



School Program Name: Forest Ecosystem
Name of Sanctuary: Wachusett Meadow Wildlife Sanctuary
Grade Level: 3-5
Location Options: At sanctuary
Time: 2 hours
For more info: wachusett@massaudubon.org or
978-464-2712

Program Description

Students will visit a forest to observe, collect, and study organisms in their natural environment. They will explore how the parts of a forest are interconnected.

Massachusetts Curriculum Frameworks

Framework: Science and Technology
Strand: Life Science
Topic: Structures and Functions
Energy and Living Things

Learning Standards

Structures and Functions

3-5 Life Science #3: Recognize that plants and animals go through predictable life cycles that include birth, growth, development, reproduction, and death.

Energy and Living Things

3-5 Life Science #11 Describe how energy derived from the sun is used by plants to produce sugars (photosynthesis) and is transferred within a food chain from producers (plants) to consumers to decomposers.

Massachusetts Curriculum Frameworks

Framework: English Language Arts
Strand: Language
Topic: Questioning, Listening, and Contributing

Learning Standards

Questioning, Listening, and Contributing

PreK-12 Language #2: Students will pose questions, listen to the ideas of others, and contribute their own information or ideas in group discussions or interviews in order to acquire new knowledge.



Massachusetts Curriculum Frameworks

Framework: English Language Arts
Strand: Composition
Topic: Writing

Learning Standards

Writing

PreK-12 Composition #19: Students will write with a clear focus, coherent organization, and sufficient detail.

Massachusetts Curriculum Frameworks

Framework: Arts
Strand: Visual Arts
Topic: Observation, Abstraction, Invention, and Expression

Learning Standards

Observation, Abstraction, Invention, and Expression

PreK-12 Visual Arts #3: Students will demonstrate their powers of observation, abstraction, invention, and expression in a variety of media, materials, and techniques.

Lesson Objectives

What will students know and be able to do? These objectives must be observable and measurable.

Students will know and be able to:

- Describe several life cycles within the forest habitat.
- Explain how energy is passed along the food chain.
- Describe how organisms are interdependent.

Vocabulary

food web	interdependent	nonliving thing
food chain	life cycle	predator
ecosystem	living thing	prey



Assessments

How will you know that the students have met the standards?

- Mass Audubon Educator will observe students exploring, observing, and identifying forest organisms.
- Students will participate in answering Mass Audubon Educator-prompted questions.
- Students will draw a forest organism and diagram its life cycle.
- Students will demonstrate their understanding of how forest organisms are interdependent by participating in the wrap-up activity.

Summarizer

How will the Mass Audubon Educator close the lesson to see if students met the objectives?

- Students will create a web of life showing the interconnections of the organisms they observed. By playing a web of life game, students will explain several interconnections of forest organisms.
- Mass Audubon Educator will seat students in a circle and pass out a prepared index card, which has a specific forest organism printed on it. Mass Audubon Educator will hand a ball of yarn to the first student and pose the question, “How are you connected to a living or nonliving thing in this circle?” (For example, the student has the word “pillbug” written on card, and he/she throws the ball of yarn to a student that has a card with the word “log” on it, and explains the connection. Students will pass the yarn around to the whole circle until everyone is included in the web of life. Next, Mass Audubon Educator will tell students to imagine one living or non-living thing has been taken away from the web, have that student stand up, and every other student that feels a tug on his/her string should then stand up to show somehow they have been affected by the removal of just one item. Students who stood up will explain how they were affected.
- (If there is not enough time for the web of life game) Sitting in a circle around a large piece of light colored fabric, students will display some of the organisms they found.
- Through Mass Audubon Educator-prompted discussion, students will share how the organism they found is connected to a living or nonliving thing in the forest ecosystem.



Mass Audubon School Programs

At Mass Audubon we strive to create learning experiences that are enriching, innovative, meaningful, and engaging. All our school programs are aligned with Massachusetts Curriculum Frameworks. Our network of wildlife sanctuaries and nature centers located in urban, suburban, and rural communities around the state enable us to have strong relationships with local schools.

Our Education Foundations

- Place-based education is an educational philosophy that connects learning to what is local for an individual. We help build conservation communities, working with students and teachers in cities and towns to develop place-based environmental education that is linked directly to their home community.
 - Inquiry-based learning is focused on teamwork, being learner-centered, questioning ourselves and the world around us, providing a more focused, time-intensive exploration, promoting lifelong learning, communication, and learning as fun.
 - We are fully committed to creating a positive and supportive environment for all learners.
 - We strive to be culturally sensitive, recognizing and embracing cultural differences.
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Differentiated Instruction

- We strive to create a positive learning environment that is inclusive, supportive to all learners, and sensitive to cultural diversity.
 - Outdoor classroom experiences are structured to meet the needs of the particular learners.
 - Students work in small groups using hands-on materials.
 - A variety of educational media are used, including colorful illustrations.
 - With advance notice, efforts will be made to accommodate all learning styles and physical needs.
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Notes

- Nature exploration is dependent upon the weather and other conditions. A class might observe different wildlife than they expected to see. An outdoor lesson can sometimes provide unexpected, but enriching teachable moments on a natural history topic that was not planned.
- Mass Audubon nature centers each have a unique landscape and will customize programs to work best at their particular site.
- Our lessons can be adapted to incorporate a classroom teacher's needs.

