



## Educational Programs Offered by LRNow 2019-2020

### Pre-K

#### **SPAT- Science Preschool Activity Time- June/July Public Program or Homeschool**

1-1/2-hour adult and child program offered for 3-5 year olds. Taught by current and retired teachers and librarians, topics vary day to day and may include visits from animal ambassadors. The program features games, songs, crafts, stories and outdoor adventures and gives caregivers new ways to interact with their child in the outdoors and with environmental topics.

Cost is \$10/ day.

First week in June and again the first week in August.

### Pre-K, Elementary

#### **BEAUTIFUL BIRDS** (1-2- hour program)

Through outdoor experiences and interactive learning, students learn what makes a bird a bird. They learn the parts of a bird, spend time outside looking for birds and learning about bird homes and collect materials to make a nesting bag. The program is capped off with a game about bird migration (for older elementary or homeschool groups). (Science SOLs supported: k.1, k.5, k.6, k.7, k.10, 1.1, 1.5, 1.7, 2.1, 2.4, 2.5, 2.7, 3.1, 4.1, 4.2, 4.3, 5.1)

#### **Tree are Tree-mendous** (2- hour program)

Trees give us so many things and are such an important part of the ecosystem. In this program, students will learn about the tree parts, the benefits of trees and even do some tree yoga. Each child will get a tree book to complete as they observe one special tree. The program will conclude with the tree-related craft. With groups with older children, we do tree ID and learning to measure trees. (Science SOLs supported: k.1,k.3, k.5, k.6, k.7, k.8, k.10, k.11, 1.1, 1.4, 1.8, 2.1, 2.4, 2.5, 2.8, 3.1, 3.6, 3.8, 4.1, 4.2, 4.3, 4.8, 5.1, 5.9)

#### **Marsh Madness** (1-2-hour program)—ages 5 and up, LIMIT 15 children

Learn about wetlands and their importance in this interactive outdoor program. We will be observing life along the edge of a marsh, wading into the marsh to collect animals through dip and seine nets and even complete a nature journal entry or paint with marsh mud. (Science SOLs supported: k.1, k.3, k.4, k.5, k.6, k.7, k.10, k.11, 1.1, 1.4, 1.5, 1.8, 2.1, 2.4, 2.5, 2.7, 2.8, 3.1, 3.4, 3.5, 3.6, 3.7, 3.8, 4.1, 4.2, 4.3, 4.6, 4.8, 5.1, 5.3, 5.9)

## Elementary

### **DIAMONDBACK TERRAPIN PBL – BUCKET Program**

Recommended for grades 3-4

Recommended length of time for this field exploration: 2-1/2 hours for 2 classes

On-line training available. Teachers will receive a pre-visit training packet.

While one class is doing the activities in the (3) buckets, the other class will be doing the Survivorship Activity (learning the dangers that terrapins face), Scavenger Hunt Nature Walk and Lunch.

The Buckets cover the following:

Bucket A: Soil

Testing for air temperature, soil temperature on the surface and below the surface, using the senses to understand the environment around them and looking at plant cover

Bucket B: Non- Living Components

Taking salinity readings, water temperature, looking for signs of tidal boundaries

Bucket C: Living Components

Looking for food sources, constructing a simple food chain, counting populations of mollusks, and exploring the concept of camouflage.

(Science SOLs supported: 3.1, 3.4, 3.5, 3.6, 3.7, 3.8, 4.1, 4.2, 4.3, 4.6, 4.8)

### **STORMDRAIN STEM (recommended for 5<sup>th</sup> grade)**

1-1/2 to 2-hour program. With current flooding and sea level rise, it is important for students to understand how the city currently deals with stormwater. This program will teach students the function of a watershed, how stormdrains operate, common pollutants in the waterways in Virginia Beach and the difference between Point and Non-Point Pollution. They are then given a stormdrain model and a water sample containing sediments and trash. They are tasked to design a filter that will filter out the pollutants from their water sample. The filter must be sustainable and allow all the water to pass through quickly. All materials are provided. (Science SOLs supported: 5.1, 5.8, 5.9)

### **COASTAL EXPLORATIONS (Recommended for 4<sup>th</sup>-5<sup>th</sup> grades)**

2-4-hour program. This hands-on program explores the unique habitats and ecosystems at Pleasure House Point (PHP) Natural Area. This program is customizable and could include any of the following activities: collect and study animals in the creek, learn more about the animals and plants that inhabit oyster reefs and edges of man-made structures, test the quality of the water, use weather instruments, study the maritime forest, explore the marshes, learn about adaptations for living in an arid and salt environment and catalog the biodiversity of the property. (Science SOLs supported: 4.1, 4.2, 4.3, 4.6, 4.7, 4.8, 5.1, 5.8, 5.9)

## **Middle School and High School**

### **SHORELINE INVESTIGATIONS- BUCKET program**

Recommended for Earth Science and Oceanography, AP Environmental, Environmental Science

Recommended length of time for the field investigation: 1-2 hour

The Buckets cover the following:

Bucket 1: Shifting Sands- A look at sand components to determine the make-up of the sand at various distances from the water. Sand can also be collected for use in a follow-up activity in the classroom.

Bucket 2: Water Quality- Doing various water quality tests, including salinity, phosphorus, dissolved oxygen, and turbidity.

Bucket 3: Exploring the Wrack line- Looking for wrack lines and then exploring what can be found in them. Using the wrack lines to determine the highest tides and severe storm events.

(Science SOLs supported: 6.1, 6.3, 6.5, 6.6, 6.8, 6.9, ES.8, ES.10)

### **COASTAL EXPLORATIONS (6<sup>th</sup>-12 grades)**

3-4-hour program. This hands-on program explores the unique habitats and ecosystems at Pleasure House Point (PHP) Natural Area. This program is customizable and could include any of the following activities: collect and study animals in the creek, learn more about the animals and plants that inhabit oyster reefs and edges of man-made structures, learn to use a dichotomous key, test the quality of the water, use weather instruments, study the maritime forest, explore the marshes, learn about adaptations for living in an arid and salt environment and catalog the biodiversity of the property.

(Science SOLs supported: 6.1, 6.3, 6.6, 6.7, 6.8, 6.9, LS.1, LS.3, LS.5, LS.6, LS.7, LS.8, LS.9, BIO.1, BIO.2, BIO.6, BIO.7, BIO.8, ES.1, ES.8)

### **STORMDRAIN STEM (recommended for 6<sup>th</sup> -9<sup>th</sup> grade)**

1-1/2 to 2-hour program. With current flooding and sea level rise, it is important for students to understand how the city currently deals with stormwater. This program will teach students the function of a watershed, how stormdrains operate, common pollutants in the waterways in Virginia Beach and the difference between Point and Non-Point Pollution. They are then given a stormdrain model and a water sample containing sediments and trash. They are tasked to design a filter that will filter out the pollutants from their water sample. The filter must be sustainable and allow all the water to pass through quickly. All materials are provided. (Science SOLs supported: 6.1, 6.3, 6.8, 6.9)

### **SHIFTING SANDS: A PROJECT BASED LESSON AT PLEASURE HOUSE POINT (5<sup>TH</sup>-12<sup>TH</sup> GRADE)**

In this real-world STEM lesson, students will come out to Pleasure House Point (PHP) Natural area and observe two areas that have significant erosional problems. They will use real-world scientific equipment to measure such things as, wind speed/direction, current flow, salinity, and tidal changes; as well as observe sediment composition and origin of the erosional and depositional forces. They will then go back to the classroom and analyze the data collected to determine if the erosion is something that needs to be controlled or not. If they feel it needs to be controlled, with further research into mitigation methods, students can design a plan for controlling or mitigating the erosional forces in such

a way as to allow for the multiple uses of the PHP ecosystem. (Science SOLs Supported: 5.1, 5.8, 6.1, 6.3, 6.5, 6.7, 6.8, 6.9, ES.1, ES.3, ES.4)

**Cost for all of these programs is based on length of program chosen. Contact the Education office ([education@LRNow.org](mailto:education@LRNow.org)) for more information, pricing and to book a program.**

### **ALL GRADES- NO COST PROGRAMS/EVENTS**

#### **GROWING WETLANDS IN THE CLASSROOM**

Through a grant from Dollar Tree, teachers are given plants to grow out in the classroom. Starting in April, students will plant their plants to help restore shorelines, create buffers, populate pollinator gardens and build rain gardens. Grow-labs, wet boxes, growing medium and plants are provided free of charge. New teachers must attend a 3-hour workshop where they learn about the program, receive their supplies and learn activities through the WOW (Wonders of Wetlands) curriculum to enhance and integrate the plants into their lesson plans.

#### **STUDENT ENVIRONMENTAL ACTION SHOWCASE (VBSEAS)**

This event will take place at the Museum of Contemporary Arts (MOCA) in late Spring 2020 (Date TBD). Students will be invited to submit an application for a table where they can individually or as a group, show off a project or program they have done dealing with the environment. The event will be in the evening. This is an opportunity for students to connect with local experts, non-profits and other organization working to improve the environment. We are also working on getting local community leaders to come and discuss with the students, ways that they can get their ideas heard by various groups.

#### **WATT IS YOUR SCHOOL'S ENERGY FOOTPRINT? (Available January 2020)—Recommended for grades 6-12**

In this Place Based Lesson, schools can check out an Energy Audit Kit from Lynnhaven River NOW and use it to investigate such things as energy load of appliances, light levels, possible leaks around the windows and doors, hidden “vampires” and your school’s total energy footprint. Armed with this data, students can design ways to save energy at their schools. Activities and Audit Worksheets will be available on our website to show teachers how to integrate this into their curriculum. Kits can be checked out for up to 3 weeks. Teachers will be responsible for replacing any missing items.

(Science SOLs Supported: 6.1, 6.4, PS.5, PS.7, PS.8, PS.9, ES.6/ Math: 6.5, 6.7, 6.10, 6.11, 7.9, 8.4, AFDA.4, AFDA.8)

To inquire about any of the FREE programs/Events , contact [Education@LRNow.org](mailto:Education@LRNow.org) or call 757-505-0773