

# Notes From Nanjemoy Creek

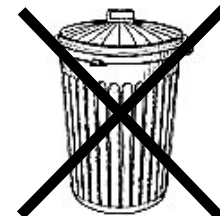
Nanjemoy Creek Environmental Education Center



Charles County  
Public Schools

## Nanjemoy Creek is Going “Trash Free”

Nanjemoy Creek EE Center has made the commitment to go “trash free” for the school year 2014-2015. So, what does it mean to be “trash free”? The phrase “trash free” is a bit of a misnomer. In hearing the term, you may think that NCEEC is trying to produce zero trash. However, that is not the case. Being “trash free” is a mindset and can be thought of as the end goal. It requires a change in thinking. Instead of the garbage can being the first place you go to when encountering a piece of trash, it is now the last place, when all other avenues have been exhausted. If the trash item is inorganic, you first need to ask yourself, “can the item be reused?” If not, then ask, “can I recycle the item?” If the answer to both of those questions is a no, then the item is placed in the trash. If the trash item is organic, you would ask, “can it be composted” before throwing it in the trash. By adopting this change in how we think about trash, NCEEC will reduce the amount of waste produced onsite.



Why try to be “trash free?” As the human population increases, so does our demand for natural resources. Consequently, as more natural resources are used, our production of waste will also increase. By teaching students about waste reduction, we are tying together the Maryland Environmental Literacy Standards (which cover natural resources and sustainability) as well as NCEEC’s theme of environmental stewardship. Our goal is to introduce students to the concepts of sustainability, stewardship and natural resources so they can start thinking about how they can create a sustainable future.

Still not sold on the trash free approach? Did you know.... Americans make more than 200 million tons of garbage each year? Or that...each year, Americans throw away 25,000,000,000 styrofoam coffee cups and 500 years from now, those cups will still be sitting in the landfill! For more eye opening facts about trash, visit <http://www.epa.gov/reg3wcmd/solidwasterecyclingfacts.htm>.



## Waste Not, Learn To Compost!

In recent years, NCEEC has been helping the fifth grade students of Charles County become more aware of the issue that landfills are running out of space and how that impacts the environment. Each year, Americans contribute to the filling of landfills by throwing away over 133 billion pounds of food. To help change this fact, we teach our students various ways to compost their food waste.

Composting is the biological break down of organic materials (like food) which turns waste into a rich plant fertilizer. Old food starts to decay with the help of microbes, heat, air and water. The final stage of decomposition is what some gardeners refer to as Black Gold, because compost is one of nature’s best soil additives. There are many benefits to composting at home. Compost can help condition the soil in your lawn or garden by adding nutrients and helping the soil to retain moisture. Compost is great for the environment because it is a natural alternative to using chemical fertilizers, and it keeps extra waste out of already overburdened landfills.

**Turn to Page 2 for more information about composting.**

## Composting Options

Composting at home can be simple. Find a container that has a lid to place in your kitchen. This is where you can store food scraps during the week; the lid should keep fruit flies out. When the container is full, take it outside and dispose of it in your compost bin. Choosing what type of compost bin or composting system will work for you depends on the needs of your family. To learn more about the various ways to compost, visit the following websites: Charles County Public Works ([www.charlescountymd.gov/pw/environmental/environmental-education](http://www.charlescountymd.gov/pw/environmental/environmental-education)) or Home Composting Made Easy ([www.homecompostingmadeeasy.com](http://www.homecompostingmadeeasy.com)).



At NCEEC, we use four methods of composting. While on site, students get hands-on experience with vermicomposting, Bokashi composting, and tumbler composting. We also make use of bin composting on our site. Our goal is for students to return home and share what they have learned with their families.

### Vermicomposting

Vermicomposting is a great, easy way to turn household food scraps into rich compost. So, what is vermicomposting? A simple definition is the use of worms to convert organic waste into fertilizer. Worms eat a wide variety of organic materials like paper, fruits, vegetables, coffee grounds and yard waste. When choosing what to feed, it is best to avoid meat and dairy as well as processed foods because they can create an odor problem as they break down. Citrus should be used sparingly, because large amounts can become toxic to worms. The scraps need to be in small pieces to make it easier for the worms to break it down. As the worms consume your kitchen scraps, the food passes through their gut and comes out as castings which are rich in nutrients that are readily available for plants to use.



The great thing about this system is that it is easy to set up, requires little maintenance, and, if done properly, doesn't smell. Worms need a moist (not wet), organic bedding in a dark environment to thrive. A little sand (or crushed egg shells) helps the worms digest the food material. The best worms to use are red wigglers. The common earthworm that you find in your garden soil does not work, because it needs to bury itself deeper in the soil than a worm bin can provide. There are lots of resources available on the internet for setting up worm bins from simple to complex. Check out this easy set-up: <https://www.youtube.com/watch?v=jJ3QIZMta98>.



### Tumbler Composting

A more traditional method of composting utilizes a tumbler. A tumbler is a barrel that can be turned. It creates a closed system that can heat the food waste up to a high temperature. The heat speeds along the decomposition process as microbes break down the organic material. Turning the tumbler a few times a week mixes everything evenly together and speeds up the decomposition process by introducing more oxygen into the system. For more information about tumblers, visit the following websites: Planet Natural ([www.planetnatural.com/tumbling-composter/](http://www.planetnatural.com/tumbling-composter/)); Earth Easy ([www.eartheasy.com/compost\\_tumbler.htm](http://www.eartheasy.com/compost_tumbler.htm)).



### Bin composting

Compost bins are generally enclosed on all sides and are open on the bottom so they sit on the ground. If you are using kitchen waste, it is a good idea to have a lid to discourage pests. These bins work well for yard waste. They do require "turning" so having more than one is a good idea. This allows you to "turn" one bin into the next. For more info about bins, visit [http://eartheasy.com/grow\\_compost.html](http://eartheasy.com/grow_compost.html).

## Bokashi Composting



The Bokashi system decomposes food waste by utilizing an anaerobic fermentation process. All food scraps, including meat and dairy, can be placed in an airtight bucket. Each time scraps are added a handful of Bokashi mix, which contains bacteria and organic material, is spread on top. Placing a heavy plate to weigh down the scraps helps encourage anaerobic conditions in which the bacteria thrive. When the bucket is full, the lid is sealed and left for a few weeks to further decompose. When it is finished, it can be buried directly into your garden. For more information on Bokashi, visit the following websites: Bokashi Cycle ([www.bokashicycle.com](http://www.bokashicycle.com)); Time To Recycle ([www.timetorecycle.com/compost/bokashi.asp](http://www.timetorecycle.com/compost/bokashi.asp)).

## Single Stream Recycling in Charles County



Recycling is one of the easiest ways to be “green.” Recycling is nothing new, people have been doing it for thousands of years! It just wasn’t always called recycling. The first curbside recycling program started with paper recycling in Baltimore in 1874. However, it wasn’t until the 1970’s following the first Earth Day celebration when Americans started thinking more about conserving natural resources. Americans began to realize our landfills were filling up and the Reduce, Reuse, Recycle frame of mind started to develop. Flash forward to 2014, and you see recycling has come a long way! You see recycling bins in front of households, shopping centers and malls, gas stations, and many other places. Recycling has become a very important part of our culture. In 2012, the U.S. Environmental Protection Agency reported that 35.5% of our municipal waste was recycled. The state of Maryland has a recycling act that requires all counties under 150,000 people to recycle 15% of the waste they generate (20% for populations over 150,000). In 2012, Charles County recycled 49% of its waste stream.



With the new single stream recycling, we no longer have to separate waste items into separate bins, because it is now done at a Material Recovery Facility (MRF). Single stream saves time and makes recycling easier, however not all recyclable materials can be recycled using the single stream method. In Charles County, the following materials can be recycled through single stream:

*Aluminum and Tin Cans, Glass Bottles and Jars, Plastic Bottles and Jugs (lids and labels are fine), Newspaper, White Paper, Magazine, Glossy Inserts, Telephone Books, Books, flattened Cardboard*

All items placed in the recycling bin should be free of food waste. For curbside collection, items should be placed loosely in the blue recycling bin provided by the county or bagged using clear or transparent bags.

The following items are recyclable, but they must be taken to a designated recycling center:

*Batteries, Electronics (anything with a Plug), Oyster Shells, Scrap Metal (Appliances, Bicycles, Lawn Mowers, Metal Furniture), Residential Scrap Tires, Textiles (Clean Clothing, Linens, and Shoes), Used Cooking Oil, Used Motor Oil and Oil Filters, Antifreeze, Yard Waste (Note: Yard Waste is also accepted curbside in paper bags but not in the recycling cart)*

Plastic grocery store bags can also be recycled but only in special recycling containers found at grocery and department stores typically found by their entrances.

The best way to be green is to simply **REDUCE** the amount waste you generate! For more information about recycling in Charles County, visit <http://www.charlescountymd.gov/pw/recycling/recycling>.






# Nanjemoy Creek Environmental Education Center

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**We're on the Web**  
<http://www.ccboe.com/schools/nanjemoycreek>

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*The mission of Charles County Public Schools is to provide an opportunity for all school-aged children to receive an academically challenging, quality education that builds character, equips for leadership, and prepares for life in an environment that is safe and conducive to learning.*

The Charles County Public School System does not discriminate on the basis of race, color, religion, national origin, sex, sexual orientation, gender identity, age or disability in its programs, activities or employment practices. For inquiries, please contact Dr. Patricia Vaira, Title IX/ADA/Section 504 Coordinator (students) or Pamela K. Murphy, Title IX/ADA/Section 504 Coordinator (employees/adults), at Charles County Public Schools, Jesse L. Starkey Administration Building, PO Box 2770, La Plata, Maryland 20646 (301) 932-6610/(301)870-3814. For special accommodations, call (301) 934-7230 or TDD 1-800-735-2258 two weeks prior to event.

## Wanted.... Decomposers!



mushroom



millipede



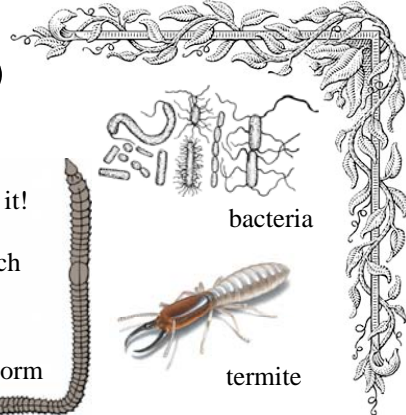
mold



Dung beetle

Imagine a world where nothing that dies breaks down.

It's a dirty job, but they love to do it!



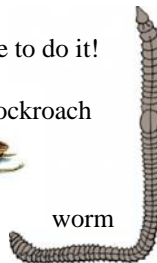
bacteria



cockroach



slug



worm



termite

**Decomposers consume dead plants and animals and reduce them to smaller organic matter.**

## Nanjemoy Creek Fan Club

Would you like to help support the programs and projects that take place throughout the year at Nanjemoy Creek Environmental Education Center? Become a member of Nanjemoy Creek's Fan Club by completing the attached form and including a small, tax deductible donation to our center. Your donation helps us keep our program up to date with the latest advances in environmental education and supports care for our raptors and bees. In return for your support, you will receive our newsletter to keep you informed about what's happening at the center.

### I have included a donation of

\_\_\_ \$25, \_\_\_ \$50, \_\_\_ \$100, \_\_\_ other

to support NCEEC's environmental education programs for Charles County Public School students.

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Newsletter: (circle one) email notification paper copy

email: \_\_\_\_\_

**Please make checks payable to "Charles County Public Schools"**

Mail to: Nanjemoy Creek Environmental Education Center  
5300 Turkey Tayac Place, Nanjemoy, MD 20662

*Thank you for your donation!*