretory. • Reproductive. • Respiratory. • Immune. • Nervous system.	**Student Handbook:** 085-101
4.02 Describe how systems within the human body are defined by the functions it performs.	**Student Handbook:** 085-101
4.03 Explain how the structure of an organ is adapted to perform specific functions within one or more systems. • Liver. • Heart. • Lung. • Brain • Stomach. • Kidney.	**Student Handbook:** 089, 090, 092, 093, 095
4.04 Evaluate how systems in the human body help regulate the internal environment.	**Student Handbook:** 085-101
4.05 Analyze how an imbalance in homeostasis may result from a disruption in any human system.	**Student Handbook:** 084
4.06 Describe growth and development of the human organism.	**Student Handbook:** 099, 102
4.08 Explain how understanding human body systems can help make informed decisions regarding health.	**Student Handbook:** 083-102

COMPETENCY GOAL 5

The learner will conduct investigations and utilize appropriate technologies and information systems to build an understanding of heredity and genetics.

Competency Objective, Grade 7	ScienceSaurus, Grades 6-8
5.01 Explain the significance of genes to inherited characteristics: • Genes are the units of information. • Parents transmit genes to their offspring. • Some medical conditions and diseases are genetic.	**Student Handbook:** 116-121
5.02 Explain the significance of reproduction: • Sorting and recombination of parents' genetic material. • Potential variation among offspring.	**Student Handbook:** 116-121
5.03 Identify examples and patterns of human genetic traits: • Dominant and recessive. • Incomplete dominance.	**Student Handbook:** 122
5.04 Analyze the role of probability in the study of heredity: • Role of each parent in transfer of genetic traits. • Analysis of pedigrees.	**Student Handbook:** 116-121
5.05 Summarize the genetic transmittance of disease.	**Student Handbook:** 118, 121
5.06 Evaluate evidence that human characteristics are a product of: • Inheritance. • Environmental factors, and • Lifestyle choices.	**Student Handbook:** 116-121

COMPETENCY GOAL 6

The learner will conduct investigations, use models, simulations, and appropriate technologies and information systems to build an understanding of motion and forces.

Competency Objective, Grade 7	ScienceSaurus, Grades 6-8
6.01 Demonstrate ways that simple machines can change force.	**Student Handbook:** 288-294
6.02 Analyze simple machines for mechanical advantage and efficiency.	**Student Handbook:** 289-294
6.03 Evaluate motion in terms of Newton's Laws: • The force of friction retards motion. • For every action there is an equal and opposite reaction. • The greater the force, the greater the change in motion. • An object's motion is the result of the combined effect of all forces acting on the object. • A moving object that is not subjected to a force will continue to move at a constant speed in a straight line. • An object at rest will remain at rest.	**Student Handbook:** 283-286
6.04 Analyze that an object's motion is always judged relative to some other object or point.	**Student Handbook:** 285
6.05 Describe and measure quantities that characterize moving objects and their interactions within a system: • Time. • Distance. • Mass. • Force. • Velocity. • Center of mass. • Acceleration.	**Student Handbook:** 285
6.06 Investigate and analyze the real world interactions of balanced and unbalanced forces: • Sports and recreation. • Transportation. • The human body.	**Student Handbook:** 280-282

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Grade 8

COMPETENCY GOAL 1

The learner will design and conduct investigations to demonstrate an understanding of scientific inquiry.

Competency Objective, Grade 8	ScienceSaurus, Grades 6-8
1.01 Identify and create questions and hypotheses that can be answered through scientific investigations.	**Student Handbook:** 002, 006-008, 017, 415-416
1.02 Develop appropriate experimental procedures for: • Given questions. • Student generated questions.	**Student Handbook:** 003-004, 017-018, 414, 415, 416
1.03 Apply safety procedures in the laboratory and in field studies: • Recognize potential hazards. • Safely manipulate materials and equipment. • Conduct appropriate procedures.	**Student Handbook:** 021-045
1.04 Analyze variables in scientific investigations: • Identify dependent and independent. • Use of a control. • Manipulate. • Describe relationships between. • Define operationally.	**Student Handbook:** 008, 015, 016, 396
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1.08 Use oral and written language to: • Communicate findings. • Defend conclusions of scientific investigations. • Describe strengths and weaknesses of claims, arguments, and/or data.	**Student Handbook:** 014, 015
1.09 Use technologies and information systems to: • Research. • Gather and analyze data. • Visualize data. • Disseminate findings to others.	**Student Handbook:** 009
1.10 Analyze and evaluate information from a scientifically literate viewpoint by reading, hearing, and/or viewing: • Scientific text. • Articles. • Events in the popular press.	**Student Handbook:** 015

COMPETENCY GOAL 2

The learner will demonstrate an understanding of technological design.

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2.04 Apply tenets of technological design to make informed consumer decisions about: • Products. • Processes. • Systems.	**Student Handbook:** 355-373

COMPETENCY GOAL 3

The learner will conduct investigations and utilize appropriate technologies and information systems to build an understanding of the hydrosphere.

Competency Objective, Grade 8	ScienceSaurus, Grades 6-8
3.01 Analyze the unique properties of water including: • Universal solvent. • Cohesion and adhesion. • Polarity. • Density and buoyancy. • Specific heat.	**Student Handbook:** 190, 296, 317, 515

Competency Objective, Grade 8	ScienceSaurus, Grades 6-8
3.02 Explain the structure of the hydrosphere including: • Water distribution on earth. • Local river basin. • Local water availability.	**Student Handbook:** 192, 193, 330
3.03 Evaluate evidence that Earth's oceans are a reservoir of nutrients, minerals, dissolved gases, and life forms: • Estuaries. • Marine ecosystems. • Upwelling. • Behavior of gases in the marine environment. • Value and sustainability of marine resources. • Deep ocean technology and understandings gained.	**Student Handbook:** 148, 149, 208-211, 342, 343, 521
3.04 Describe how terrestrial and aquatic food webs are interconnected.	**Student Handbook:** 135
3.05 Analyze hydrospheric data over time to predict the health of a water system including: • Temperature. • Dissolved oxygen. • pH. • Nitrates. • Turbidity. • Bio-indicators.	**Student Handbook:** 209, 264, 353
3.06 Evaluate technologies and information systems used to monitor the hydrosphere.	**Student Handbook:** 353
3.07 Describe how humans affect the quality of water: • Point and non-point sources of water pollution in North Carolina. • Possible effects of excess nutrients in North Carolina waters. • Economic trade-offs. • Local water issues.	**Student Handbook:** 353

Competency Objective, Grade 8	ScienceSaurus, Grades 6-8
3.08 Recognize that the good health of environments and organisms requires: • Monitoring of the hydrosphere. • Water quality standards. • Methods of water treatment. • Maintaining safe water quality. • Stewardship.	**Student Handbook:** 342, 343, 353

COMPETENCY GOAL 4

The learner will conduct investigations and utilize technology and information systems to build an understanding of chemistry.

Competency Objective, Grade 8	ScienceSaurus, Grades 6-8
4.01 Understand that both naturally occurring and synthetic substances are chemicals.	**Student Handbook:** 251
4.02 Evaluate evidence that elements combine in a multitude of ways to produce compounds that account for all living and nonliving substances.	**Student Handbook:** 260, 262
4.03 Explain how the periodic table is a model for: • Classifying elements. • Identifying the properties of elements.	**Student Handbook:** 265
4.04 Describe the suitability of materials for use in technological design: • Electrical Conductivity. • Density. • Magnetism. • Solubility. • Malleability.	**Student Handbook:** 068, 251, 273
4.05 Identify substances based on characteristic physical properties: • Density. • Boiling/Melting points. • Solubility. • Chemical reactivity. • Specific heat.	**Student Handbook:** 068, 251, 253-254, 273, 515

Competency Objective, Grade 8	ScienceSaurus, Grades 6-8
4.06 Describe and measure quantities related to chemical/physical changes within a system: • Temperature. • Volume. • Mass. • Precipitate. • Gas production.	**Student Handbook:** 253, 254
4.07 Identify evidence supporting the law of conservation of matter. • During an ordinary chemical reaction matter cannot be created or destroyed. • In a chemical reaction, the total mass of the reactants equals the total mass of the products mass of the products.	**Student Handbook:** 270
4.09 Describe factors that determine the effects a chemical has on a living organism including: • Exposure. • Potency. • Dose and the resultant concentration of chemical in the organism. • Individual susceptibility. • Possible means to eliminate or reduce effects.	**Student Handbook:** 350, 351
4.10 Describe risks and benefits of chemicals including: • Medicines. • Food preservatives. • Crop yield. • Sanitation.	**Student Handbook:** 330, 372

COMPETENCY GOAL 5

The learner will conduct investigations and utilize appropriate technologies and information systems to build an understanding of evidence of evolution in organisms and landforms.

Competency Objective, Grade 8	ScienceSaurus, Grades 6-8
5.01 Interpret ways in which rocks, fossils, and ice cores record Earth's geologic history and the evolution of life including: • Geologic Time Scale. • Index Fossils. • Law of Superposition. • Unconformity. • Evidence for climate change. • Extinction of species. • Catastrophic events.	**Student Handbook:** 126, 128, 187, 195, 196, 200, 340
5.02 Correlate evolutionary theories and processes: • Biological. • Geological. • Technological.	**Student Handbook:** 126, 195, 200, 439-449
5.03 Examine evidence that the geologic evolution has had significant global impact including: • Distribution of living things. • Major geological events. • Mechanical and chemical weathering.	**Student Handbook:** 186-187, 189-190
5.04 Analyze satellite imagery as a method to monitor Earth from space: • Spectral analysis. • Reflectance curves.	**Student Handbook:** 219
5.05 Use maps, ground truthing and remote sensing to make predictions regarding: • Changes over time. • Land use. • Urban sprawl. • Resource management.	**Student Handbook:** 174, 199

COMPETENCY GOAL 6

The learner will conduct investigations, use models, simulations, and appropriate technologies and information systems to build an understanding of cell theory.

Competency Objective, Grade 8	ScienceSaurus, Grades 6-8
6.01 Describe cell theory: • All living things are composed of cells. • Cells provide structure and carry on major functions to sustain life. • Some organisms are single cell; other organisms, including humans, are multi-cellular. • Cell function is similar in all living things.	**Student Handbook:** 076
6.02 Analyze structures, functions, and processes within animal cells for: • Capture and release of energy. • Feedback information. • Dispose of wastes. • Reproduction. • Movement. • Specialized needs.	**Student Handbook:** 077, 079
6.03 Compare life functions of protists: • Euglena. • Amoeba. • Paramecium. • Volvox.	**Student Handbook:** 156, 159
6.04 Conclude that animal cells carry on complex chemical processes to balance the needs of the organism. • Cells grow and divide to produce more cells. • Cells take in nutrients to make the energy for the work cells do. • Cells take in materials that a cell or an organism needs.	**Student Handbook:** 077, 080

COMPETENCY GOAL 7

The learner will conduct investigations, use models, simulations, and appropriate technologies and information systems to build an understanding of microbiology.

Competency Objective, Grade 8	ScienceSaurus, Grades 6-8
7.01 Compare and contrast microbes: • Size, shape, structure. • Whether they are living cells.	**Student Handbook:** 157, 159
7.02 Describe diseases caused by microscopic biological hazards including: • Viruses. • Bacteria. • Parasites. • Contagions. • Mutagens.	**Student Handbook:** 098, 157
7.04 Evaluate the human attempt to reduce the risk of and treatments for microbial infections including: • Solutions with anti-microbial properties. • Antibiotic treatment. • Research.	**Student Handbook:** 372
7.05 Investigate aspects of biotechnology including: • Specific genetic information available. • Careers. • Economic benefits to North Carolina. • Ethical issues. • Impact for agriculture.	**Student Handbook:** 361

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