

## Stalking the Unseen

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School or Agency: St. Anne's Wetland Education Outreach Project  
Grade Level(s): 4-12  
Science Topic: Decomposers

Summary: Students will have the chance to explore preapproved areas within the wetlands. Encourage the students to find as many decomposing leaves, rotten stumps, and various items with mold or fungi growing on them (the goal being to gather both biotic and abiotic items). Students will then be encouraged to examine each other's items and discuss their ideas about living and dead organisms, the life and food cycle, and decomposition.

Core Content: Life Science. More specifically: Organisms and their environments, and characteristics of organisms.

Objectives: This activity should enable students to better familiarize themselves with different organisms within the wetlands, it should also provide them with a better understanding of decomposers and the detritus cycle. It is important to cover relevant information regarding landfills and land management and how decomposition assists human endeavors. The students will be expected to differentiate between biotic and abiotic elements and should also be able to find examples of decomposition in the wetlands.

Materials: Bags for collecting (one per student), permanent marker, field notebook, pencil, knife, thermometer, and trowel.

### Procedures:

1. Divide the students in to pairs. Give each pair two bags, one labeled abiotic and the other labeled biotic. Detail the differences between abiotic elements and biotic organisms while taking the students through a quick tour of the wetlands. Once they are familiar with the area, instruct one student from each pair to collect abiotic material while the other collects biotic material. Have the students record in their notebook the area of the wetlands from which they collected their items, what specifically was collected, and what kind of conditions were present. Students assigned abiotic components should consider/measure/record temperature, moisture, available light, etc.
2. When the students have had sufficient time to explore the area, have them reconnect with their partners and compare their respective biotic and abiotic items. They should be able to explain to each other why their item is either living or non-living. When each pair has discussed their finds, have a class discussion. Have students offer explanations on the differences between molds and fungi.
3. Some questions to consider: What would happen if there were no decomposers in the wetlands? What would happen if too many abiotic components make their way into the wetlands, and how do these abiotic factors affect the plants and animals inhabiting the ecosystem? How do biotic organisms' appearances change as they reach different levels of decomposition? How do human activities affect biotic and abiotic components of the wetlands?

Assessment Techniques: Upon returning to the classroom, have students answer the questions posed at the wetlands in their field notebooks. Have them reflect on the areas where they found their items and write about why they think those items were located in that specific area.

Resources: Adapted from Eco-Inquiry. A guide to ecological learning experiences for the upper elementary/middle grades. Hogan, Kathleen. *Eco Inquiry: A guide to ecological learning experiences for the upper elementary/ middle grades*. Dubuque: Kendall/Hunt, 2003. Print..

Extensions: Soil sample cultures can be taken from an area in the wetlands. Cut a 20 cm square of dirt, and remove with a trowel. Then have the students take turns examining the different layers of the soil, and identify different items contained within the layers. They should be able to pick out leaves, the fungal hyphae, and the plant roots still contained in the soil. When finished, replace the square from where it was cut.