

Mandeville Environmental Interpretive Program
Class Lab Program Descriptions
Real Science Investigative Field Trips

GRADES 2-3

Water We Use: Drinking Water and Wastewater

Students learn about drinking water sources: both groundwater and surface water. They explore the many ways wastewater is created in homes and the different ways it is cleaned in both large cities and small towns. Students learn how much water they waste daily as they use it to perform ordinary household activities and discuss possible ways to conserve it. After creating their own wastewater, students work in groups to devise a method of cleaning the wastewater.

Water Bugs

Children love to play with bugs and this field trip gives them a chance to do just that! Students learn about the difference between insects and other types of macro-invertebrates, particularly the ones that live in Bayou Chinchuba Swamp. They identify the most common ones and sort them into categories that indicate the water quality of the swamp. The life cycles of bugs that go through complete and incomplete metamorphosis are compared and food webs are investigated. Students become aware of the importance of protecting the smaller organisms that live in water.

GRADES 4-6

Exploring Water Properties

Students learn about the unique properties of water while having fun. Students explore why water is known as the "universal solvent" and how this creates problems with our water supply. They perform experiments that illustrate the cohesive and adhesive properties of water and how these properties allow water to enter and travel through plants. Demonstrations that illustrate the changing states of matter help students understand the water cycle and how it has cleaned water throughout the earth's history.

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Fit for a Bug - Macro-Invertebrates as Water Quality Indicators

Students love this one, because they get to play with bugs! Students learn about the life cycles and the particular niches of different kinds of macro-invertebrates living in local streams as they investigate leaf packs that are teeming with water bugs. As students identify, sort, classify, and count macro-invertebrates, they learn which bugs indicate good water quality vs. poor water quality. Students use the data collected to determine the water quality of Bayou Chinchuba Swamp and develop an understanding of the importance of protecting the smaller organisms that live in water.

Soil: Nature's Filtration System

Students get to play in the dirt as they learn about the characteristics of different types of soil. Permeability and porosity are explored with different soil types, including wetland soils. Students explore groundwater sources using a groundwater model and build model aquifers to illustrate important concepts.

Wetlands: A Treasure Worth Saving

Students explore the unique characteristics of wetlands: soils, hydrology, and plant life. Through hands-on activities students learn about permeability and porosity of soil types and why wetland soils are different from upland soils. They study emergent, submerged, and floating aquatic plants to understand the adaptations that allow hydrophytic plants to live in water-logged soils and environments. "Wetland in a Pan" activities allow students to understand the functions of wetlands such as storm buffers, flood controls, and water purifiers. Discussion of wetlands as habitats for endangered and juvenile animal species helps them learn to appreciate the values of wetlands.

Water Bugs and Wading Birds

Are you looking for a field trip to enhance your study of animals and their relationships to one another in the environment? This field trip combines two very popular topics into one exciting field trip: water bugs and wading birds! Students learn about the particular niches of different kinds of macro-invertebrates living in our local streams and their relationship to the many aquatic birds that inhabit the swamps, ditches, and marshes in the area. They investigate leaf packs that are teeming with water bugs and then tour the facility to identify the most common wading birds that feed on these bugs in nature. Through guided discovery students learn to distinguish between types of herons, egrets, and other wading birds. They learn the important ways that animals in nature are dependent on each other for survival. *Offered during the months of September through mid-November and March through May only.

Water: A Precious Resource Above and Below the Ground

How much water do we really have on Earth? How much is available for humans to use? Will we ever run out of water? Students find the answers to all of these questions and many more as they learn about sources of fresh water below and above the ground. Lab investigations guide students to discover how surface water and groundwater are polluted by human activities and the steps that must be taken to make this water available for drinking. On a tour of the wastewater facility, students are able to compare how drinking water is cleaned differently from wastewater.

GRADES 7 - 12

All of the field trips described above can be adapted to higher levels of learning. In addition, lab activities can be tailored to your instructional needs; including chemistry of wastewater and biology of microorganisms and macro-invertebrates in our wastewater and receiving waters. (Prior notice of 4 weeks is necessary to schedule and prepare some tailor-made lessons. Please call for details.)