Educator Basecamp: Ages 5-8 (U.S. Grades K-2)

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Introduction

Young students are excellent observers of nature! Consider taking your students outside for first hand experience using their senses to explore, identifying living things, and investigating the habitat in the school yard.

As a part of the CNC education toolkit, a group of educators at institutions around the world has gathered and reviewed hundreds of resources about biodiversity and citizen science that are relevant to the City Nature Challenge. These resources are our recommended activities for ages 5-8.

This progression of activities is designed to introduce the concept of biodiversity and build observation and other field skills for the City Nature Challenge. At least some activities include outdoor and field components. See 'modifications' section below for ideas on how to make these activities work for you, whether you work with students in a formal classroom or a museum, nature center, after school program, homeschool, or other informal environment. See standards at the bottom for how these activities connect to Next Generation Science Standards (U.S.). You can search through the full set of age 5-8 resources for educator guides, classroom and field activities, media, and more!

New to taking students outside? Be sure to read through our Guide to Teaching Students Outside for tips on outdoor group management and teaching strategies.

Background + Considerations

The City Nature Challenge requires observations of living things to be uploaded to your city's chosen platform (iNaturalist or others). With young students, consider using the recommended worksheets for student observation. When you or other adults are checking in with your student groups, photograph the living things they are documenting on paper. Then, upload the observations of your class observations for the City Nature Challenge. You can choose to revisit these observations throughout the year by printing them out or viewing them on the iNaturalist.org map feature. Read the Guide to using iNaturalist with Students for links to tutorial videos and more.

Objectives

- Observe living things in the school yard.
- Compare observations among different spots in the school yard.
- Design investigations to answer student or teacher created questions.

Activities

Activity 1: Get to Know Nature

- **Type:** Field Investigation, Lesson Plan, Media
- **Activity Time:** Three 60-min lessons
- **Focal Science Practices:** Making Observations
- **Recommended Use:** This series of three lessons prepares students to be nature observers and guides the instructor though taking the class outdoors to make observations and create a school-yard nature guide. Recommended for beginners.

Activity 2: CMNH Nature in the City: Nature Detectives Resource Packet

- **Type:** Lesson Plan / Educator Guide
- **Activity Time:** Varies
- **Focal Science Practices:** Making Observations
- **Recommended Use:** This guide provides tips and worksheets to guide students in identifying animals based on clues left behind (footprints, scat, etc.). In addition, tips are provided to bait and search for insects. Recommended for students who are ready for in-depth searching.

Activity 3: Looking at Lawns

- **Type:** Activity
- **Activity Time:** 45 minutes
- **Preparation:** Requires several weeks of letting a small section of the school lawn grow
- **Focal Science Practices:** Making Observations, Planning and Carrying Out Investigations, Drawing Conclusions and Communicating Information
- **Recommended Use:** This activity allows students to observe both a maintained lawn and a portion of taller grass. Recommended for students who are ready to make comparisons.

Activity 4: Journey North Teacher Guide - Building Inquiry into Instruction

- **Type:** Educator Guide
- **Activity Time:** Varies
- **Recommended Use:** For the class with experience making observations and comparisons, consider turning your students' questions about the natural world into investigation opportunities. This guide offers tips for teachers who want to dive further into inquiry.

Modifications

Adjust the group size depending on your students' readiness. Although best in small groups, the activities above can be done as a whole class if needed. Try defining a sitting area by using cardboard squares as an outdoor seating chart, walking in line around the school, or allowing students to explore freely in a safe, well-defined area.

Extensions

- Begin the observations early to draw comparisons between seasons.
- Encourage students to explore with their families at home.

- Build a class bird feeder to increase the biodiversity you can see from the window.
- Explore the full set of resources for age 5-8 here.

Relevant Science Standards

Next Generation Science Standards (U.S.)

Performance Expectations:

- K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive.
- K-ESS3-1. Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.
- 1-LS3-1. Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.
- 2-PS1-1. Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.
- 2-LS4-1. Make observations of plants and animals to compare the diversity of life in different habitats.

Disciplinary Core Ideas

- LS1.A: Structure and Function
- LS2.A: Interdependent Relationships in Ecosystems
- LS4.D: Biodiversity and Humans

Science and Engineering Practices

- Asking Questions and Defining Problems
- Developing and Using Models
- Planning and Carrying Out Investigations
- Obtaining, Evaluating, and Communicating Information
- Analyzing and Interpreting Data

Crosscutting Concepts

- Patterns
- Systems and System Models
- Structure and Function