

# Conservation Education Programs

## KINDERGARTEN

**K.P.2.1** Classify objects by observable physical properties: size, color, shape, texture, weight, and flexibility.

Seed Surprises: By sorting and planting seeds, students discover seeds come in a variety of sizes, shapes, and colors as well as produce plants.

Fruits & Veggies: Students identify and compare fruits and other plant parts by their physical characteristics.

We're into Pumpkins: Through hands-on activities, students learn about pumpkins and the many different ones available.

Apples to Apples: Through hands-on activities, students learn about apples and the many varieties available, find the seeds and star of an apple and paint a picture with an apple.

**K.P.2.2** **Compare the observable physical properties of different kinds of materials from which objects are made and how they are used.**

Tree-mendous/Goods from the Woods: Students play a word game that helps them learn the variety of ways people use and benefit from trees.

**K.E.1.2** **Summarize daily weather conditions noting changes that occur day to day and throughout the year.**

**K.E.1.3** **Compare weather patterns that occur from season to season.**

Seasons Through the Year: To build awareness of seasonal change, students will use their own birthdays to compare seasons in different seasonal settings.

**K.L.1.2** **Compare characteristics of living and non-living things in terms of: structure, growth changes, movement, basic needs.**

The Plant and Me: By discussing, observing, and role-playing, students learn that plants and people have similar needs for survival.

**K.NPA.1** **Classify foods by groups in MyPlate.**

**K.NPA.2.2** **Summarize the importance of a healthy breakfast and lunch.**

Color Me Healthy: Kids will learn the importance of eating lots of colorful foods and how a balanced diet will give them more energy.

## FIRST GRADE

**1.E.2.1** Summarize the physical properties of earth materials, including rocks, minerals, soils and water that make them useful in different ways.

Rocks Rock: Through observing colors, shapes, textures, and hardness students will see how rocks play an important part in our everyday life.

- 1.E.2.2 Compare the properties of soil samples from different places relating their capacity to retain water, nourish, and support the growth of certain plants.

Perc Through the Pores: Students feel soil samples and identify the different textures of sand, silt, and clay. Students will also do experiments where they pour water onto different soil samples and observe which drains water quickly and which holds more water for plant use.

- 1.L.1.1 Recognize that plants and animals need air, water, light, space, food, and shelter and that these may be found in their environment.

The Plant and Me: By discussing, observing, and role-playing, students learn that plants and people have similar needs for survival.

Seed Surprises: By sorting and planting seeds, students discover seeds come in a variety of sizes, shapes, and colors as well as produce plants.

Fruits & Veggies: Students identify and compare fruits and other plant parts by their physical characteristics.

We're into Pumpkins: Through hands-on activities, students learn about pumpkins and the many different ones available.

Apples to Apples: Through hands-on activities, students learn about apples and the many varieties available, find the seeds and star of an apple and paint a picture with an apple.

- 1.L.1.3 Summarize ways that humans protect their environment and/or improve conditions for the growth of the plants and animals that live there.

Trash Bashing: By conducting a small group sorting activity, students learn the importance of reducing, reusing, and recycling solid waste. Student then develop plans to change personal behaviors.

Don't Use It All Up: Students participate in a sponge demonstration to discover that people are consumers of resources and explore methods of conserving those resources. (water needed by plants, animals, and humans)

## SECOND GRADE

- 2.E.1 Understand the pattern of weather and factors that affect weather.
- 2.E.1.1 Summarize how energy from the sun serves as a source of light that warms the land, air, and water.
- 2.E.1.2 Summarize weather conditions using qualitative and quantitative measures to describe: Temperature, Wind Directions, Wind Speed, Precipitation
- 2.E.1.3 Compare weather patterns that occur over time and relate observable patters to time of day and time of year.
- 2.E.1.4 Recognize the tools that scientists use for observing, recording, and predicting weather changes from day to day and during the seasons.

Whether the Weather: Through hands-on activities students will learn about weather patterns, temperature, wind direction, air pressure, wind speed, and precipitation.

## **THIRD GRADE**

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

Don't Use It All Up: Students participate in a sponge demonstration to discover that people are consumers of resources and explore methods of conserving those resources. Students identify the Earth's total water supply and the Earth's total freshwater supply.

We All Live in a Watershed: Students will learn about the watershed they live in, the water types found there, and the plants and animals found in that ecosystem.

### **3.L.2.1 Remember the function of the following plant structures as it relates to the survival of plants in their environments: Roots-absorb nutrients, Stems-provide support, Leaves-synthesize food, and Flowers-attract pollinators and produce seeds for reproduction.**

The Plant and Me: By discussing, observing, and role-playing, students learn that plants and people have similar needs for survival.

Fruits & Veggies: Students identify and compare fruits and other plant parts by their physical characteristics.

We're into Pumpkins: Through hands-on activities, students learn about pumpkins and the many different ones

Root, Root for Life: Students discover the importance of roots to plant, soil and people during hands-on learning station activities.

Buzzy, Buzzy Bee: Students play a game in which they pretend to be honeybees and apple trees. In the process they learn about plant pollination.

Tree-mendous/Goods from the Woods: Students play a word game that helps them learn the variety of ways people use and benefit from trees. (Trees are supersized plants adapted with specific plant structures to ensure their survival.)

### **3.L.2.3 Summarize the distinct stages of the life cycle of seed plants.**

Seed Surprises: By sorting and planting seeds, students discover seeds come in a variety of sizes, shapes, and colors as well as produce plants.

Banking on Seeds: The critical role that seeds play in the world is explored through creating a seed bank and comparing uses of seeds. This activity describes each part's function and the stages of a seed's growth.

### **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.**

Perc Through the Pores: Students feel soil samples and identify the different textures of sand, silt, and clay. Students will also do experiments where they pour water onto different soil samples and observe which drains water quickly and which holds more water for plant use.

Soil Café: Students become chefs at the Soil Café where they learn the ingredients that make up soil and the properties that the soil takes on based on the amount of sand, clay, or humus involved.

## **FOURTH GRADE**

- 4.E.2.3 Give examples of how the surface of the earth changes due to slow processes such as erosion and weathering and rapid processes such as landslides, volcanic eruptions, and earthquakes.**

Till We or Won't We: Students construct and perform experiments simulating rain on a field, investigating how soil preparation, tillage techniques, and mulches affect soil erosion and water runoff.

Lines on the Land: Students learn about soil protection and build a practice to do such then simulate rain and observe the effects of wind and rain.

- 4.L.1 Understand the effects of environmental changes, adaptations 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.**

- 4.L.1.2 Explain how animals meet their needs by using behaviors in response to information received from the environment.**

Buzzy, Buzzy Bee: Students play a game in which they pretend to be honeybees and apple trees. In the process they learn about plant pollination and through changes in the environment learn how the bees adapt to survive.

Investigating Insects: Students become entomologists by observing insects in their nearby surroundings. After observing and analyzing, they learn by playing a game to find out how some insect interactions can be useful to people.

We All Live in a Watershed: Students will learn about the watershed they live in, the water types found there, and the plants and animals found in that ecosystem.

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

Don't Use It All Up: Students participate in a sponge demonstration to discover that people are consumers of resources and explore methods of conserving those resources.

Trash Bashing: By conducting a small group sorting activity, students learn the importance of reducing, reusing, and recycling solid waste. Students then develop plans to change personal behaviors.

From Apple Cores to Healthy Soil: A composting experiment reveals to students how soil organisms, temperature, air, and water are able to decompose organic waste and enrich soil.

Till We or Won't We?: Students construct and perform experiments simulating rain on a field, investigating how soil preparation, tillage techniques, and mulches affect soil erosion and water runoff.

- 4.L.2 Understand food and the benefits of vitamins, minerals, and exercise.**
- 4.L.2.1 Classify substances as food or non-food items based on their ability to provide energy and materials for survival, growth, and repair of the body.**
- 4.L.2.2 Explain the role of vitamins and minerals, and exercise in maintaining a healthy body.**

Chewsy Choices: Students learn about the five food groups through activities based on a “Colorful” plate.

Fruits & Veggies: Students identify and compare fruits and other edible plant parts through a fast paced game.

Lunchtime Favorites: Students trace the source of their food from lunch to learn the interdependence of plants, animals, and people. They explore the importance of eating a variety of foods from plants and animals and discover how culture influences food choices.

What’s the Shape of Your Diet?: Students collect data on the food they eat over a 24 hour period and compare their consumption to “My Plate” to determine if their food choices create a nutritionally sound diet.

- 4.P.2.2 Explain how minerals are identified using tests for the physical properties of hardness, color, luster, cleavage, and streak.**

Rocks Rock: Students become gemologists and identify rock samples through observing colors and shapes and perform experiments to determine textures and hardness. Students will see how rocks play an important part in our everyday life.

## **FIFTH GRADE**

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

Whether the Weather: Through hands-on experiments the student will learn about the water cycle, water conservation, and the available water resources.

- 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.**
- 5.E.1.2 Predict upcoming weather events from weather data collected through observation and measurements.**
- 5.E.1.3 Explain how global patterns such as the jet stream and water currents influence local weather in measurable terms such as temperature, wind direction and speed, and precipitation.**

Whether the Weather: Through hands-on activities students will learn about weather patterns, temperature, wind direction, air pressure, wind speed, and precipitation.

- 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.**
- 5.L.2.2 Classify organisms within an ecosystem according to the function they serve: producers, consumers, or decomposers (biotic factors).**
- 5.L.2.3 Infer the effects that may result from the interconnected relationship of plants and animals to their ecosystem.**

We All Live in a Watershed: Students will learn about the watershed they live in, the water types found there, and the plants and animals found in the ecosystem.

## **SIXTH GRADE**

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

Soil Café: Students become chefs at the Soil Café where they learn the ingredients that make up soil and the properties that the soil takes on based on the amount of sand, clay, or humus involved.

Perc Through the Pores: Students feel soil samples and identify the different textures of sand, silt, and clay. Students will also do experiments where they pour water onto different soil samples and observe which drains water quickly and which holds more water for plant use.

- 6.E.2.4 Conclude that the good health of humans requires: monitoring the lithosphere, maintaining soil quality and stewardship.**

Splish Splash: Students will learn through these hands-on activities that being a steward of the soil will benefit their ability to grow food now and in the future.

- 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.2.1 Summarize how energy derived from the sun is used by plants to produce sugars (photosynthesis) and is transferred within food chains and food webs (terrestrial and aquatic) from producers to consumers to decomposers.**
- 6.L.2.3 Summarize how the abiotic factors (such as temperature, water, sunlight, and soil quality) of biomes (freshwater, marine, forest, grasslands, desert, Tundra) affect the ability of organisms to grow, survive and/or create their own food through photosynthesis.**

We All Live in a Watershed: Students will learn about the watershed they live in, the water types found there, and the plants and animals found in that ecosystem.

## SEVENTH GRADE

- 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.**
- 7.E.1.4 Predict weather conditions and patterns based on information obtained from: weather data collected from direct observations and measurement (wind speed and direction, air temperature, humidity, and air pressure), weather maps, satellites and radar, cloud shapes and types associated elevation**
- 7.E.1.5 Explain the influence of convection, global winds and the jet stream on weather and climatic conditions.**

Whether the Weather: Through hands-on activities students will learn about weather patterns, temperature, wind direction, air pressure, wind speed, and precipitation

## EIGHTH GRADE

- 8.P.2.2 Explain the implications of the depletion of renewable and nonrenewable energy resources and the importance of conservation.**

Don't Use It All Up: Students participate in a sponge demonstration to discover that people are consumers of resources and explore methods of conserving those resources.

Cows or Condos?: A case study reading that uses a problem solving model to understand the complex issues of urban sprawl.

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

Don't Use It All Up: Students participate in a sponge demonstration to discover that people are consumers of resources and explore methods of conserving those resources

What Will the Basin Hold?: In this lesson students learn about the 17 river basins in North Carolina. Students learn about the topography, wetlands, groundwater, biodiversity, soil, air, climate, and energy in these basins. Students will also see the importance that they play to these basins as well and the effects of their actions on the basins. Students will also learn different ways they can make a difference in their community.

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

We All Live in a Watershed: Students will learn about the watershed they live in, the types of water found there, and the plants and animals found in that ecosystem.