THE WILDLAB EDUCATION PROGRAM
UNIT 2: HABITATS

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 key habitats in their region.
- 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
Notebook and pencil

Vocabulary: Citizen Science, Habitat, Woodland, Wetland, Coastal, Grassland, 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.PS2*: Many of the phenomena that we observe on Earth involve interactions among components of air, water, and land.
- 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 habitat?
- Where are birds found?
- Why are birds found in certain habitats and not others?
- How do a bird's habitat preferences influence its unique adaptations?
- 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: What is a Habitat? (30 Minutes)

In this session the teacher or parent leads the learners to the schoolyard, park, or other nearby outdoor study site, to use the WildLab in the field. The first step in the bird identification process using the WildLab is to identify the chosen habitat. But first, what is a habitat?

Ask learners to brainstorm the things that animals get from their environment which help them to survive and reproduce. If they have difficulty, have them give examples of things that humans need to survive in their environment (food, water to drink, a place to live). Have learners list "What do Birds Need to Survive and Reproduce?" in their journals. Allow the learners to identify categories (so if you see a robin catching worms, let the learners reach the "Food" category conclusion). Divide the habitat needs that are listed into these categories:

a. Food
b. Water
c. Shelter (nesting areas, roosting areas, places to hide or escape)
d. Space (such as hunting and feeding areas, migration routes)

Summarize that every living thing has a place that supplies its particular food, water, cover and space needs—its habitat. If a bird cannot find these things in an area and in the right arrangement, it cannot survive there.

Activity: Birds & Their Habitat (30-60 Minutes)

- Discuss the importance of habitat by asking questions such as:
- What is the habitat like on our area? Do you think this is a good place for birds to live? Why or Why not?
- Discuss different types of habitat, and have the learners give examples of different habitats they can think of. Hopefully the study area will have a variety of habitats to compare (lawn or meadow, freshwater pond or stream, woodland, etc.). Explain the key characteristics of the four main categories of habitat (trees and understory in a forest, fresh vs. salt water, etc.).
- Have the learners work with their iPhones to choose a habitat category in the WildLab, and enter their bird sightings in the appropriate habitat category. *(Mention that these categories are approximations, simplifications of existing habitats. Often in city parks it is unclear if one is in a forest or a meadow, for example. Explain that one can often judge which habitat a specific bird prefers by its choice of substrata: if it is hopping on the grass it is more likely a meadow bird, if it is in a tree, it is more likely a forest bird.)* If it is a large group, divide them into teams, and designate an "Observer" who uses binoculars or notebook and a "Data Collector" who uses the iPhone to collect data.