



EE and North Carolina Standard Course of Study

This document summarizes the NC standards for education that potentially align with environmental education topics/themes. You can find additional clarifying objectives and “unpacked content” for each grade level through the links below.

The complete Science standards with clarifying objectives can be found on the NC Department of Public Instruction’s web site at:

<https://www.dpi.nc.gov/districts-schools/classroom-resources/academic-standards/standard-course-study/science>. The current state content standards were approved by the NC State Board of Education in July 2023, with required implementation for schools in Fall 2024. The previous state content standards were approved by the NC State Board of Education in 2010, with required implementation for schools in 2012.

The complete Social Studies standards with clarifying objectives can be found on the NC Department of Public Instruction’s web site at:

<https://www.dpi.nc.gov/teach-nc/curriculum-instruction/standard-course-study/social-studies>. The current state content standards were approved by the NC State Board of Education in February 2021, with required implementation for schools in Fall 2021. Find supplemental Social Studies resources at <https://sites.google.com/dpi.nc.gov/social-studies/home>

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Science

PHYSICAL SCIENCES
Understand how objects are described based on physical properties and how they are used.
Understand positions and motions of objects and organisms observed in the environment.
LIFE SCIENCES: From Molecules to Organisms
Understand change and observable patterns of weather
LIFE SCIENCES: Heredity
Compare characteristics of animals to other animals and nonliving things.

Understand characteristics of organisms that make them alike and different.
EARTH SYSTEMS SCIENCES
Understand change and observable patterns of weather, day to day, throughout the year.

Social Studies

INQUIRY
Compelling Questions, Supporting Questions, Gathering and Evaluating Sources, Communicating Ideas, Taking Informed Action
HISTORY
Understand change over time
GEOGRAPHY
Apply simple geographic representations, tools, and terms to describe surroundings.
Understand interactions between humans and the environment
ECONOMIC
Understand basic economic concepts
CIVICS AND GOVERNMENT
Understand that people work together to create and follow rules.
BEHAVIORAL SCIENCES
Understand cultural practices in local communities and around the world.

FIRST

Science

PHYSICAL SCIENCES
Understand how forces (pushes or pulls) affect the motion of an object.
LIFE SCIENCES: Ecosystems
Understand the basic needs of a variety of plants and animals in different ecosystems.
EARTH SYSTEMS SCIENCES: Earth's Place in the Universe
Recognize the features and patterns of the earth/moon/sun system as observed from Earth.
EARTH SYSTEMS SCIENCES: Earth's Systems

Understand physical properties of Earth materials.
EARTH SYSTEMS SCIENCES: Earth and Human Activity
Understand that natural resources are important to humans.

Social Studies

INQUIRY
Compelling Questions, Supporting Questions, Gathering and Evaluating Sources, Communicating Ideas, Taking Informed Action
HISTORY
Understand history tells a story of how people/events changed society over time
GEOGRAPHY
Apply geographic representations, tools, and terms to describe surroundings
Understand interactions between humans and the environment in different places and regions around the world.
ECONOMICS
Understand the role of basic economic concepts in the decisions people make.
CIVICS AND GOVERNMENT
Understand how people engage with and participate in the community.
BEHAVIORAL SCIENCES
Understand how culture, values, and beliefs shape people, places, and environments

SECOND

Science

PHYSICAL SCIENCES
Understand properties of solids and liquids and the changes they undergo.
Understand the relationship between sound and vibrating objects.
LIFE SCIENCES: Molecules to Organisms
Understand animal life cycles
LIFE SCIENCES: Heredity

Remember organisms differ from/similar to their parents and other offspring based on characteristics of the organism.

EARTH SCIENCES

Understand patterns of weather; factors that affect weather.

Social Studies

INQUIRY

Compelling Questions, Supporting Questions, Gathering and Evaluating Sources, Communicating Ideas, Taking Informed Action

HISTORY

Understand how various people and events have shaped America.

GEOGRAPHY

Understand how interaction between humans and the physical environment is impacted by movement and settlement.

ECONOMICS

Understand how the availability of resources impacts economic decisions.

CIVICS AND GOVERNMENT

Explain how various indigenous, religious, gender, and racial groups advocate for freedom and equality.

BEHAVIORAL SCIENCES

Understand how values and beliefs shape culture in America.

THIRD

Science

PHYSICAL SCIENCES

Understand structure and properties of matter before and after they undergo change.

Understand motion and factors that affect motion.

Understand how energy can be transferred from one object to another

LIFE SCIENCES: Molecules to Organisms

Understand how plant structures aid in survival.

LIFE SCIENCES: Ecosystems
Understand how environmental factors aid in the survival of plants.
EARTH SCIENCES
Remember the major components/patterns observed in the earth/moon/sun system.
Understand the structures of the Earth's surface using models.

Social Studies

INQUIRY
Compelling Questions, Supporting Questions, Gathering and Evaluating Sources, Developing Claims and Using Evidence, Communicating Ideas, Taking Informed Action
HISTORY
Understand how various people and historical events have shaped local communities.
GEOGRAPHY
Understand how geography impacts the development of regions and communities.
ECONOMICS
Understand how economic decisions and resources affect the local economy.
CIVICS AND GOVERNMENT
Understand the structure and function of state and local government.
BEHAVIORAL SCIENCES
Understand how values and beliefs of individuals and groups influence communities.

FOURTH

Science

PHYSICAL SCIENCES
Understand how various forces affect motion of an object.
Understand that energy can be transferred from place to place by sound, light, heat, and electric currents.

Understand the nature of light and how light interacts with objects.
LIFE SCIENCES: Molecules to Organisms
Understand the effects of environmental changes, adaptations and behaviors that enable organisms to survive in changing habitats.
LIFE SCIENCES: Biological Evolution
Understand the use of fossils as evidence of Earth's history and its changing life forms.
Understand food and the benefits of vitamins, minerals, and exercise
EARTH SCIENCES: Earth's Place in the Universe
Explain the causes of day and night; phases of the moon.
EARTH SCIENCES: Earth's Systems
Understand patterns of change in the Earth's surface over time.
EARTH SCIENCES: Earth and Human Activity
Understand changes caused by human impact on the environment.

Social Studies

INQUIRY
Compelling Questions, Supporting Questions, Gathering and Evaluating Sources, Developing Claims and Using Evidence, Communicating Ideas, Taking Informed Action
HISTORY
Understand the role of various people, events, and ideas in shaping North Carolina.
GEOGRAPHY
Understand the role geography has played in the development of North Carolina.
ECONOMICS
Understand how economic decisions and resources affect the economy of North Carolina.
CIVICS AND GOVERNMENT
Understand the role of citizens in local and state government.
BEHAVIORAL SCIENCES
Understand ways in which values and beliefs have influenced the development

of North Carolina's identity as a state.
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FIFTH

Science

PHYSICAL SCIENCES
Understand the interactions of matter and energy; changes that occur.
Understand force and motion, and the relationship between them.
LIFE SCIENCES: Molecules to Organisms
Understand how structures and systems of the human body perform functions necessary for life.
LIFE SCIENCES: Ecosystems
Understand the interdependence of plants and animals within their ecosystem.
LIFE SCIENCES: Heredity
Understand some characteristics of an organism are inherited and other characteristics are acquired.
EARTH SCIENCES
Understand how Earth systems (hydrosphere and atmosphere) impact patterns of weather and climate.

Social Studies

INQUIRY
Compelling Questions, Supporting Questions, Gathering and Evaluating Sources, Developing Claims and Using Evidence, Communicating Ideas, Taking Informed Action
HISTORY
Understand the role of various people, events, and ideas in shaping the United States.
GEOGRAPHY
Understand the ways in which geographic factors and features have influenced development of the United States.
ECONOMICS

Understand how economic decisions have impacted the United States in terms of consequence, growth, and trade.
CIVICS AND GOVERNMENT
Analyze the structure and function of the United States government in terms of cooperation and compromise.
Understand the ways in which the federal government has protected individual rights of citizens.
BEHAVIORAL SCIENCES
Understand ways in which values and beliefs have influenced the development of the United States.

SIXTH

Science

PHYSICAL SCIENCES
Understand the structure/states/physical properties of matter.
Understand characteristics of thermal and electrical energy transfer; interactions of matter and energy.
Understand properties of waves/wavelike property of energy in seismic, electromagnetic (including visible light), and sound waves.
LIFE SCIENCES: Molecules to Organisms
Understand the structures/process/behaviors of plants that enable them to survive and reproduce.
LIFE SCIENCES: Ecosystems
Understand the flow of energy through ecosystems; responses of populations to biotic and abiotic factors.
EARTH SCIENCES: Earth's Place in the Universe
Understand the earth/moon/sun system and properties/structures/motions of celestial bodies.
EARTH SCIENCES: Earth's Systems
Understand the lithosphere and how interactions of constructive and destructive forces have resulted in changes in the surface of the earth over time.

Social Studies

INQUIRY
Compelling Questions, Supporting Questions, Gathering and Evaluating Sources, Developing Claims and Using Evidence, Communicating Ideas, Taking Informed Action
HISTORY
Understand the development of civilizations and societies from various perspectives.
GEOGRAPHY
Understand the geographical factors that influence human migration and settlement.
CIVICS AND GOVERNMENT
Understand the purpose of government and authority.
BEHAVIORAL SCIENCES
Understand ways in which culture influences civilizations.

SEVENTH

Science

PHYSICAL SCIENCES
Understand motion; effects of forces, and graphical representations of motion
Understand forms of energy/energy transfer/transformation and conservation in mechanical systems.
LIFE SCIENCES: Molecules to Organisms
Understand processes/structures/functions of living organisms that enable survival/reproduction/and basic functions of life.
LIFE SCIENCES: Heredity
Understand the relationship of mechanisms of reproduction/patterns of inheritance/potential variation of offspring
EARTH SCIENCES: Earth's Systems
Understand how the atmosphere and how the cycling of water relates to weather and climate.

EARTH SCIENCES: Earth and Human Activity
Understand the reciprocal relationship between the atmosphere and humans.

Social Studies

INQUIRY
Compelling Questions, Supporting Questions, Gathering and Evaluating Sources, Developing Claims and Using Evidence, Communicating Ideas, Taking Informed Action
HISTORY
Evaluate historical and current events from a variety of perspectives.
GEOGRAPHY
Understand ways in which geographical factors influence societies.
ECONOMICS
Understand economic activities of modern societies and regions
CIVICS AND GOVERNMENT
Analyze modern governmental systems in terms of conflict and change.
BEHAVIORAL SCIENCES
Understand how individual and group values and beliefs have influenced various cultures.

EIGHTH

Science

PHYSICAL SCIENCES
Understand properties of matter/changes that occur in open and closed interactions.
Explain environmental implications with methods of obtaining/managing/using energy resources
LIFE SCIENCES: Molecules to Organisms
Understand hazards caused by agents of disease affect living organisms.
LIFE SCIENCES: Ecosystems

Understand how organisms interact/respond to biotic/abiotic factors in their environment.
LIFE SCIENCES: Biological Evolution
Understand evolution of organisms over time based on evidence/processes.
EARTH SCIENCES: Earth's Place in the Universe
Understand history of Earth and its lifeforms based on evidence of change in fossil records/landforms.
EARTH SCIENCES: Earth's Systems
Understand the hydrosphere including freshwater, estuarine, ocean systems.
EARTH SCIENCES: Earth and Human Activity
Understand the reciprocal relationship between the hydrosphere and humans.

Social Studies

INQUIRY
Compelling Questions, Supporting Questions, Gathering and Evaluating Sources, Developing Claims and Using Evidence, Communicating Ideas, Taking Informed Action
HISTORY
Understand how innovation and change have impacted the development of North Carolina and the nation.
GEOGRAPHY
Understand geographic factors that influence the development of North Carolina and the nation.
ECONOMICS
Understand the economic development of North Carolina and the nation.
BEHAVIORAL SCIENCES
Analyze the impact of group behavior on the development of North Carolina and the nation.

HS BIOLOGY

STRUCTURE AND FUNCTION OF LIVING ORGANISMS
Understand relationship between structures/functions of cells and organelles
Analyze cell as a living system
ECOSYSTEMS
Analyze interdependence of living organisms within their environments
Understand impact of human activities on the environment
EVOLUTION AND GENETICS
Explain how traits are determined by structure/function of DNA
Understand how the environment/interaction of alleles influences genetic traits
Understand application of DNA technology
Explain theory of evolution by natural selection; changes over time
Analyze how classification systems are developed
MOLECULAR BIOLOGY
Understand how biological molecules are essential to living organisms
Analyze relationships between biochemical processes and energy use in cells

HS PHYSICAL SCIENCES

FORCES AND MOTION
Understand motion in terms of speed, velocity, acceleration, momentum
Understand the relationship between forces and motion
MATTER: PROPERTIES AND CHANGE
Understand types, properties, and structure of matter
Understand chemical bonding/interactions
Understand role of nucleus in radiation and radioactivity
ENERGY: CONSERVATION AND TRANSFER
Understand types of energy; conservation and energy transfer
Understand nature of waves

Understand electricity/magnetism and their relationship

HS EARTH/ENVIRONMENTAL SCIENCE

EARTH IN THE UNIVERSE
Explain Earth's role as a body in space
EARTH SYSTEMS, STRUCTURES, AND PROCESSES
Explain how processes/forces affect lithosphere
Understand how human influences impact lithosphere
Explain structure/processes within hydrosphere
Evaluate how humans use water
Understand structure/processes within atmosphere
Analyze patterns of global climate change over time
Explain how lithosphere/hydrosphere/atmosphere individually and collectively affect biosphere
Evaluate human behaviors related to living sustainably on Earth

HS AMERICAN HISTORY

INQUIRY
Apply the inquiry models to analyze and evaluate social studies topics and issues in order to communicate conclusions and take informed actions.
BEHAVIORAL SCIENCES
Evaluate American identity in terms of perspective, change, and continuity.
Analyze the relationship of tradition and progress in terms of scientific, technological, intellectual and cultural development.
GEOGRAPHY
Understand how movement, settlement, and expansion influenced American development.
HISTORY
Evaluate the relationship between America and other nations in terms of national interests and global interdependence.

HS WORLD HISTORY

INQUIRY

Apply the inquiry models to analyze and evaluate social studies topics and issues in order to communicate conclusions and take informed actions.
BEHAVIORAL SCIENCES
Analyze how artistic, literary, philosophical, technological, and scientific ideas have developed and shaped society and institutions.
GEOGRAPHY
Understand how movement has influenced societies now and in the past.
Analyze the intentional and unintentional consequences of human-environment interaction.
HISTORY
Analyze historical events and issues in world history from a variety of perspectives.

HS THE FOUNDING PRINCIPLES: CIVIC LITERACY

INQUIRY
Apply the inquiry models to analyze and evaluate social studies topics and issues in order to communicate conclusions and take informed actions.
CIVIC AND GOVERNMENT
Analyze the various responsibilities of individuals living in the United States in terms of citizenship, civic participation, and the political process.
GEOGRAPHY
Understand the role geography plays in civic participation, legislation, and public policy.

HS ECONOMICS AND PERSONAL FINANCE

ECONOMICS
Understand economies, markets, and the role economic factors play in making economic decisions.
CRITICAL CONSUMERISM
Understand factors associated with consumer decision making.

Additional Resources:

Quick Reference Guides for Grades K-8

https://drive.google.com/drive/folders/1uGAVxZwL1z2PBJFBK1LJNQ8gCZ9z_Rkh

This document was created in August 2023 for use in the North Carolina's Guidelines for Excellence K-12 Learner Guidelines Online Workshop. Please refer to the NC Department of Public Instruction's web site (<https://www.dpi.nc.gov/>) for the most recent information regarding learning standards in North Carolina.