the wildlab

INTRODUCTION TO THE WILDLAB EDUCATION PROGRAM

Goal: To introduce learners to the important role they can play in gathering data about birds and their habitat, using mobile technology as a scientific tool.

Learning Objectives:
- Learners will gain an appreciation for the presence and diversity of birdlife in their local environment.
- Learners will learn to identify and count birds, and to record information about them.
- Learners will apply technology to collect scientifically rigorous data in the field.

Time Needed: 45 minutes to 2 hours

Materials: Binoculars

        iPhone or iPod Touch with the WildLab app

        Parts of a Bird Handout

        Notebook and pencil

Vocabulary: Citizen Science, Habitat, Adaptation, Morphology, GPS

Supported New York State Elementary Learning Standards *Key Ideas* and *Performance Indicators*:[1]
- Math, Science & Technology *Standard MST6*: Learners will understand the relationships and common themes that connect mathematics, science, and technology and apply the themes to these and other areas of learning.
- Science *Key Idea MST4.LE7:* Human decisions and activities have had a profound impact on the physical and living environment.
- Mathematics *Key Idea MST3.ME5:* Learners use measurement in both metric and English measure to provide a major link between the abstractions of mathematics and the real world in order to describe and compare objects and data.
- Geography *Performance Indicator SS3.E.2C:* Learners analyze geographic information by making relationships, interpreting trends and relationships, and analyzing geographic data.

LESSON OUTLINE
- What is a bird?
- Why study birds?
- How can citizens help with conservation efforts?
- How can technology help with this process?
- Learners explore The WildLab app

1.) From www.nylearns.org/standards. NY State learning standards encompass standards, key ideas, performance indicators and major understandings.

Introduction: Birds! (10-30 Minutes)
There are about 9,000 species of birds in the world, which, in spite of being a very diverse group of animals, all share certain traits. Ask learners what they know about birds, and what makes birds unique. They might mention beaks, wings, flight, eggs, hollow bones, and feathers. Explain that these are all **adaptations** that help birds survive. These are all valid points, but mention that the one trait unique to birds among living creatures is their feathers. Feathers are wonderful insulation and allow birds to survive on every continent and in every habitat, from Antarctica to the hottest deserts and highest mountains. They also allow birds to fly, and many of the other adaptations mentioned (such as toothless beaks and hollow bones) are to save weight in order to fly. Show them the Parts of a Bird Handout to become more familiar with bird **morphology** (the form and structure of an organism).

Activity: Using the WildLab (30-60 minutes)
Hand out iPhones to learners. Have them log in using assigned login name and password, or log in phones in advance. Bring learners outside to park or schoolyard. Use the WildLab to first determine the **habitat**. Once chosen, start to search for birds.

When they encounter a bird, have them look at it with their binoculars and make observations about its shape, size, color, pattern, and behavior. It is important to observe as many traits as possible before the bird flies away. Focusing on size & shape, choose a bird silhouette from the list. Then further narrow down the identification using color and pattern. In the species page, you can hear a recording of the bird's song to aid in identification, and view its range map to see if it in fact lives in your area, and at what time of year.

Once they are sure of their identification, count the number of that species seen, and enter the sighting in the WildLab database. Continue with all of the birds seen. Sightings can be seen in a list and also on a map. Explain that the phones use **GPS** (Global Positioning System) to log sightings with accuracy to within 15 feet. These observations can be viewed online and submitted to databases such as Cornell's eBird Database, and then used by scientists to track bird numbers and distribution. Congratulate your learners and tell them that their observations have contributed to scientific knowledge, and they are now **Citizen Scientists**!

Resources for Educators:
- Track your sightings and learn more about species sighted on the WildLab website (http://www.thewildlab.org)
- Explore Cornell's eBird website (http://www.ebird.org) to view and explore similar data from around the country, see maps of national sightings of learners' favorite species, and study population trends throughout the year
- The Audubon Society has educational materials, centers, tours programs: (http://www.audubon.org)
- There are various bird webcams where species can be seen nesting or visiting feeders, including such exciting species as Peregrine Falcons: (http://www.55water.com/falcons)