

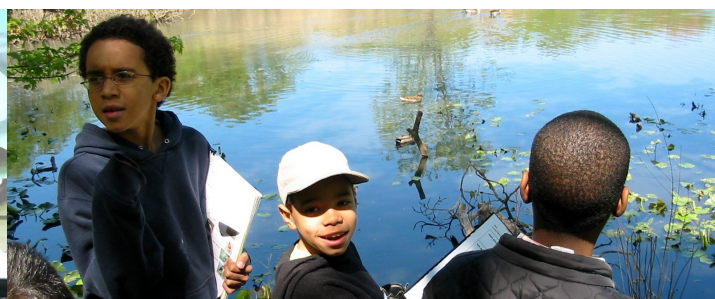
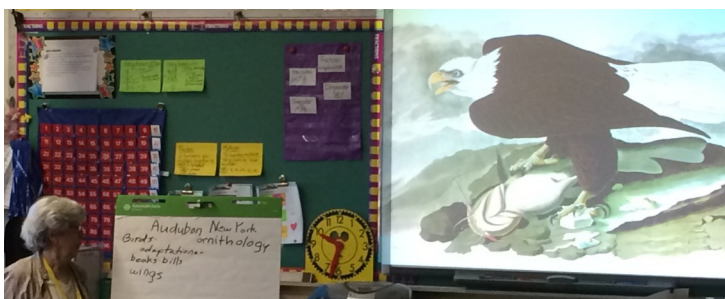


For the Birds! NYC COURSE CATALOG



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We, as teachers, strongly feel that the children's exposure to the education of their everyday surroundings, such as the types of birds, has inspired them to deepen their knowledge independently through more research.

3rd Grade Teacher, PS 85

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All For the Birds! (FTB!) lessons follow this format:

1. Introduction and review from previous week

2. Presentation of new material:

- Interactive
- 20-25 Minutes
- PowerPoint and/or other visual materials used

3. Hands on Activities:

- Designed to stimulate critical thinking and connection-making
- Aligned with NGSS and Common Core Standards to reinforce learning in the classroom

4. Journaling

- Students answer a journal prompt to help them to reflect on the material covered in lessons and to review before the next session



LESSON OPTIONS

Birds and Conservation:

Typically the first lesson in a program, we use this time to introduce the history of the Audubon Society and its mission to protect birds and their habitats.

Activities: 'How to Draw a Bird' - Students learn steps to drawing birds accurately using shapes and identifying markers, practicing writing field notes and labeling like an ornithologist. This serves as an introduction to their journals.

Topics & Concepts Covered:

- Life Sciences
- Social Studies
- Geometry

Skills Practiced:

- Recognizing and Drawing Shapes
- Recognizing Cause & Effect

Basic Bird Identification:

Students will learn what makes birds unique from other animals and how to use field marks to identify specific species.

Activities: With grade-appropriate activities, students play a game that has them providing field marks as clues to their peers to identify a mystery bird.

Topics & Concepts Covered:

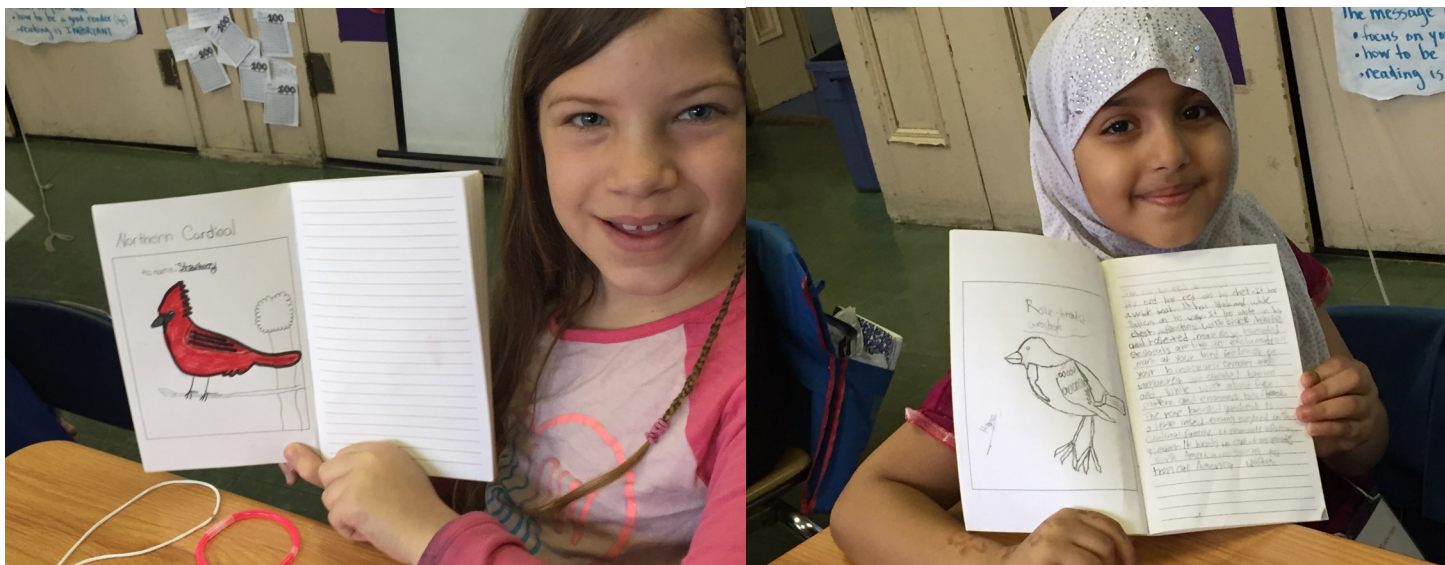
- Life Sciences
- Physical Sciences

Skills Practiced:

- Recognizing Patterns
- Communicating Information

Intro and Basic Bird Identification Hybrid:

For a four week program we recommend this hybrid course that combines pertinent information from both the Birds and Conservation and Basic Bird Identification lessons. **For Activities, Topics & Concepts, and Skills, see 'Basic Bird Identification' (above).**



“ At first, I thought ‘oh my child is into nature already and a lot of it might be a repetition’. But through the program I realized she picked up a lot of different things, and even the things she knew became more solid... In my opinion, I think this curriculum built an interest in a lot of children who hopefully will continue to explore. ”

Parent of 3rd Grade Student, PS. 85

Neighborhood Bird Walk:

Students venture outside to identify the birds that live in their neighborhood.

Activity: With a worksheet provided by *FTB!* staff, students will practice the scientific process of recording observable data about the time, weather, location, and by tallying the species they see.

Afterwards, students will complete a bar graph to organize their data.

Topics & Concepts Covered:

- Life Science

Skills Practiced:

- Carrying out an Investigation
- Record Science Observations

Beaks as an Adaptation:

Students learn what defines an adaptation and how it helps birds to survive. Specifically, this lesson will focus on beak shape and how that affects what birds eat.

Activity: Students are given a worksheet detailing different types of food and a set of bird pictures with different shaped beaks. Students will match the correct bird and beak to the correct food.

Topics & Concepts Covered:

- Life Sciences
- Biodiversity
- Structure and Function

Skills Practiced:

- Obtaining and Communicating Information
- Writing Explanatory Texts



Migration:

Students learn why, how, and when birds migrate, and the challenges that they face along their journeys.

Activity: Students are grouped then given a story card detailing the migratory journey of a particular bird. They then plot out the course the bird flew on a poster sized map, and present their findings to the class.

Topics & Concepts Covered:

- Life Sciences
- Earth Sciences
- Conservation

Skills Practiced:

- Reading Informational Texts
- Reading Maps
- Communication & Group Collaboration

Project Pigeon Watch (Outdoor):

Students have a brief indoor lesson about the incredible adaptations of NYC's pigeons such as their use by doctors to detect cancer cells, their amazing ability to find their way home, and their intricate courting behavior. The students then go outside to observe pigeons and their various behaviors. (This lesson can be combined with **NYC's Pigeons** as a two part study.)

Activity: Students record their observations on a worksheet and graph observations for their journal prompt.

Topics & Concepts Covered:

- Life Sciences
- Algebraic Thinking
- Adaptations

NYC's Pigeons:

Students learn about some of the incredible adaptations of NYC's pigeons such as their use by doctors to detect cancer cells, their amazing ability to find their way home, and their intricate courting behavior.

Activity: Students are challenged to learn the color morph key, design their own pigeon, and play a jeopardy-style game based on fun pigeon facts for a prize.

Topics & Concepts Covered:

- Social Studies
- Life Sciences
- Adaptations

Skills Practiced:

- Obtaining and Communicating Evidence
- Writing a Narrative



Raptors:

Students learn about special adaptations specific to all raptors, how these adaptations make them different from other birds, and how they help these birds to survive.

Activity: 'Build-a-Raptor'- In small groups, students assemble a model raptor and then use a key to identify it.

Topics & Concepts Covered:

- Life Sciences
- Engineering
- Adaptations

Skills Practiced:

- Developing and Using Models
- Reading Informational Texts
- Using Measurements
- Communication & Group Collaboration

Flight:

Students learn the physical principles that allow birds to fly (Lift, Drag, Propulsion) and will be able to identify the four varieties of bird wings (Active Soaring, Passive Soaring, High Speed, and Elliptical).

Activity: Students will be presented with four paper airplane designs that resemble the four wing designs. Students select and build a model, and then race it against the students who made the same model.

Topics & Concepts Covered:

- Life Sciences
- Engineering
- Physical Sciences

Skills Practiced:

- Developing and Using Models
- Recognizing Cause and Effect
- Structure and Function

How do Birds Fly? (Outdoor):

Students learn the physical principles that allow birds to fly (Lift, Drag, Propulsion) and will be able to identify the four varieties of bird wings (Active Soaring, Passive Soaring, High Speed, and Elliptical).

Activity: Students will go outside and observe the birds in their neighborhood, recording which wing designs are present. Students will then be presented with four paper airplane designs that resemble the four wing designs. Students will select and build a model and then race it against the students who made the same model.

Skills Practiced:

- Developing and Using Models
- Recognizing Cause and Effect
- Structure and Function

Topics & Concepts Covered:

- Life Sciences
- Engineering
- Physical Sciences





“The students in my class are not often exposed to nature. Their real-life science skills are limited. Being exposed to this program has really opened their eyes.”

Jenise Hamma, teacher PS 140



Bird Builders (Outdoors):

Students learn about the different types of nests various birds build (Cup, Pendulum, Platform, Cavity, Scrape) and the requirements necessary to build them.

Activity: Students follow the scientific method to discover if a pre-selected species can live in a local park.

Topics & Concepts Covered:

- Life Sciences

Skills Practiced:

- Planning and Carrying out an Investigation
- Asking Questions and Defining Problems
- Record Science Observations
- Recognizing Cause and Effect

Birds and the Food Chain:

Students learn about the ways in which a food chain works and will be introduced to the topics of Keystone.

Activity: Students will make a ‘living’ food web by pretending to be an assigned animal and finding where they would interact with other ‘animals’ (other students wearing animal name tags). After mapping their classes food web, students will begin to see how environmental factors (such as disease or natural disaster) will change their food web and weaken it.

Topics & Concepts Covered:

- Life Sciences
- Biodiversity

How Birds Get Their Name:

Students learn the meaning behind many bird names (Physical Description, Behavior, Family, etc.).

Activity: Each student will be given a sheet of stencils and a cut-out body of a bird. They will select a set of feet, wings, a tail, and a beak, color them and then build their bird. Once their bird is assembled they will name it, and then in their journals they will justify their choice of name based on the bird’s characteristics.

Topics & Concepts Covered:

- Life Sciences
- Engineering

Skills Practiced:

- Developing and Using Models
- Writing an Informative Text
- Structure and Function



“*Thank you for everything, I promise I will help birds. I really like the field guides [and] will use them to look for birds like we did on our trip to central park.*
In a letter from a 2nd grade student, PS 42”

Why do Birds Sing?:

Students learn the many reasons birds sing (to find a mate, to defend territory, etc.) and to identify birds through their specific sounds.

Activity: Students will practice identifying bird songs by assigning phonetic values to the songs. They will then participate in making a ‘Forest in the Morning’ by reciting bird songs in unison.

Topics & Concepts Covered:

- Life Sciences
- Wave Properties
- Adaptations

Skills Practiced:

- Recognizing Patterns
- Communication & Group Collaboration

Ornithologists at work:

Students will learn about the current work being done at the Audubon Society and other conservation organizations to ensure the survival of birds. Students will also learn about conservation in NY, about endangered species, and will be introduced to concepts of climate change. Recommended for grades 4 & 5.

Activity: In groups, students will have an opportunity to develop a stretch of river any way they see fit. Once completed, students will be challenged to adapt their drawings, without removing anything they’ve already installed, to meet the needs of three species endangered in NY.

Topics & Concepts Covered:

- Climate Change
- Environmental Sciences
- Life Sciences

Biomes of New York:

Students will learn about the five biomes of New York State (as defined by the DEC) and will be able to identify how different birds have adapted physically to live in these environments.

Activity: Students will be assigned a random bird found in New York state. By looking at its physical traits they will need to determine which biome their bird would live in.

Topics & Concepts Covered:

- Life Sciences
- Environmental Sciences

Skills Practiced:

- Recognizing Patterns
- Writing an Informative Text
- Structure and Function



“

For me, the goal is to get my students to stop and truly observe the 'world' around them. So, when [the FTB! Educators] were able to get the students to use their senses to become aware of their surroundings before pointing out a bird, that was most effective. It allowed them to be able to then observe what others pointed out and make more effective observations of their own.

”

4th Grade Teacher, Collegiate School

Outdoor Habitat Enhancement:

Students take part in a project to make their school or local park more bird-friendly. They will also learn about Native, Non-Native and Invasive plant species.

Activity: Students will participate in planting a garden with native plants, weeding, mulching, or another physical activity.

Topics & Concepts Covered:

- Life Sciences
- Biodiversity

Skills Practiced:

- Measurement and Data
- Asking Questions & Defining Problems

Indoor Habitat:

Students learn about what makes a habitat bird-friendly and what actions they can take to make their neighborhoods and residences safer for birds.

Activity: Students are provided a map with a birds-eye view of a city that can be improved to be more bird-friendly. Student groups are given markers and will act as city planners to improve an area for birds and people.

Topics & Concepts Covered:

- Engineering
- Conservation

Skills Practiced:

- Asking Questions and Defining Problems
- Developing Models
- Communicating Evidence

The Field Trip: Students visit a park in their borough to do an extended survey of birds. This provides students with an opportunity to explore various habitats and witness the many, different species of birds that pass through NYC. Students apply all of the knowledge they have garnered during the *FTB!* course. Parks visited in the past include Central Park, Prospect Park, Van Cortland Park, Jamaica Bay Wildlife Refuge, and Great Kills. The field trip is most often the portion of the program that teachers cite as having the highest impact for students. We strongly encourage including a field trip as part of the *FTB!* program.



THEME PACKAGES

The following are themes that can be used to organize your selection of classes. When choosing, you may pick a package or go a-la-carte. All programs will include an Intro lesson, as well as a Neighborhood Bird Walk and the Migration Lesson.

• Choose 5 for an 8 week program

• Choose 13 for a 16 week program

Birds and People

NYC's Pigeons

Flight

How Do Birds Get Their Names?

Why do Birds Sing?

Field Trip (O)

Habitats and Ecosystems

Bird Beaks as an Adaptation

Project Pigeon Watch (O)

How do Birds Fly? (O)

Bird Builders (O)

Birds and the Food Chain

Biomes of New York

Indoor Habitat

Outdoor Habitat (O)

Field Trip (O)

Conservation

Bird Builders (O)

Ornithologists at Work

Indoor Habitat

Outdoor Habitat (O)

Field Trip (O)

Science In Action

Project Pigeon Watch (O)

How do Birds Fly (O)

Bird Builders (O)

Ornithologists at Work

Outdoor Habitat (O)

Field Trip (O)

Adaptations

Bird Beaks as an Adaptation

NYC's Pigeons

Raptors

How Do Birds Fly? (O)

Why Do Birds Sing?

Biomes of New York

Bird Builders (O)

Field Trip (O)

***All programs will be 50% indoors and 50% outdoors (marked with 'O');
please keep that in mind when making class selection.***





Audubon NEW YORK

