



Waste Reduction Education Teacher Newsletter



WASTE TRAC – THE EDUCATION TEAM FOR THE BLACK HAWK COUNTY SOLID WASTE MANAGEMENT COMMISSION



FREE Outreach Programs for Schools



Greetings Teachers!

True or False:

Over 4.88 million tons of waste has been buried at the Black Hawk County Landfill since July of 1975. The answer is **True**.

To reduce the amount that is headed for disposal, children must first understand **what** items are made of and **where** those **natural resources** come from before we can move onto conservation of those same resources! Is your class studying natural resources, doing a reduce, reuse or recycle unit, or would you like an activity for Earth Day? Invite the *Waste Trac Education Team* into your school for a **free outreach program!**

In addition to posting a list of classroom offerings on our website, a newsletter is sent out to remind schools that our programs can help your students meet their academic goals by addressing various science and social studies standards and benchmarks. New this year—we are also helping schools with on-site waste audits (see pg 4 for more details).

Waste Trac History: The Black Hawk County Solid Waste Mgmt. Commission is a five person board that oversees the operation of the county landfill and funds an education team that serves all schools (public and private) in Black Hawk County. In 2005, the name *Waste Trac* was given to the education team. *Waste Trac* is a partnership between the

commission and the Black Hawk County Conservation Board.

Two educators travel within Black Hawk County to provide solid waste programs at **no charge** to schools and youth groups. Waste Trac staff are housed at Hartman Reserve Nature Center in Cedar Falls, so *Waste Trac* programs can be done during a visit to the nature center, at your school, at a local park, or at the landfill. Look through the list of classroom activities and fieldtrips that we offer and give us a call/email to schedule your free program! Our calendar fills up quickly for spring dates, so call soon to reserve a time for your class!

Lyndsey Anderson
& Tammy Turner



Young scientists examine compost to find our wiggly garbage eating redworms!



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Contact us for Landfill Tours, Fieldtrips, & Outreach!



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Waste Reduction Education

Education programs for ages Preschool – Adult



Visiting a recycling station.



Garbage-eating redworms!



It's our green-caped hero, Michael Recycle!



First graders on a tour of the Black Hawk Co. Landfill.



This landfill compactor weighs more than 12 African elephants!

Activities are listed in a general order, from those suited to preschool up to high school students and adults. Most programs can be adjusted for a specific grade or to cover certain standards and benchmarks. Just let us know and we can customize the activity for you!

All programs are offered at no cost.

Schedule as many as apply to your curriculum. In order for our 2 person team to reach the various public and private schools in Black Hawk County, classroom visits during the month of April will be limited to **3 per teacher**.

Vermicomposting (Composting with Redworms) (All ages)

Learn how we put redworms to work eating our fruit and vegetable scraps! We will bring our worm bin into your class and show how our worms can recycle food scraps. A puppet show is available for students PreK – 1st, while older students will work in groups at different worm activity stations. Middle School/High School version also available. 30- 45 minutes.

Where Does Your Garbage Go? (PreK – K)

Mr. Gilly in the story, *Trashy Town*, likes to “dump in it, smash it down, and drive around the trashy town”. The group will discuss the basics of trash collection and the students will see pictures of how their local garbage is smashed at the county landfill. After the story, the students will model the activities in the book and complete a worksheet. 30- 45 minutes.

Garbage Monster (PreK – 1st)

We will read the story, *Garbage Monster* and then learn how to remove trash from the garbage monster by composting, recycling, and reusing. 30 minutes.

Michael Recycle (PreK - 1st)

It's a bird, it's a plane, it's a green-caped crusader! After the story *Michael Recycle*, the students will wear their own green super hero capes and fly across the room to recycle household items (such as cans and bottles) into simple categories. 30- 45 minutes.

The Before and After Recycling Magic Show (PreK - 1st)

Many of us are watching our waste and recycling, but are still curious as to what happens to our recyclables after we put them in the recycling bin. The students will do a short sorting activity and then watch the magic show. The kids will learn what milk jugs, steel cans and newspaper collected in city recycling programs are transformed into. 30- 45 minutes.

Give a Cheer For Reuse! (1st – 3rd)

After reading the *Old Red Rocking Chair*, students will be able to distinguish the difference between reusing an item and recycling it. Reused items will be repurposed into games for the students. 30- 45 minutes.

What Are Things Made Of? (1st – 3rd)

Yes, we get items at the store, but which resources are used to make everyday items? After reading, *What Cried Granny, an Almost Bedtime Story*, the students will be able to match up the resource to the end product. 30 minutes.

Picnic Activity (1st – 4th)

This active program will get kids hopping on a picnic blanket, sorting out items from the picnic that are disposable, durable or compostable. We will also talk about how to pack a low-waste lunch. 30- 45 minutes.

Guided Landfill Tours (1st and up)

Visit the Black Hawk County Landfill to learn about the environmental protections that are put in place during the construction of a waste cell. We will visit the small loads facility and hike to the cell to watch garbage trucks unload. 45- 60 minutes.

Fieldtrip



Lunch Recycling Program (1st and up)

During a trip to Hartman Reserve Nature Center, students will be asked to examine the waste created at lunch time. Can any of it be recycled or composted? Students will sort from their individual lunches. 30- 45 minutes, including eating time.

Fieldtrip

Water Bottle Tales (1st and up)

Plastic has invaded our everyday life, but do students know what resources are used to make bottles, lids and bags? Through reading the story *The Adventures of a Plastic Bottle*, students will learn how plastic is made. Then we'll stretch out a water bottle chain to visualize how many plastic bottles the average American uses and how few of those bottles are recycled each year. Lastly, we'll share all of the amazing products (such as teddy bears and fleece mittens) that can be made from plastic bottles- if we recycle them! Middle School/High School version also available. 30- 45 minutes.



On this water bottle chain, how many will actually get recycled?

Everything Comes From Something (2nd – 4th)

In this program, students will learn that everyday products started as earth ingredients. After reading the story *Agatha's Feather Bed; Not Just Another Wild Goose Story*, students will learn what glass, steel, and other products are made from. 30- 45 minutes.

Adventures with Redworms (2nd – 4th)

After reading the story *Compost, My Gosh* students will understand the basics of setting up an indoor worm compost bin. Students will search through the worm bin to find redworms, cocoons, and the various food scraps that make a harmonious worm composting bin. 30- 45 minutes.



Redworms have segments?

Character Counts; Squash Litterbugs! (2nd – 5th)

Being a good citizen means doing your share. Kids of character know that part of being a good neighbor is to put litter in its place. We will read the story, *The Wartville Wizard* and then conduct a litter cleanup on school grounds or a nearby park. 45- 60 minutes.

Waste Race (2nd – 6th)

Students learn to classify items common to local recycling programs and backyard composting. Students will then participate in a relay race to sort and place (clean) waste items in the appropriate recycling or composting bins. 30- 45 minutes.

Mini Recycling Center (3rd and up)

Students will use their imagination and get to work sorting recyclables on our portable table-top recycling unit. Our kid-powered conveyor can be brought to your classroom to simulate how recyclable materials are sorted in a recycling facility by both humans and magnets. We'll discuss how these materials are baled for market and the possible products that they are transformed into. Middle School/High School version also available. 30- 45 minutes.



Can your students keep up with the cans, bottles and paper on the conveyor belt of the mini recycling center?

Go Green! Scavenger Hunt (3rd and up)

The *Gene and Betty Buckles Program Center* at Hartman Reserve Nature Center is dedicated to promoting a better understanding of our environment through environmentally friendly practices. This example of "Green Building" minimizes the use of natural resources and the amount of energy needed for its creation and use. Students will explore the building to learn about many of the recycled, reused, and energy efficient products found throughout. Middle School/High School version also available. 45- 60 minutes.

Fieldtrip

Landfill Model (4th and up)

The *Enviroscape* 3-D model demonstrates how modern sanitary landfills differ in operation compared to the trash dumps of the past. We'll also discuss how the Black Hawk County Landfill is designed and how water monitoring and the leachate collection system are in place to protect groundwater. Middle School/High School version also available. 30- 45 minutes.



These students have transformed into Romans, colonists, barnyard animals, factory owners, scientists, and gardeners during the Throw-away Society Skit!

Throw-away Society Skit (5th - 8th)

Through a group reading activity, students will learn how humans have dealt with garbage throughout history. We'll make a few props and costumes, get into character, and put on our read-along skit. After the skit, the students will offer their predictions for how solid waste will be managed in the future. 60 minutes.

Green Shopping (5th and up)

There are many choices to make at the store, but during this activity we'll look for environmentally friendly products at our pretend retail store. What is the packaging made from? Is the packaging recyclable? Are the products toxic? Are the products energy efficient? Students will also learn about renewable vs. nonrenewable resources while rotating through stations set up in the classroom. Middle School/High School version also available. 45- 60 minutes.

Life in the Compost Bin! (Upper Elementary, Middle School, High School)

Complete with costumes, students will act out the various creatures and ingredients that are necessary for a healthy backyard compost pile. Students will learn that a compost bin is an ecosystem in itself, full of predators and prey. They will learn that gardeners use a compost recipe and aim for a balance of greens (Nitrogen) and browns (Carbon). 45- 60 minutes.

Green School (5th and up)

Working in groups of three or four, the students will search a *Where's Waldo* type poster to find positive changes that a fictitious school has made to "go green". Students will search the various rooms and grounds of the campus for examples such as recycling, rain gardens, composting, reusable trays, recycled-content paper, and carpet made from pop bottles. 45- 60 minutes.

Virtual Landfill Tour (Upper Elementary, Middle School, High School)

Want to learn about the landfill, but don't have the time or bus funds to visit? Invite Waste Trac to visit your school to present a PowerPoint to learn the 5 leading categories of garbage headed to Iowa landfills, how a landfill is constructed, and how landfill compactors are now using GPS to crush the waste. See photos of the small loads area, scale house, and landfill cell. Current disposal rates, banned items, and appliance & tire recycling will also be discussed. Middle School/High School version also available. 45- 60 minutes.

Cedar Valley Waste Tour (6th and up)

Fieldtrip

Middle and high school students will learn where both their solid and sewer waste ends up. On this fieldtrip, students will visit the Black Hawk County Landfill, waste water facilities of Waterloo or Cedar Falls and a local recycling processor to see how various types of wastes are managed in the Cedar Valley. The Waste Trac Education Team will make all of the site-related arrangements for the tours; teachers will need to arrange school permission slips and busing. All students must wear close-toed shoes (no sandals). The fieldtrip can include two or three tours, depending on the amount of time your group has available. 2- 3 hours.



Critters in the Compost!



Bales of recycled materials at a local recycling facility.

Want to Start a Recycling Program at Your School?

During the fall of 2012, Waste Trac worked with the 7th grade Service Club students at Maria Assunta Pallotta Middle School to develop a school recycling plan. The program was such a success that Waste Trac is offering those same educational services to any school in Black Hawk County. So whether you need help with a recycling plan or want to do a waste audit, give us a call!

As part of the Blessed Maria project the students sorted garbage during two waste audits. The students geared up with gloves, tarps, and scales, then compiled their data. Waste Audit #1 showed that 45% of the overall trash at the school was recyclable, while Audit #2 resulted in a recycling rate of 49%. Next, the school purchased recycling bins and recycling signs were designed by students. To kick start the recycling program, the 7th grade students presented an assembly to the entire middle school. They showed pictures of their waste audits and landfill tour, designed recycling games, and presented their plan to the school. A few months have passed and Blessed Maria reports that their 25+ recycling bins are working great. Each home room is responsible for emptying their bins, while clean-up crews help with recycling in the common areas of the school. Please contact the Waste Trac Education Team for assistance with starting a similar sustainability project at your school!

Waste Trac Education Team

Free Outreach for:

**Private & Public Schools, Preschools, Head Starts,
Home School Groups, Youth Groups, Civic Groups,
Community Colleges, & Universities**

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