Module 1 • Ecology

Brief Overview ———————————————————————

This module introduces the world of urban ecology found right in the students' schoolyard and neighborhood. Children will learn about key ecological concepts as they explore their immediate surroundings. They will begin to hone observation and classification skills as they become expert in seeing and describing their surroundings.

Module Contents ———————————————————————

Note: Culminating activities are not included in Module. Omit the instructions for the final lesson under the "Preparing for the Lessons" heading.

Time ————————————————————————————

7 sessions

Desired Outcomes ————————————————————————

Students will:

- Realize that their surroundings are rich in a variety of living and non-living things.
- Learn to use their senses to compare and contrast different things in their environment.
- Understand that any place is an ecosystem, with living and non-living things that interact with each other.
- Gain skills to classify correctly things in their environment as people, other living things, things that were alive but are now dead, and things that are not alive and were never alive. (i.e. living, dead, never living).
- Create ecosystem inventories for their schoolyard and neighborhood ecosystems.

What You'll Need ────────────────────────────────

Materials
☐ Poster board or large chart paper (to make posters)
☐ Drawing paper
☐ Crayons or markers
☐ Scissors
☐ Paper bag (large enough for students to reach in and pull out paper strips)
☐ Clipboards (with pencils attached)
☐ Colored construction paper
☐ Pencils
☐ Pens
☐ Tape or glue sticks
☐ Sandpaper (optional)

Worksheets and Handouts
☐ *What Does a Scientist Do?*
☐ *Is Our Schoolyard an Ecosystem?*
☐ *Is Our Neighborhood an Ecosystem?*
☐ *Walking Map of the Neighborhood*

People Power────────────────────────────────

Recruit volunteers for the neighborhood investigation (Lesson 3 – Part 3).

New Vocabulary ────────────────────────────────

Abiotic
>   Referring to something that was never alive (water, rocks); the physical environment

Biotic
>   Referring to something that is alive, or used to be alive

Characteristic
>   Referring to a trait or quality of something that makes it different from something else

Classify
>   To group things together based on certain qualities or characteristics they share

Ecologist
>   A scientist who studies ecology

Ecology
>   The study of how living things interact with each other and their physical environment

(see the remaining list in the original overview of Module 1)

Lesson 2: Investigating Our Schoolyard Ecosystem

Maryland SC Standards (2nd and 3rd Grade):	
Standards are presented in the following format: *(Grade)Standard.Topic.Indicator.Objective – Objective Statement*	
Science	
Standard 1.0 Skills and Processes: Students will demonstrate the thinking and acting inherent in the practice of science.	**Constructing Knowledge** (2)(3)1.A.1.b – Seek information through reading, observation, exploration, and investigations. **Applying Evidence and Reasoning** (2)(3)1.B.1.b – Develop reasonable explanations for observations made, investigations completed, and information gained by sharing ideas and listening to others' ideas. **Communicating Scientific Information** (2)(3)1.C.1.a – Describe things as accurately as possible and compare observations with those of others. (2)(3)1.C.1.e – Recognize that everybody can do science and invent things and ideas.
Standard 3.0 Life Science: Students will use scientific skills and processes to explain the dynamic nature of living things, their interactions, and the results from the interactions that occur over time.	**Ecology** (2)3.F.1.b – Explain that organisms live in habitats that supply their basic needs. • Food • Water • Air • Shelter

Lesson 3: Sensing the Schoolyard Ecosystem

Maryland SC Standards (2nd and 3rd Grade):	
Standards are presented in the following format: *(Grade)Standard.Topic.Indicator.Objective – Objective Statement*	
Science	
Standard 1.0 Skills and Processes: Students will demonstrate the thinking and acting inherent in the practice of science.	**Constructing Knowledge** (2)(3)1.A.1.b – Seek information through reading, observation, exploration, and investigations. **Applying Evidence and Reasoning** (2)(3)1.B.1.b – Develop reasonable explanations for observations made, investigations completed, and information gained by sharing ideas and listening to others' ideas. **Communicating Scientific Information** (2)(3)1.C.1.a – Describe things as accurately as possible and compare observations with those of others. (2)(3)1.C.1.b – Describe and compare things in terms of number, shape, texture, size, weight, color, and motion.
Standard 3.0 Life Science: Students will use scientific skills and processes to explain the dynamic nature of living things, their interactions, and the results from the interactions that occur over time.	**Ecology** (2)3.F.1.b – Explain that organisms live in habitats that supply their basic needs. • Food • Water • Air • Shelter

Lesson 4: Our Urban Neighborhood Ecosystem

Maryland SC Standards (2nd and 3rd Grade): *Standards are presented in the following format: (Grade)Standard.Topic.Indicator.Objective – Objective Statement*	
Science	
Standard 1.0 Skills and Processes: Students will demonstrate the thinking and acting inherent in the practice of science.	**Constructing Knowledge** (2)(3)1.A.1.b – Seek information through reading, observation, exploration, and investigations. **Applying Evidence and Reasoning** (2)(3)1.B.1.b – Develop reasonable explanations for observations made, investigations completed, and information gained by sharing ideas and listening to others' ideas. **Communicating Scientific Information** (2)(3)1.C.1.a – Describe things as accurately as possible and compare observations with those of others. (2)(3)1.C.1.e – Recognize that everybody can do science and invent things and ideas.
Standard 3.0 Life Science: Students will use scientific skills and processes to explain the dynamic nature of living things, their interactions, and the results from the interactions that occur over time.	**Ecology** (2)3.F.1.b – Explain that organisms live in habitats that supply their basic needs. • Food • Water • Air • Shelter