**Project WET Guide 2.0 Correlations to the**

**2012 North Carolina Essential Standards**

**Kindergarten**

[**Science**](http://www.dpi.state.nc.us/docs/acre/standards/support-tools/unpacking/science/kindergarten.pdf)

**K.P.2: Understand how objects are described based on their physical properties and how they are used.**

**P2.1**—Classify objects by observable physical properties (including size, color, shape, texture, weight and flexibility).

Activities: Molecules in Motion (Warm up only)—pg. 33; Life Box—pg. 69; There is No Away—pg. 453

**K.E.1: Understand change and observable patterns of weather that occur from day to day and throughout the year.**

**E1.1**—Infer that change is something that happens to many things in the environment based on observations made using one or more of their senses.

Activities: Molecules in Motion (Warm up only)—pg. 33

**E1.2** – Summarize daily weather conditions noting changes that occur from day to day and throughout the year.

Activities: The Thunderstorm—pg. 209

**K.L.1: Compare characteristics of animals that make them alike and different from other animals and nonliving things.**

**L1.2**—Compare characteristics of living and nonliving things in terms of their: structure, growth, changes, movement, basic needs.

Activities: Aqua Bodies—pg. 45; Aqua notes—pg. 51; Life Box—pg. 69

[**Health Education**](http://www.dpi.state.nc.us/docs/acre/standards/support-tools/unpacking/health/k-2-health.pdf)

**PCH 1.1: Apply measures for cleanliness and disease prevention.**

**K.PCH.1.1**—Use steps of correct hand washing at appropriate times throughout the day.

Activities: Germ Busters—pg. 57

[**Social Studies**](http://www.dpi.state.nc.us/docs/acre/standards/support-tools/unpacking/social-studies/kindergarten.pdf)

**K.G.1: Use geographic representations and terms to describe surroundings.**

**K.G.1.2—**Use globes and maps to locate land and water features.

Activities: Blue Planet (K-2 Option)—pg. 125

**Project WET Guide 2.0 Correlations to the**

**2012 North Carolina Essential Standards**

**1st Grade**

**[Science](http://www.dpi.state.nc.us/docs/acre/standards/support-tools/unpacking/science/1.pdf)**

**1.E.2: Understand the physical properties of Earth materials that make them useful in different ways.**

**E2.1**—Summarize the physical properties of Earth materials, including rocks, minerals, soils, and water, that make them useful in different ways.

Activities: Molecules in Motion (Warm up only)—pg. 33

**1.L.1: Understand characteristics of various environments and behaviors of humans that enable plants and animals to survive.**

**L1.1**— Recognize that plants and animals need air, water, light (plants only), space, food and shelter and that these may be found in their environment.

Activities: Aqua Bodies—pg. 45; Life Box—pg. 69; Water Audit—pg. 469; Discover Water of National Parks—pg. 493

**L1.3**—Summarize ways that humans protect their environment and/or improve conditions for the growth of the plants and animals that live there. (e.g., reuse or recycle products to avoid littering.)

Activities: A-maze-ing Water—pg. 231; There is no Away—pg. 453; Water Audit—pg. 469; Discover Water of National Parks—pg. 493

**1.L.2: Summarize the needs of living organisms for energy and growth.**

**L2.1**—Summarize the basic needs of a variety of different plants (including air, water, nutrients, and light) for energy and growth.

Activities: Aqua Bodies—pg. 45; Life Box—pg. 69; Discover Water of National Parks—pg. 493

**L2.2**—Summarize the basic needs of a variety of different animals (including air, water, and food) for energy and growth.

Activities: Aqua Bodies—pg. 45; Aqua notes—pg. 51; Life Box—pg. 69; Water Audit—pg. 469; Discover Water of National Parks—pg. 493

[**Health Education**](http://www.dpi.state.nc.us/docs/acre/standards/support-tools/unpacking/health/k-2-health.pdf)

**1.PCH.1: Apply measures for cleanliness and disease prevention.**

**1.PCH.1.1**—Recognize that germs produce illness and can spread from one person to another.

Activities: Germ Busters—pg. 57

**1.PCH.1.2**—Use measures for preventing the spread of germs.

Activities: Germ Busters—pg. 57

[**Social Studies**](http://www.dpi.state.nc.us/docs/acre/standards/support-tools/unpacking/social-studies/1st.pdf)

**1.H.1: Understand that history tells a story of how people and events changed society overtime**.

**1.H.1.1**—Explain how and why neighborhoods and communities change over time.

Activities: Common Water (K—2 option)—pg. 249

**1.G.1: Use geographic representations, terms and technologies to process information from a spatial perspective.**

**1.G.1.1**—Use geographic tools to identify characteristics of various landforms and bodies of water.

Activities: Blue Planet (K—2 option)—pg. 125

**1.G.2: Understand how humans and the environment interact within the local community.**

Activities: Common Water (K—2 option)—pg. 249

**1.G.2.2**—Explain how people use natural resources in the community.

Activities: Common Water (K—2 option)—pg. 249

**1.G.2.3**—Explain how the environment impacts where people live (urban, rural, weather, transportation, etc.).

Activities: Common Water (K—2 option)—pg. 249

**Project WET Guide 2.0 Correlations to the**

**2012 North Carolina Essential Standards**

**2nd Grade**

**[Science](http://www.dpi.state.nc.us/docs/acre/standards/support-tools/unpacking/science/2.pdf)**

**2.P.2: Understand properties of solids and liquids and the changes they undergo.**

**P2.1**—Give examples of matter that change from a solid to a liquid and from a liquid to a solid by heating and cooling.

Activities: Molecules in Motion (Warm up only)—pg. 33

**P2.3**— Compare what happens to water left in an open container over time as to water left in a closed container.

Activities: Molecules in Motion (Warm up only)—pg. 33

**2.E.1: Understand patterns of weather and factors that affect weather.**

**E1.1**—Summarize how energy from the sun serves as a source of light that warms the land, air and water.

Activities: Molecules in Motion (Warm up only)—pg. 33

**E1.2**—Summarize weather conditions using qualitative and quantitative measures to describe: temperature, wind direction, wind speed, precipitation.

Activities: The Thunderstorm—pg. 209

[**Social Studies**](http://www.dpi.state.nc.us/docs/acre/standards/support-tools/unpacking/social-studies/2nd.pdf)

**2.G.2: Understand the effects of humans interacting with their environment.**

**2.G.2.1**—Give examples of ways in which people depend on the physical environment and natural resources to meet basic needs.

Activities: Common Water (K—2 option)—pg. 249

**2.6.2.2**—Explain how people positively and negatively affect the environment.

Activities: Common Water (K—2 option)—pg. 249; There is No Away (K—2 option)—pg. 453

**Project WET Guide 2.0 Correlations to the**

**2012 North Carolina Essential Standards**

**3rd Grade**

[**Science**](http://www.dpi.state.nc.us/docs/acre/standards/support-tools/unpacking/science/8.pdf)

**3.E.2: Compare the structures of the Earth’s surface using models or three dimensional diagrams.**

**3.E.2.1**—Compare Earth’s saltwater and freshwater features (including oceans, seas, rivers, lakes, ponds, streams, and glaciers).

Activities: Blue Planet—pg. 125; Blue River—pg. 135

**3.E.2.2**—Compare Earth’s land features (including volcanoes, mountains, valleys, canyons, caverns, and islands) by constructing models, pictures, diagrams, and maps.

Activities: Blue River—pg. 135; Rainy Day Hike—pg. 169; Seeing Watersheds—pg. 187; Make-a-Mural—pg. 515

**3.P.2: Understand the structure and properties of matter before and after they undergo a change or interaction.**

**3.P.2.3**—Summarize changes that occur to the observable properties of materials when different degrees of heat are applied to them, such as melting ice or ice cream, boiling water or an egg, or freezing water.

Activities: Molecules in Motion—pg. 33

**3.L.2: Understand how plants survive in their environment.**

**3.L.2.4**—Explain how the basic properties (texture and capacity to hold water) and components (sand, clay, and humus) of soil determine the ability of soil to support the growth and survival of many plants.

Activities: Life Box—pg. 69

**Health Education**

**3.NPA.2: Understand the importance of consuming a variety of nutrient dense foods and beverages in moderation.**

**3.NPA.2.2**—Categorize beverages that are more nutrient dense.

Activities: On Track with Hydration—pg. 95.

**Social Studies**

**3.G.1: Understand the earth’s patterns by using the 5 themes of geography: (location, place, human-environment interaction, movement and regions).**

**3.G.1.1**—Find absolute and relative locations of places within the local community and region.

Activities: My Water Address, Take Action!—pg. 433; Seeing Watersheds—pg. 187

**3.G.1.2**—Compare the human and physical characteristics of places.

Activities: My Water Address, Take Action!—pg. 433; Seeing Watersheds—pg. 187; Make-a-Mural—pg. 515

**3.G.1.3**—Exemplify how people adapt to, change and protect the environment to meet their needs.

Activities: My Water Address, Take Action!—pg. 433

**3.G.1.5**—Summarize the elements (cultural, demographic, economic and geographic) that define regions (community, state, nation and world).

Activities: My Water Address, Take Action!—pg. 433; River Talk—pg. 175

**Project WET Guide 2.0 Correlations to the**

**2012 North Carolina Essential Standards**

**4th Grade**

**[Science](http://www.dpi.state.nc.us/docs/acre/standards/support-tools/unpacking/science/4.pdf)**

**4.L.1: Explain the effects of environmental changes, adaptions and behaviors that enable animals (including humans) to survive in changing habitats.**

**4.L.1.1**—Give examples of changes in an organism’s environment that are beneficial to it and some that are harmful.

Activities: Humpty Dumpty—pg. 335; Invaders!—pg. 263; Macroinvertebrate Mayhem—pg. 343

**4.L.1.3**—Explain how humans can adapt their behavior to live in changing habitats (e.g. recycling waste, establishing rain gardens, planting trees and shrubs to prevent erosion).

Activities: Sum of the Parts—pg. 283; Money Down the Drain—pg. 351; Storm Water—pg. 395; My Water Footprint—pg. 441; There is No Away—pg. 453; Water Audit—pg. 469

**4.L.2: Understand food and benefits of vitamins, minerals, and exercise.**

**4.L.2.2**—Explain the role of vitamins, minerals, and exercise in maintaining a healthy body.

Activities: Healthy Habits—pg. 63

[**Health Education**](http://www.dpi.state.nc.us/docs/acre/standards/support-tools/unpacking/health/3-5-health.pdf)

**4.PCH.1: Understand wellness, disease prevention, and recognition of symptoms.**

**4.PCH.1.2—**Recognize methods that prevent the spread of germs that cause communicable diseases.

Activities: Germ Busters—pg. 57; Healthy Habits—pg. 63

**4.NPA.1: Apply tools (MyPlate, Food Facts Label) to plan healthy nutrition and fitness.**

**4.NPA.1.2**—Carry out measures to prevent food borne illness, including hand washing and appropriate food storage and preparation.

Activities: Germ Busters—pg. 57

**4.NPA.2: Understand the importance of consuming a variety of nutrient dense foods and beverages in moderation.**

**4.NPA.2.1**—Compare unhealthy and healthy eating patterns, including eating in moderation.

Activities: On Track with Hydration—pg. 95

[**Social Studies**](http://www.dpi.state.nc.us/docs/acre/standards/support-tools/unpacking/social-studies/4th.pdf)

**4.G.1: Understand how human, environmental and technological factors affect the growth and development of North Carolina.**

**4.G.1.2**—Explain the impact that human activity has on the availability of natural resources in North Carolina.

Activities: 8-4-1, One for All—pg. 299; Just Passing Through—pg. 163; Humpty Dumpty—pg. 335; The Long Haul—pg. 273; Storm Water—pg. 395; There is No Away—pg. 453; My Water Footprint—pg. 441; Water Audit—pg. 469; Virtual Water—pg. 289

**4.G.1.3**—Exemplify the interactions of various peoples, places and cultures in terms of adaptation and modification of the environment.

Activities: Make-a-Mural—pg.520; Just Passing Through—pg. 163; Invaders!—pg. 263; Humpty Dumpty—pg. 335; The Long Haul—pg. 273; Storm Water—pg. 395; There is No Away—pg. 453; Water Crossings—pg. 487; Discover the Waters of Our National Parks—pg. 493

**Project WET Guide 2.0 Correlations to the**

**2012 North Carolina Essential Standards**

**5th Grade**

**[Science](http://www.dpi.state.nc.us/docs/acre/standards/support-tools/unpacking/science/5.pdf)**

**5.P.2: Understand the interactions of matter and energy and the changes that occur.**

**5.P.2.1**—Explain how the sun’s energy impacts the processes of the water cycle (including evaporation, transpiration, condensation, precipitation).

Activities: The Incredible Journey—pg. 155

**5.P.3: Explain how the properties of some materials change as a results of heating and cooling**

**5.P.3.2**—Explain how heating and cooling affect some materials and how this relates to their purpose and practical applications.

Activities: Molecules in Motion—pg. 33; Water Inspirations—pg. 535

**5.E.1: Understand weather patterns and phenomena, making connections to the weather in a particular place and time.**

**5.E.1.1**—Compare daily and seasonal changes in weather conditions (including wind speed and direction, precipitation, and temperature) and patterns.

Activities: Blue River—pg. 135; The Thunderstorm—pg. 209; Snow and Tell—pg. 387

**5.L.1: Understand how structures and systems of organisms (to include the human body) perform functions necessary for life.**

**5.L.1.2**—Compare the major systems of the human body (digestive, respiratory, circulatory, muscular, skeletal, cardiovascular) as it relates to the functions necessary for life.

Activities: Aqua Bodies—pg. 45; Aqua notes—pg. 51

**5.L.2: Understand the interdependence of plants and animals with their ecosystem.**

**5.L.2.1**—Compare the characteristics of several common ecosystems, including estuaries and salt marshes, oceans, lakes and ponds, forests, and grasslands in terms of their ability to support a variety of populations.

**5.L.2.3**—Infer the effects that may result from the interconnected relationship of plants and animals to their ecosystem.

Activities: Ocean habitats—pg. 73; Invaders—pg. 263; Virtual Water—pg. 289; Humpty Dumpty—pg. 335

[**Health Education**](http://www.dpi.state.nc.us/docs/acre/standards/support-tools/unpacking/health/3-5-health.pdf)

**5.NPA.2: Understand the importance of consuming a variety of nutrient dense foods and beverages in moderation.**

**5.NPA.2.2**—Infer the benefits of limiting the consumption of foods and beverages high in fat and added sugar.

Activities: On Track with Hydration—pg. 95

[**Social Studies**](http://www.dpi.state.nc.us/docs/acre/standards/support-tools/unpacking/social-studies/5th.pdf)

**5.G.1: Understand how human activity has and continues to shape the United States.**

**5.G.1.1**—Explain the impact of the physical environment on early settlements in the New World.

Activities: Water Crossings—pg. 487

**5.G.1.2**—Explain the positive and negative effects of human activity on the physical environment of the United States, past and present.

Activities: Discover the Waters of Our National Parks—pg. 493; A-maze-ing Water—pg. 231; Humpty Dumpty—pg. 335; Invaders!—pg. 263; Rainy Day Hike—pg. 169; Just Passing Through—pg.163

**5.G.1.3**—Exemplify how technological advances (communication, transportation and agriculture) have allowed people to overcome geographic limitations.

Activities: Water Crossings—pg. 487

**Project WET Guide 2.0 Correlations to the**

**2012 North Carolina Essential Standards**

**6th Grade**

[**Science**](http://www.dpi.state.nc.us/docs/acre/standards/support-tools/unpacking/science/8.pdf)

**6.E.2: Understand the structure of the earth and how interactions of constructive and destructive forces have resulted in changes in the surface of the earth over time and the effects of the lithosphere on humans.**

**6.E.2.3**—Explain how the formation of soil is related to the parent rock type and the environment in which it develops.

Activities: Wetland Soils in Living Color—pg. 217

**6.L.1.2**— Explain the significance of the processes of photosynthesis, respiration and transpiration to the survival of green plants and other organisms.

Activities: Virtual Water—pg. 289; The Incredible Journey—pg. 155

**6.L.2: Understand the flow of energy through ecosystems and the responses of populations to the biotic and abiotic factors in their environment.**

**6.L.2.3**— Summarize how the abiotic factors (such as temperature, water, sunlight, and soil quality) of biomes (freshwater, marine, forest, grassland, desert, Tundra) affect the ability of organisms to grow, survive and/or create their own food through photosynthesis.

Activities: Wetland Soils in Living Color—pg. 217; Discover the waters of Our National Parks—pg. 493; Ocean Habitats—pg. 73; Macroinvertebrate Mayhem—pg. 343

**6.P.2: Understand the structure, classifications and physical properties of matter.**

**6.P.2.1**—Recognize that all matter is made up of atoms and atoms of the same element are all alike, but are different from the atoms of other elements.

Activities: Adventures in Density—pg. 3

**6.P.2.2**—Explain the effect of heat on the motion of atoms and molecules through a description of what happens to particles during a change in phase.

Activities: Molecules in Motion—pg. 33

**6.P.2.3**—Compare the physical properties of pure substances that are independent of the amount of matter present including density, melting point, boiling point and solubility to properties that are dependent on the amount of matter present to include volume, mass and weight.

Activities: Adventures in Density—pg. 3; h20lympics—pg 13; Hangin’ Together—pg. 19; Is There Water on Zork?—pg. 27

[**Health Education**](http://www.dpi.state.nc.us/docs/acre/standards/support-tools/unpacking/health/6-8-health.pdf)

**6.PCH.1: Understand wellness, disease prevention, and recognition of symptoms.**

**6.PCH.1.4**—Select methods of prevention based on modes of transmission of communicable diseases.

Activities: Healthy Habits—pg. 63

**6.PCH.3: Analyze measures necessary to protect the environment.**

**6.PCH.3.1**—Differentiate between individual behaviors that can harm or help the environment.

Activities: A-maze-ing Water—pg. 231; Grave Mistake (A)—pg. 315; My Water Footprint—pg. 441; Rainy Day Hike—pg. 169; Storm Water—pg. 395; Sum of the Parts—pg. 283; There is No Away—pg. 453; Water Audit—pg. 469

**6.PCH.3.2**—Implement plans to work collaboratively to improve the environment.

Activities: Water Audit—pg. 469

**6.NPA.2: Apply strategies to consume a variety of nutrient dense foods and beverages in moderation.**

**6.NPA.2.2**—Differentiate the health effects of beverages which are nutrient dense with those high in sugar and calories.

Activities: On Track with Hydration—pg. 95

[**Social Studies**](http://www.dpi.state.nc.us/docs/acre/standards/support-tools/crosswalks/social-studies/6th.pdf)

**6.G.1: Understand geographic factors that influenced the emergence, expansion, and decline of civilizations, societies and regions over time (i.e. Africa, Asia, Europe, and the Americas).**

**6.G.1.1**—Explain how the physical features and human characteristics of a place influenced the development of civilizations, societies and regions (e.g. location near rivers and natural barriers, trading practices and spread of culture).

Activities: Water Crossings—pg. 487

**6.G.1.4**—Explain how and why civilizations, societies and regions have used, modified and adapted to their environments (e.g. invention of tools, domestication of plants and animals, farming techniques and creation of dwellings).

Activities: Water Crossings—pg. 487

**6.G.2: Apply the tools of a geographer to understand the emergence, expansion and decline of civilizations, societies, and regions.**

**6.G.2.2**—Construct maps, charts and graphs to explain data about geographic phenomena (e.g. migration patterns and population and resource distribution patterns).

Activities: Water Crossings—pg. 487; Color Me a Watershed—pg. 239

**Project WET Guide 2.0 Correlations to the**

**2012 North Carolina Essential Standards**

**7th Grade**

**[Science](http://www.dpi.state.nc.us/docs/acre/standards/support-tools/unpacking/science/7.pdf)**

**7.E.1: Understand how the cycling of matter (water and gases) in and out of the atmosphere relates to Earth’s atmosphere, weather and climate and the effects of the atmosphere on humans.**

**7.E.1.2**— Explain how the cycling of water in and out of the atmosphere and atmospheric conditions relate to the weather patterns on earth.

Activities: The Incredible Journey—pg. 155

**7.E.1.3**—Explain the relationship between the movement of air masses, high and low pressure systems, and frontal boundaries to storms (including thunderstorms, hurricanes, and tornadoes) and other weather conditions that may result.

Activities: The Thunderstorm—pg. 209

**[Health Education](http://www.dpi.state.nc.us/docs/acre/standards/support-tools/unpacking/health/6-8-health.pdf)**

**7.NPA.2: Apply strategies to consume a variety of nutrient dense foods and beverages in moderation.**

**7.NPA.2.2**—Recall the health benefits of consuming more water.

Activities: On Track with Hydration—pg. 95

**[Social Studies](http://www.dpi.state.nc.us/docs/acre/standards/support-tools/unpacking/social-studies/7th.pdf)**

**7.H.2: Understand the implications of global interactions.**

**7.H.2.4**—Analyze the economic, political, and social impacts of disease (e.g. smallpox, malaria, bubonic plague, AIDS and avian flu) in modern societies.

Activities: Super Sleuths—pg. 113

**7.G.1: Understand how geography, demographic trends, and environmental conditions shape modern societies and regions.**

**7.G.1.1**—Explain how environmental conditions and human response to those conditions influence modern societies and their regions ((e.g. natural barriers, scarcity of resources and factors that influence settlement).

Activities: 8-4-1, One for All—pg. 299; Back to the Future—pg. 307; Common Water-pg. 249; The Long Haul—pg. 273; Water Crossings—pg. 487

**7.G.1.3**—Explain how natural disasters (e.g. flooding, earthquakes, monsoons and tsunamis), preservation efforts and human modification of the environment (e.g. recycling, planting trees, deforestation, pollution, irrigation systems and climate change) affect modern societies and regions.

Activities: 8-4-1, One for All—pg. 299; Common Water-pg. 249; High Water History—pg. 321; Invaders!—pg. 263; My Water Address, Take Action!—pg. 433; Nature Rules!—pg. 277; Storm Water—pg. 395; Sum of the Parts—pg. 283; There is No Away—pg. 453; Your Hydrologic Bank Account—pg. 223

**7.G.2: Apply the tools of a geographer to understand modern societies and regions.**

**7.G.2.1**—Construct maps, charts, and graphs to explain data about geographic phenomena (e.g. migration patterns and population and resource distribution patterns).

Activities: Color Me a Watershed—pg.239

**7.G.2.2**—Use maps, charts, graphs, geographic data and available technology tools (i.e. GPS and GIS software) to interpret and draw conclusions about social, economic, and environmental issues in modern societies and regions.

Activities: Color Me a Watershed—pg. 239; Grave Mistake—pg.315; Seeing Watersheds—pg. 187; Rainy Day Hike—pg. 169; River Talk—pg. 175

Seeing Watersheds—pg. 187

**Project WET Guide 2.0 Correlations to the**

**2012 North Carolina Essential Standards**

**8th Grade**

**[Science](http://www.dpi.state.nc.us/docs/acre/standards/support-tools/unpacking/science/8.pdf)**

**8.E.1: Understand the hydrosphere and the impact of humans on local systems and the effects of the hydrosphere on humans.**

**8.E.1.1**—Explain the structure of the hydrosphere including: water distribution on earth, local river basin and water availability.

Activities: Back to the Future—pg. 307; Blue Planet—pg. 125; Blue River—pg. 135; Drop in the Bucket—pg. 257; Get the Ground Water Picture—pg. 143; Incredible Journey—pg. 155; River Talk—pg. 175; Seeing Watersheds—pg. 187; Springing into Action—pg. 203; Snow and Tell—pg. 387; Your Hydrologic Bank Account—pg. 223

**8.E.1.2**—Summarize 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.

Activities: Adventures in Density—pg. 3; Ocean Habitats—pg. 73; Incredible Journey—pg. 155

**8.E.1.3**—Predict the safety and potability of water supplies in North Carolina based on physical and biological factors, including: temperature, dissolve oxygen, pH, nitrates and phosphates, turbidity, bio-indicators.

Activities: Macroinvertebrate Mayhem—pg. 343; A Snapshot in Time—pg. 377; Water Quality? Ask the Bugs!—pg. 421

**8.E.1.4**—Conclude that the good health of humans requires: monitoring of the hydrosphere, water quality standards, methods of water, treatment, maintaining safe water quality, stewardship and human impact.

Activities: 8-4-1, One for All—pg. 299; Amazing Water—pg. 231; Back to the Future—pg. 307; Color Me a Watershed—pg. 239; Common Water—pg. 249; Get the Ground Water Picture—pg. 143; Grave Mistake—pg. 315; Hitting the Mark—pg. 327; Humpty Dumpty—pg. 335; Just Passing Through—pg. 163; Macroinvertebrate Mayhem—pg. 343; Poison Pump—pg. 107; The Pucker Effect—pg. 363; Rainy Day Hike—pg. 169; Reaching Your Limits—pg. 371; A Snapshot in Time—pg. 377; Storm Water—pg. 395; Sum of the Parts—pg. 283; Super Bowl Surge—pg. 405; Super Sleuths—pg. 113; Urban Waters—pg. 413; Water Quality? Ask the Bugs!—pg. 421

**8.L.1: Understand the hazards caused by agents of diseases that affect living organisms.**

**8.L.1.1**—Summarize the basic characteristics of viruses, bacteria, fungi and parasites relating to the spread, treatment and prevention of disease.

Activities: Poison Pump—pg. 107; Super Sleuths—pg. 113

**8.L.1.2**— Explain the difference between epidemic and pandemic as it relates to the spread, treatment and prevention of disease.

Activities: Poison Pump—pg. 107; Super Sleuths—pg. 113

**8.L.3: Understand how organisms interact with and respond to the biotic and abiotic components of their environment.**

**8.L.3.1**—Explain how factors such as food, water, shelter, and space affect populations in an ecosystem.

Activities: Invaders—pg. 263; Macroinvertebrate Mayhem—pg. 343; Humpty Dumpty—pg. 335; Water Quality? Ask the Bugs!—pg. 421

**8.L.3.2**—Summarize the relationships among producers, consumers, and decomposers including the positive and negative consequences of such interactions including: coexistence and cooperation, competition (predator/prey), parasitism, and mutualism.

Activities: Invaders—pg. 263

**8.L.3.3**—Explain how the flow of energy within food webs is interconnected with the cycling of matter (including water, nitrogen, carbon dioxide and oxygen).

Activities: Incredible Journey—pg. 155

**8.L.5: Understand the composition of various substances as it relates to their ability to serve as a source of energy and building materials for growth and repair of organisms.**

**8.L.5.2**—Explain the relationship among a healthy diet, exercise, and the general health of the body (emphasis on the relationship between respiration and digestion).

Activities: Healthy Habits—pg. 63; On Track with Hydration-pg. 95

**[Health Education](http://www.dpi.state.nc.us/docs/acre/standards/support-tools/unpacking/health/6-8-health.pdf)**

**8.PCH.3: Analyze measures necessary to protect the environment.**

**8.PCH.3.1**—Outline the potential health consequences of global environmental problems.

Activities: A-maze-ing Water—pg. 231; Reaching Your Limits—pg. 371; Super Sleuths—pg. 113; There is No Away—pg. 453; The Price is Right—pg. 357; Super Bowl Surge—pg. 405; Virtual Water—pg. 289; Your Hydrologic Bank Account—pg. 223

**8.PCH.3.2**—Explain the impact of personal behaviors on the environment, both positively and negatively.

Activities: A-maze-ing Water—pg. 231; Rainy Day Hike—pg. 169; Sum of the Parts—pg. 283; Storm Water—pg. 395; There is No Away—pg. 453; My Water Footprint—pg. 441; Water Audit—pg. 469

[**Social Studies**](http://www.dpi.state.nc.us/docs/acre/standards/support-tools/unpacking/social-studies/8th.pdf)

**8.G.1: Understand the geographic factors that influenced North Carolina and the United States.**

**8.G.1.1**—Explain how location and place have presented opportunities and challenges for the movement of people, goods, and ideas in North Carolina and the United States.

Activity: Water Crossings—pg. 487

**8.G.1.3**—Explain how human and environmental interaction affected quality of life and settlement patterns in North Carolina and the United States (e.g. environmental disasters, infrastructure development, coastal restoration and alternative sources of energy).

Activities: Nature Rules!—pg. 277; My Water Address, Take Action!—pg. 433; Back to the Future—pg. 307