

## Science- and Nature-based School Programs Preschool – Sixth Grades

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The Kansas Wetlands Education Center offers several science- and nature-based school programs as field trips or outreach in your school classroom or facility.

Programs for preschool and kindergarten students are generally 30 minutes long, with all other programs 45 minutes to one hour, depending upon student age and class needs. Programs are provided free of charge and feature live animals and plants, where possible, and/or hands-on materials and activities. Programs combining nature hikes with classroom time may be 1 ½ hours long.

There will be a charge for programs scheduled with less than two weeks notice and a mileage fee may be charged for those schools located over 75 miles away from KWEC.

Some programs are more suited to younger students and others to older children but can be adjusted. Please refer to the science standards for age appropriateness.

If you don't see a program topic you are interested in, please contact us, modifications can be made to existing programs or new programs developed to meet curriculum needs.

The maximum number for classes is 30 students but larger groups can be accommodated by rotating students among several programs/activities. For hikes, 25 or less students are preferred.

To schedule a program, or for more information, please call KWEC at 877-243-9268, Monday through Friday, 8 a.m. to 5 p.m., and ask for Pam Martin, or email [pam.martin@ks.gov](mailto:pam.martin@ks.gov) Please call at least two weeks before your desired program date.

### **A Butterfly's Journal**

Focusing on the Monarch butterfly, students will learn the butterfly's life cycle, biology and behaviors, and follow the Monarch's fantastic journey to Mexico and back north in the spring. Information on tagging of the butterflies will also be included. Program may be conducted as a field trip to KWEC, with students going forth to capture and tag Monarchs, or in the classroom with a tagging demonstration. Tagging portion of the program is limited to the months of August, September and possibly early October.

### **Cheyenne Bottoms' Spring Chorus**

In addition to learning the frog and toad life cycle, students will learn how, why and where frogs and toads call. Power point presentation provides actual calls and hands-on activities are used to replicate calls. Students discuss habitat stresses due to human influence. Live animal representatives used if available.

**Making Tracks** – Identify animals by the tracks they make in earth and snow; includes a track activity and making a plaster track cast for the classroom. This program could also be combined with a hike to find and identify tracks.

**Is it reptile or amphibian?** – Students learn the difference between reptiles and amphibians and how to classify them, with the help of some live animal representatives. They will also gain an understanding of the terms cold- and warm-blooded.

**Wonderful Wetlands** – Students learn the food cycle/web of a wetland, specifically Cheyenne Bottoms, through an activity in which they add the plants and animals living in the Bottoms to a marsh backdrop and answer the question “what happens when one of the elements is removed?” Live examples of amphibians, reptiles, birds and mammals are also used. Program could also be combined with outdoor hike to view the wetland at KWEC.

**Cottonwood: Tree of the Great Plains** – How can a tree survive on the dry and windy Great Plains? Students will discover the adaptations Cottonwoods use to survive an environment hostile to trees. Activities will include leaf shape and observation and determining tree age using tree cookies (slices of tree branches or trunks)

**Mammals R Us-** Students will discover what makes a mammal different from fish, amphibians, reptiles and birds through observation of live animals, mounts and skins. Differences in tooth function and structure will also be investigated.

**Wetland Plants** – Plants living in Cheyenne Bottoms have made special adaptations for a wet environment. Cattails and Bulrushes are two of the plants students will investigate.


**Pollinators: Plants’ Best Friends** – Students investigate the relationship between plants and animals, discovering the many adaptations plants have made to attract pollinators. This program also includes information on plant structures and their functions.

**Extraordinary Eggs** – Students discover the variety and wonder of eggs. From insect to bird and reptile eggs, all serve the same purpose – to protect the developing organism. Experiments include determining how much weight chicken eggs can carry.

**Water Cycle** – After a demonstration explaining the water cycle, students become a water droplet, traveling through the water cycle.

**Cheyenne Bottoms and water** – After participating in and observing a demonstration of the water holding properties of wetland soil, sand and gravel, students will compare several local water sources, including water from the Bottoms, using different water quality measurement techniques.

**The Plant World of Cheyenne Bottoms** – Plants at Cheyenne Bottoms survive in several different habitats – water, riparian, prairie. Students will discover plant adaptations for each habitat and investigate differences (classification) between monocots and dicots.



**Sensational Seeds** – In this hands-on program, students discover how plants provide their seeds with different mechanisms for survival and investigate seeds through dissection, answer questions about their seed and present their findings to the class.

**Alien Invaders** – Many native plants and animals are fighting for their very survival, as invaders from other countries try to outcompete for resources. Students will identify native and invasive plants and animals, investigate how invasives are threatening the Cheyenne Bottoms ecosystem, brainstorm on tactics to control invasives and learn current control strategies.

### **SPECIAL PROGRAMS**

#### **Birds: Nature's Marvelous Flying Machines**

The following group of programs focus on bird adaptations. *(For grades 3-6)*

- **Create a bird** - Allows students the opportunity to make their own bird and describe its special features, after discussing bird adaptations.
- **The Case of the Hungry Owl** – Students put their detective skills to work and solve the mystery of what creatures the Cheyenne Bottoms barn owls are capturing and eating. Participants will dissect barn owl pellets, meet one of the culprits and identify victims.
- **Bills and Feet** – After learning how birds' beaks and feet come in all sizes and shapes, and how each is matched to the food the bird eats, students will participate in an activity matching "tools" to beaks. This program can also be matched with a nature hike to observe birds in different habitats.
- **Have Wings, Will Travel** – Many birds migrate to breeding grounds in the spring and to warmer climates in the fall. Students will investigate why birds migrate and the mechanisms at work.
- **Home Life** – Birds make many different types of nests in many different ways. Children will explore courting, nest building and brooding behaviors and differences in eggs.
- **Fantastic Feathers** – Students investigate one of birds' greatest adaptations – feathers! Topics covered include: feather anatomy, types, color, care, identification and uses. They'll also put their new found knowledge to the test with a feather match activity.

#### **Batty About Bats**

From echolocation to flight, bats' special adaptations are investigated in this highly interactive program. Using a bat detector, students will "hear" a live bat's echolocation call. Removing "captured" bat models from a mist net, students will then determine species by measuring weight and forearm length.

#### **Kansas Day Symbols**

This program is geared for the month of January, but could be given at any time of the year. From the mighty American bison to the tiny European honeybee, students will learn fascinating facts about the Kansas animal and plant symbols. Students have a chance to feel a bison hide, see a live barred tiger salamander and ornate box turtle and experience how a bee sees the world, among many other hands-on activities.

### **Home on the Range**

Our state song describes the mixed-grass prairie, “Where the buffalo roam and the deer and the antelope play”, which will be used to describe that ecosystem to students. Actual bison artifacts – bladder pouches, bone paint brushes, tail flyswatter to name a few – showcase how Native Americans utilized all parts of the bison. Students also discover how these animals interact with other animals and plants to maintain the prairie ecosystem. If space and time allow, students will act out how the prairie formed – from the Pacific Ocean, over the Rocky Mountains to Barton County.

### **Halloween Critters**

Students discover bats, owls, spiders and snakes aren’t so scary after all in this fun program that explores the habits of these much maligned but captivating creatures. When possible, live bats, owls, spiders and snakes are made available for students to observe and see up close and personal.

### **Turkey Talk**

This program fits nicely with the Thanksgiving holiday or could be provided at other times of the year also. Students will explore the many reasons Benjamin Franklin nominated the turkey as our national bird. From turkey calls to turkey beards, students will develop an appreciation for this wary bird.

### **Baby Animals**

Intended for preschool-Kindergarten, children will explore “babies” from insects to mammals through sight, sound, movement and imagination.

### **OUTDOOR programs available at Kansas Wetlands Education Center during spring and fall seasons**

#### **Habitat/Seasonal hike**

Students compare and contrast habitats – marsh, grassland and wooded – and the different animals and plants that live in each. The hike also illustrates food chains. Seasonal changes are also observed. This hike may also be scheduled during winter; weather permitting and provided students are dressed for the cold. Children often enjoy searching for tracks in the snow and other evidence there is life where there appears to be none at first glance.

#### **Wetland study**

After observing animals and plants living in a wetland, water samples are collected, taken in to the classroom and observed under a microscope. Program can be expanded to include water quality indicators. We also have several boots available for students to use.

#### **Insect Search**

With nets and containers in hand, students search out invertebrates living along the nature trail. Magnifiers and microscopes will be used for closer examination and identification/classification.

*(revised 10/2019)*