

THE WILDLAB EDUCATION PROGRAM: FORMAL CURRICULUM OUTLINE

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

Learning Objectives:

1. Students will learn to identify and count birds, and to record information about them.
2. Students will apply technology to collect scientifically rigorous data in the field.
3. Students will be able to identify key habitat features and relate each one to the specific function it serves for a bird.
4. Students will learn to analyze and synthesize data using the iPhone and the WildLab website.
5. Students will learn how their data is used. They will suggest further studies that could be undertaken with their data, and learn how scientists might use such data in their efforts to understand and conserve species.

Time Needed: 5 sessions (single or double class periods), indoors and outside.

Materials (provided by The WildLab):

Binoculars

iPhones

Feathers

Photos of common NYC birds

LESSON OUTLINE

Class 1 – Classroom Session /Intro and Fieldwork Prep

Investigation Overview

- What is a bird?
- Why birds?
- How can citizens help with conservation efforts?
- How can technology help with this process?
- Students fill out short survey & consent forms
- Students practice using iPhones & the WildLab application

Resources for Teachers:

- Discuss with students what makes birds unique and interesting
- “Parts of a bird” handout
- Images & information about species students are curious about (for great examples see www.allaboutbirds.com)

Class 2 – Field Session I: Habitats & Bird ID

Investigation Overview

- Where are the best places to encounter birds in NYC?
- What is a habitat?
- Why do birds choose certain habitats?
- What are the characteristics of different habitats found in NYC?
- Students practice using iPhones & the WildLab application
- Students practice using binoculars
- How do a bird’s habitat preferences influence its unique adaptations?

Resources for Teachers:

- Discuss with students what constitutes a habitat, and what kinds of habitats can be found locally
- For information about various NYC habitats and where to find them, see http://www.nycgovparks.org/sub_about/parks_divisions/nrg/forever_wild/foreverwild_habitats.html
- To find out more about iPhones and other mobile devices and their utility in education, see http://www.joanganzcooneycenter.org/pdf/pockets_of_potential.pdf

Class 3 – Field Session II: Shapes, Silhouettes & Bird ID

Investigation Overview

- List common birds of NYC in the relevant habitat of the study area
- Explore where birds are found and review how habitat can help with ID
- Discuss specific adaptations of birds and how these can aid with ID
- Practice using the WildLab to study bird groupings & shapes
- Observe & identify birds outside using the WildLab silhouette system

Resources for Teachers:

- Discuss with students how birds have unique shapes and characteristics

- that can be used to identify individual species
- Discuss how birds can be grouped by similar characteristics, some of which are related to their habitat (e.g. water-birds often have webbed feet)
 - Display bird group silhouettes in classroom or play memory quiz game with them

Class 4 – Field Session III: Data Entry & Mapping with WildLab

Investigation Overview

- Students will observe and identify birds during a field session
- They will count the birds and enter their location using The WildLab
- Students learn how to plot their sightings using The WildLab map
- Students learn how scientists use data from citizen-scientist counts such as this one
- Students will use The WildLab to explore questions with data

Resources for Teachers:

- Follow the students' sightings on the Wildlab website:
<http://www.thewildlab.org>
- Use the map feature to see where individual sightings took place
- Compare habitats visible on the Google maps

Class 5 – Classroom Session II: Citizen Science in Action

Investigation Overview

- What is “citizen science”?
- How can this data prove useful to scientists?
- How might scientists use the data we’ve gathered?
- Students review the data collected in previous classes
- Students submit these data for use in citizen science projects using Cornell’s eBird Web site
- Students take exit survey

Resources for Teachers:

- Use the data on the WildLab website to graph sightings by date, species, habitat, or weather
- 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 students’ favorite species, and study population trends throughout the year

Additional Resources for Teachers:

- NYC Audubon has many tours and educational walks
<http://www.nycaudubon.org>
- There are various bird webcams where species can be seen nesting or visiting feeders, including such exciting species as Peregrine Falcons, nesting in the Financial District!
<http://www.55water.com/falcons>
and numerous feeder-cams listed at
<http://mysite.verizon.net/vdziadosz/feeders.htm>