8th Grade

Science

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;
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**

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**

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