



# The Classroom Naturalist

## Compost Magic—Now You See It, Now You Don't!



In the Glover Outdoor Classroom, we've set up a composter (the black container located right behind the Farm Garden). In order to teach our students about composting and how important decomposition is, we've put together the following activities.

### The "Dirt" on Decomposition

First of all, what exactly is decomposition (sometimes called rot)? Decomposition is the process of breaking down dead plants, animals, and animal waste (all of which are called organic material) into simpler nutrients. It is the fundamental process on which all life depends. If nothing decomposed, we'd all be buried in garbage. But, how does decomposition happen? Decomposition occurs when bacteria, fungi, and other microscopic organisms that live in the soil, air, and water "eat" or break down organic material, producing basic nutrients. This allows the organic material to be recycled back into the soil. These organisms are nature's recyclers.

Reference: *Project Seasons* by Deborah Parrella.

### The "Rot" Race

In the library, we've set up a sealed aquarium containing a Jack-o-Lantern and an uncut pumpkin. We hope that you'll take your class to observe the pumpkins on a regular basis so your students can see what happens. Some questions to think about:

- Which will decompose faster—the Jack-o-Lantern or the uncut pumpkin? Why?
- How long do you think it will take for each of them to decompose?
- What is causing the pumpkins to "rot"?
- What other things decompose like this?
- Why is decomposition important in nature?

We've also left a few of Glover pumpkins in the Farm Garden to see what will happen with those. Feel free to observe the condition of those pumpkins over time too. Relevant questions:

- Will the Farm Garden pumpkins decompose at the same rate as the uncut pumpkin in the library? Why or why not?
- What will happen to the seeds in the pumpkins outside in the Farm Garden after the pumpkins totally decompose?
- Is there any wildlife in the courtyard that will eat the pumpkins?

There are two books in the Glover library that are great literature tie-ins to these projects.



*Mousekin's Golden House*  
by Edna Miller



*Pumpkin Jack*  
by Will Hubbell

## The Rotten Truth



Another experiment you can do to reinforce the idea of decomposition:

- Give each student a sandwich-size zip-lock bag, and have them put one small piece of each item in their lunch (such as small pieces of food, peelings, a piece of the lunch bag, paper napkins, plastic bags, milk cartons, straws, etc.) into the bag. They can cut up things with scissors if necessary. The only thing that they shouldn't add to their bags is meat, which can cause potentially harmful bacteria to grow.
- Students should record what they put in their bag and note their predictions on what will happen to each item over time. Will it rot? Will it smell bad? Will it stay the same?
- Have each student add a little bit of outside soil to their bag and lightly mist the contents with a plant spray bottle. Then, they can breathe air into the bags and seal the bags carefully.
- Explain that you're going to leave the bags as is for 2-8 weeks. You can store the bags together in one place or put them in places with different conditions (such as in a dark closet, on a sunny windowsill, etc.).
- Observe the bags periodically and have the students record the date and what's happening. Remember—the bags cannot be opened until the designated time is up!
- When the opening date arrives, take the bags outside and allow the students to sort through their bags (after donning rubber gloves). Record the results. How did the students' predictions match up with the results?

Taken from *Project Seasons* by Deborah Parrella.

## The Glover Compost Connection

Decomposition occurs naturally in the forest when leaves fall to the ground and are decomposed by microscopic organisms. This creates a dark, rich soil rich in nutrients on the forest floor. We can take advantage of the decomposition process, by composting organic materials such as fruit and vegetable scraps, raked leaves, and grass clippings. Paper (organic matter originally from trees) can also be composted. After these materials decompose in the composter, the resulting nutrient-rich material is great for use in gardens! However, you need to be careful not to add any meat (it encourages the growth of harmful bacteria) or weeds to your composter.

When you have a chance, take your class out to see what's in our composter in the courtyard. We've been adding rotten pumpkins, branches, etc. See if they can tell what our "ingredients" have been. Classes are invited to add fruit/vegetable material to the composter whenever they like! (**Remember—no meat and no weeds!**)



Two good books on compost that can be found in the Glover library are:



*Compost* by Linda Glaser



*Compost By Gosh*  
by Michelle Eva Portman

## Plant of the Month: Bayberry

Just like people, birds prefer to eat sweet foods (like sweet berries, such as blueberries). But just like your Halloween candy, these berries disappear when the cold weather arrives because the birds have eaten them all! Then birds resort to eating other food sources – bird feeders and more bitter-tasting berries (that are kind of like “spinach” for birds). These bitter berries may not taste as good, but they have lots of nutritional value for the birds and help them survive in the cold winter months.

One type of bitter bird food that we have growing in the Glover Outdoor Classroom is the bayberry bush. Bayberry bushes are vital to winter wildlife. They are tough shrubs that produce gray, waxy berries that the birds eat in the fall and winter. Bayberries are eaten by 86 bird species, including tufted titmice, black-capped chickadees, flickers, robins, finches, and red-bellied and downy woodpeckers. (The berries are not edible for humans.) The wax from the berries can also be used to make bayberry candles. (For more info on bayberries, see the attached reference sheet.)

In the Glover Outdoor Classroom, there are two bayberry bushes in the Hilltop Grove (next to the birdfeeder) and two bayberry bushes on the west side of The Clearing (to your right as you exit the Library). See if you can find them. One of the bushes in the Hilltop Grove has a lot of berries on—a great chance to sniff that great bayberry scent! Also, take a look at the leaves with a jeweler’s loupe or magnifying glass (available in the Outdoor Classroom cart in the library)—you should find that the underside of the leaves are covered with yellowish-green resinous dots. Also look at the berries with the loupes and see if you can find the buds.



There are several other types of berry bushes that grow in our area that are important for winter wildlife. Can you find any? Some may be growing right in your own yard!!! If you need help, go to <http://gloveroutdoorclassroom.home.comcast.net> and look under “Courtyard Plan,” then “Plant List Information.”

**References:** For more information about other native plants in the Glover Outdoor Classroom, go to:

- The Glover Courtyard Plant Habitat Plant Info Sheet Binders on the Teacher Curriculum cart in the Glover Library (right outside Mrs. Henry’s office door).
- [www.enature.com](http://www.enature.com)
- [www.hort.uconn.edu/plants](http://www.hort.uconn.edu/plants)
- *Trees and Shrubs of New England* by Marilyn Dwelley (in the Glover Library)
- *Birdscaping Your Garden* by George Adams (in the Glover Library)

\*Information taken from the National Wildlife Federation web site ([www.nwf.org](http://www.nwf.org)) and from the Connecticut Botanical Society.

**Feedback Needed!** Please help us provide activities and information that will benefit you and the Glover students the most. Let us know what you’d like to see in this newsletter: the types of topics that would be helpful, additional features, etc. Comments are welcome! Call or email us: Margaret Eberhardt (696-3632, [eberhardt\\_bos@msn.com](mailto:eberhardt_bos@msn.com)) and Janet MacNeil (698-7013, [janetmacneil@comcast.net](mailto:janetmacneil@comcast.net)); or drop us a note in the Glover Outdoor Classroom mailbox in the office. Thanks!

Visit us on the web at <http://gloveroutdoorclassroom.home.comcast.net>

Coming Next Month: Winter Solstice Activities