



Ecology Explorer School Program

K-5 Grades Curriculum

The *Ecology Explorer School Program* investigates the relationship between plants and animals. Students will discover what a habitat is, as well as what it provides plants and animals, through hands-on activities. Students will explore different habitats through a guided tour of our outdoor gardens and scavenger hunt in our indoor tropical conservatory.

The primary goals of the *Ecology Explorer School Program* are:

- To introduce students to the relationship between plants and animals and their environment.
- To provide students with an authentic learning experience involving inquiry-based and hands-on learning methodologies.
- To enrich classroom learning by supporting the Wisconsin Model Academic Standards, the Metropolitan Madison School District (MMSD) K-8 Science Scope and Sequence, and the Next Generation Science Standards.

Next Generation Science Standards:

- **Life Sciences**
 - 5-LS2-1, 4-LS1-1, 3-LS3-2, 3-LS4-2, 3-LS4-3, K-LS1-1, 1-LS1-1
- **Earth Sciences**
 - 5-ESS2-2, 3-ESS2-2, K-ESS3-1
- **Physical Sciences**
 - 5-PS3-1, K-PS3-1

INTRODUCTION

Students are introduced to the *Ecology Explorer School Program*. Through visual examples, physical demonstrations, and models, students define the terms “ecology” and “habitat” and discuss the elements every living thing needs to survive.

- **Wisconsin Standards for Agriculture, Food, and Natural Resources:**
 - NR 2.a.1.e, PS2.a.1.e, PS2.c.1.e
- **Wisconsin Model Early Learning Standards:**
 - A.EL.2
- **Wisconsin’s Model Academic Standards for Environmental Education:**
 - B.4.1, B.4.4
- **Wisconsin Standards for Health Education:**
 - (PK-2) 1:1:A1, 1:1B2
- **Wisconsin State Standards for Literacy:**
 - Speaking and Listening 1 (K-2), 2 (K-1), 3 (3-5)
- **Wisconsin Model Academic Standards for Science:**
 - A.4.1, A.4.4, C.4.2, F.4.1, F.4.2

MMSD K-8 Science Standards:

- Kindergarten Life Sciences *Analyzing Animals, Trees*
- Grade 1 Life Sciences *New Plants*
- Grade 1 Earth Science *Pebbles, Sand & Silt*
- Grade 3 Life Sciences *Structures of Life*

LEARNING STATIONS

THE WATER CYCLE

This learning station engages students in hands-on learning about the water cycle. Through visual



examples, physical demonstrations, and models, students learn how water moves through an ecosystem. This station reinforces the ecological principle of energy moving in cycles.

- **Wisconsin Model Early Learning Standards:**
 - B.EL.2
- **Wisconsin's Model Academic Standards for Environmental Education:**
 - A.4.1, A.4.2, A.4.3, A.4.4, B.4.10
- **Wisconsin State Standards for Literacy:**
 - Speaking and Listening 1 (K-2), 2 (K-1), 3 (3-5)
- **Wisconsin Model Academic Standards for Science:**
 - C.4.1, C.4.2, C.4.4, C.4.7, C.4.8, D.4.3, D.4.4, D. 4.5, E.4.6, E.4.7, F.4.4
- **Wisconsin's Model Academic Standards for Social Studies:**
 - Geography 1.a.1 (K-2), 1.a.4-5 (3-5)

MMSD K-8 Science Standards:

- Grade 2 Physical Science *Solids & Liquids*
- Grade 2 Earth Science *Air & Weather*
- Grade 4 Earth Science *Water*
- Grade 5 Life Science *Environments*

THE FOOD CHAIN

This learning station provides students with tactile activities that illustrate how the food chain functions within an ecosystem. This station reinforces the ecological principle of networks and communities.

- **Wisconsin Model Early Learning Standards:**
 - B.EL.2
- **Wisconsin Model Academic Standards for Environmental Education:**
 - A.4.1, A.4.2, A.4.3, A.4.4, B.4.1
- **Wisconsin State Standards for Literacy:**
 - Speaking and Listening 1 (K-2), 2 (K-1), 3 (3-5)
- **Wisconsin Model Academic Standards for Science:**
 - C.4.1, C.4.2, C.4.6, F.4.1, F.4.2, F.4.4

MMSD K-8 Science Standards:

- Kindergarten Life Science *Analyzing Animals*
- Grade 3 Life Science *Structures of Life*

HABITATS

This learning station defines the ecological term "habitat" and outlines the relationships between plants and animals. This station supports the ecological principles of community and interconnectedness within a biotic community.

- **Wisconsin Standards for Agriculture, Food, and Natural Resources:**
 - NR 1.a.2.e, NR 1.b.2.e, NR 1.b.3e, PS2.a.1.e, PS5.a.1.e
- **Wisconsin's Model Academic Standards for Environmental Education:**
 - A.4.1, 1.4.2, A.4.3, B.4.4, B.4.6, C.4.1
- **Wisconsin State Standards for Literacy:**
 - Speaking and Listening 1 (K-2), 2 (K-1), 3 (3-5)
- **Wisconsin Model Academic Standards for Science:**
 - B.4.4, B.4.6, C.4.1, C.4.2, E.4.5, F.4.1, F.4.4
- **Wisconsin's Model Academic Standards for Social Studies:**
 - Geography 1.a.1 (K-2), 1.a.4-5 (3-5)

MMSD K-8 Science Standards:

- Kindergarten Life Science *Analyzing Animals*
- Grade 3 Life Science *Structures of Life*
- Grade 5 Life Science *Environments*

GUIDED GARDEN & CONSERVATORY TOUR

Students participate in a guided walking tour of the outdoor gardens and Bolz Conservatory as part of the



Ecology Explorer School Program. Students explore and compare up to five distinct habitats at Olbrich Botanical Gardens with the guidance of an Olbrich Educator. The tour highlights the ecological concepts of habitat and diversity. The outdoor component may be eliminated in cases of severe weather or when lightning is present.

- **Wisconsin Standards for Agriculture, Food, and Natural Resources:**
 - NR 1.a.2.e, PS1.c.1.e, PS2.a.1.e
- **Wisconsin Model Early Learning Standards:**
 - C.EL.1
- **Wisconsin State Standards for Literacy:**
 - Speaking and Listening 1 (K-2), 2 (K-1), 3 (3-5)
- **Wisconsin's Model Academic Standards for Physical Education:**
 - D.4.1, F.4.1, F.4.2
- **Wisconsin Model Early Learning Standards for Science:**
 - F.4.4, C.4.2

MMSD K-8 Science Standards:

- Kindergarten Life Sciences *Analyzing Animals*
- Grade 1 Life Sciences *New Plants*
- Grade 3 Life Sciences *Structures of Life*