

Background for Teachers

Greensboro has had a curbside recycling program in partnership with ReCommunity (your local recycling center) since 1993. It is one of the oldest single stream recycling programs in the country! Greensboro and ReCommunity want to get the word out on recycling and provide updates on the most recent recycling changes. In this unit packet, you will find useful information that your students can use in the classroom and at home, activities that are pertinent to the Greensboro recycling program, and all sorts of fun stuff you can do in your classroom to promote recycling and help keep the "green" in Greensboro.



Pre-K Recycling Unit

Provided by the City of Greensboro

Students will understand the importance of recycling and be able to take the classroom concepts into their homes and communities.



SUBJECTS:

Science and Social Studies

SKILLS:

Identifying, observing, comparing and contrasting, classifying and categorizing

TIME CONSIDERATIONS:

Depends on activities chosen

PURPOSE:

To give Greensboro educators a comprehensive packet of materials that allows them to teach and encourage recycling in the classroom

VOCABULARY:

Recycle
Reduce
Reuse
Repurpose
Paper
Plastic
Metal
Glass
Recycle Center
Recycle Bin



What is Recycling?



WHAT IS RECYCLING?

At its very core, recycling is “taking something old and making it into something new.” This means anything from taking your empty aluminum drink cans (that can be back on the shelves as new cans in 60 days) to plastic bottles that can be processed here in the Triad and turned into textiles like T-shirts.

OTHER COMPONENTS OF RECYCLING INCLUDE:

REDUCE

Reduction is a very important part of recycling. It means using less of something. If you get one candy bar at the store, you don't need a plastic bag to hold it. That is reducing, using fewer plastic bags.

REUSE

Reusing means giving something a second life (or third or fourth) by using it again. The plastic bag, that your groceries came home in, can be used again as a liner for the trashcan in your bathroom.

REPURPOSE

Taking something and giving it an entirely new life as something else. For example: you can take an old t-shirt and turn it into a reusable shopping bag. This lets you repurpose, and also reduce by using fewer disposable shopping bags.

Here in Greensboro, we participate in the “Your Bottles Mean Jobs” campaign. More than 70% of plastic bottles are not recycled in North and South Carolina. If every household recycled just two more bottles a week, it would create more than 300 jobs a year. ***That alone is a reason to recycle more!***



SO IF EACH HOUSEHOLD IN THE CAROLINAS RECYCLED JUST 2 MORE BOTTLES A WEEK



THAT WOULD MEAN WE ARE \$10 MILLION BETTER OFF AND WE HAVE POTENTIALLY CREATED

300 NEW JOBS
IN THE PLASTICS RECYCLING INDUSTRY

Recycling Guide

This is a copy of the Greensboro Recycling Guide, it can be requested for free in poster and postcard form with as many copies as you need for your students and classroom(s). Email recycle@greensboro-nc.gov if you would like to request posters and guides.



Recycle First. It Matters.

PAPER

PLASTIC

METAL

GLASS

RECYCLING DROP-OFF LOCATIONS

Fire Station #2
5107 North Church St.

Fire Station #7
1064 Gatewood Ave.

Fire Station #14
3633 Summit Ave.

Fire Station #17
6405 Old Oak Ridge Rd.

Fire Station #19
6900 Downwind Rd.

Fire Station #20
8404 West Market St.

Fire Station #21
2870 Horse Pen Creek Rd.

Fire Station #41
4504 Lake Brandt Rd.

Fire Station #43
4854 Lake Jeannette Rd.

Fire Station #48
1400 West Vandalia Rd.

Fire Station #61
105 West Vandalia Rd.

Gillespie Golf Course
306 East Florida St.

Grimsley High School
801 Westover Terrace

Gulford County Cooperative Extension Services
3309 Burlington Rd.

Hester Park
3615 Deutzia St.

Jaycee Park
3110 Forest Lawn Dr.,
off Pisgah Church Rd.

Lindley Elementary School
2700 Camden Rd.

Reconsidered Goods
2805 Patterson St.

Smith High School
2407 South Holden Rd.

Windsor Community Center
1601 East Lee St.

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THE BIGGEST CHANGES TO THE GREENSBORO RECYCLING PROGRAM:

- Used pizza boxes can be recycled
- Tops of all plastic bottles (including detergent bottles) should be left ON
- Juice and milk cartons can be recycled
- Lids of glass containers should be taken OFF
- Bulk plastic items like buckets are accepted
- Do NOT recycle plastic bags, these are to be taken to participating retail stores

Poems, Books, and Songs



Recycling Books for the Classroom

The Adventures
of a Plastic Bottle:
A Story About
Recycling
by Alison Inches

Michael Recycle
by Ellie Patterson

Why Should I
Recycle?
by Jen Green

One Plastic Bag:
Isatou Ceesay
and the Recycling
Women of Gambia
by Miranda Paul

My Little Plastic Bag
by Sam Love

POEMS

Haiku:

Recycling fun,
Happens in home, school and play,
Make sure you take part.

Recycling Poem:

Paper, Plastic, Metal, Glass,
Toss it in the bin with class.
Every time you do your part,
You're making sure to recycle smart!



SONG

Recycling For Our Earth
(Sung to: "Mary Had a Little Lamb")

Adapted from: <http://www.everythingpreschool.com/themes/recycling/songs.htm>

Hear the paper go crinkle, crinkle, crinkle
crinkle, crinkle, crinkle, crinkle, crinkle, crinkle
Hear the paper go crinkle, crinkle, crinkle
Recycle for our earth

Hear the plastic go crackle, crackle, crackle,
crackle, crackle, crackle, crackle, crackle, crackle,
Hear the plastic go crackle, crackle, crackle,
Recycle for our earth

Hear the cans go crunch, crunch, crunch,
Crunch, crunch, crunch, crunch, crunch, crunch,
Hear the cans go crunch, crunch, crunch,
Recycle for our earth.

Hear the glass go ding, ding, ding
Ding, ding, ding, ding, ding, ding,
Hear the glass go ding, ding, ding
Recycle for our earth.

The following motions are to be used in the song:

Hear: hold hand cupped to ear

Crinkle: pretend to ball up paper in both hands with a clapping sound

Crackle: make claws with both hands

Crunch: make hammering motions

Ding: make a bell ringing motion

Recycle for our earth: hold hands over head in a circle

Recycle in the Classroom

OVERVIEW & PURPOSE

To encourage the concept of recycling and discover where recyclables come from through acting and pretend play

OBJECTIVE

To help students take the concept of recycling home with them

MATERIALS NEEDED

1. Empty plastic water and soda bottles
2. Empty or pretend metal cans
3. Empty laundry detergent bottles
4. Other pretend recyclable materials
5. A real recycle bin
6. A pretend recycle bin
7. Greensboro recycling education materials



ACTIVITY

Activity that will reinforce the lesson

For the duration of the time that recycling is being talked about in the classroom, have the recycling bin take center stage in the classroom and give ample opportunities for items to be recycled (for example, paper that has been doodled on, and bottles that are empty after snack).

In pretend play, make sure that recyclable items are available for students. These items should not just be in the kitchen but also items that would be found in other parts of a residence, such as a bathroom (shampoo and lotion bottles) and a laundry room.

SAFETY CONSIDERATIONS

No glass. Be careful of sharp metal edges. Make sure that all containers are empty and clean.

VERIFICATION

Steps to check for student understanding:

Have teachers check pretend play recycling bin to see if concept is being understood

Reduce, Reuse, Recycle

GENERAL BACKGROUND

Time: 15-20 minutes for lesson

- Craft time depends on child - this may take longer depending on scissor skills and how many children are working on it at a time. This would be a good one-on-one project.

PRE-K LESSON PLAN

Prepared by Laura McCoy & Tori Carle

OVERVIEW & PURPOSE

Reinforce the points in a child friendly way that you can:

1. Reduce -use less of something
2. Reuse - use something more than once or in a new way
3. Recycle - turn something old into something new

OBJECTIVES

1. Have children understand basic materials that can be recycled in Greensboro and Guilford County.
2. Have children understand what NOT to recycle and why.
3. Have them leave with a general idea of what they can do with the "3 R's".

MISCONCEPTIONS ADDRESSED

- That anything with a number is recyclable
- That lids need to come off
- That just because it is plastic/metal/paper it is recyclable
- That not everything has to be "one and done"
Example: plastic grocery bags can be recycled at the grocery store, but they can also find a second life as a trash can liner or as a bag for picking up dog waste. This means they are no longer recyclable, but this second use keeps them out of the waste stream a bit longer.
- That reducing waste doesn't mean the impossible or a trash free household.
Instead of buying lots of plastic water bottles, why not have one reusable water bottle and fill it up at the sink many times? This keeps plastic bottles out of the waste stream, saves you money and is a great example of conserving resources.

MATERIALS NEEDED

1. (Recycle) Examples of recyclable and non-recyclable materials
2. (Reduce) Examples of ways to reduce (refillable water bottles, reusable lunch bags)
3. (Reuse) Plastic utensils that can be used more than one time
4. For craft:
 - Old t-shirts
 - Acrylic paint
 - Permanent marker
 - Scissors

Reduce, Reuse, Recycle

ACTIVITY 1: TALKING ABOUT RECYCLING

INTRO

What is Waste?

WARM UP

Trash vs. Recycling

What is trash? Where does trash go?

- Discuss the difference between trash and recycling.
- Show pictures of a landfill. This is where trash goes.
- When the big trucks come to your house, they don't just make the trash disappear.

Does anyone clean their room? How do you clean? (Put clothes in the closet or drawers, put toys in their place, etc). What if you took all the stuff that is not where it belongs and put it under your bed? Where would it go? (Stay under bed). The next time you cleaned your room, you do the same thing. You keep doing this over and over. What happens to the stuff? (stays there, doesn't go anywhere) Soon, you will have a LOT of stuff under your bed. That is what a landfill is like. We take the trash, dump it out, cover it with dirt, then put more trash and dirt, and more trash and dirt...Trash is buried at the landfill, but recycling is made into new things and does not go into a landfill.

Why do we recycle?

What is reducing? Using less of something

- Examples: not getting a new lunch box if nothing is wrong with your old one. Not getting new shoes just because you want cooler ones. Not replacing something good with something else just because you feel like it.

What is Reusing? Using something more than one time

- Examples: using both sides of a piece of paper. Using the same cup a bunch of times. Using a food storage container instead of lots of plastic bags.

What is recycling? Turning something old into something new!

Brief introduction to life cycle of goods:

Paper—recycled—>sorted—>turned into pulp—>becomes new paper goods

Metal—recycled—>sorted—>melted—>becomes new metallic goods

Glass—recycled—>broken—>sorted—>becomes new glass goods

Plastic—>recycled—>sorted—>chopped up into flake—>melted down into resin—>extruded into fiber—>becomes new textile goods

Reduce, Reuse, Recycle

Things you **CANNOT** recycle!

Plastic bags!

- They get tangled up in the machinery at the recycling center.
- Plastic bags should be taken to local store collection bins to be recycled.

Anything that is food!

- This is sticky and icky and messes up the other recyclables

Anything tangly

- This means ropes, hoses, holiday lights and wires
- This stuff does the same things as bags and can cause damage

Do you want to recycle more? Why? What is recyclable in your classroom?

ACTIVITY 2: MAKING A T-SHIRT BAG

Adult supervision is necessary, but this will reinforce scissor and fine motor skills, help reinforce concepts of reducing and reusing, and make a good Mother's Day present as well.

This bag is a great example of reducing and reusing. You are repurposing (reusing) a t-shirt that you aren't wearing anymore, and reducing the number of plastic bags you need. It can be put in the wash just like a normal t-shirt so it can be used over and over again for anything from groceries to dirty sneakers!

HOW TO

1. Set the T-shirt on a flat surface.
2. Cut out the binding seam from the base. Retain this, as we will use it later!
3. Now, fold the T-shirt in half vertically.
4. Cut around the collar in a nice deep semi-circle.
5. Next, cut the sleeves a little away from the shoulder seam, towards the collar.
6. Open it up. Your T-shirt should ideally look like a neat tank-top!
7. Now turn the 'tank' inside-out.
8. Gather the base of the tank into a bunch and tie it with the binding seam that was cut out in step 2. Make sure you tie it tight, preferably in a double knot.
9. Now, turn this arrangement inside-out again to make the bag right-side-out.
10. Decorate with paint and handprints, and now you have a unique bag for each student!



Recycling Basics

K-2 LESSON PLAN

Prepared by Laura McCoy

OVERVIEW & PURPOSE

Promoting Recycling in the Community

What is recyclable, what is not?

Discover the basics of what paper, plastic, metal and glass items are recyclable here in Greensboro. Students will hear, see and feel different recyclable and non-recyclable items and use their senses to help determine what is or is not a program material. They will also walk away with information and resources that will help them take proper recycling practices home and into their communities.

EDUCATION STANDARDS

1. PreK: identifying, observing, comparing and contrasting, classifying and categorizing
2. Kindergarten: K.P.1, K.P.2, K.L. 1.2, K.G.2, K.C&G.1, CCR Anchor Standard RL.7, CCSS.MATH.CONTENT.K.CC.B.4, CCSS.MATH.CONTENT.K.CC.B.5
3. First Grade: 1.E.2, 1.G.2, 1.E.1,
4. Second Grade: 2.P.2, 2.G.2

OBJECTIVES

Participants understand appropriate materials in the Greensboro recycling program:

1. Paper
2. Plastic
3. Metal
4. Glass
5. Participants take accurate information to home and communities
6. Increase enthusiasm for recycling

VERIFICATION

Steps to check for student understanding

1. Sign language check of paper, plastic, metal, glass
2. Verbal quiz for comprehension

ACTIVITY

Activity that will reinforce the lesson

1. Using tangible materials teach students through touch, sound, and sight what is recyclable and what isn't.
2. Have them use deductive reasoning about where an item is found in the house (i.e. cereal boxes in the kitchen, cat food containers in the pantry, laundry detergent bottles (HDPE) in the laundry room)
3. Focus and emphasis on what isn't recyclable (Styrofoam, chip bags, napkins and straws)
4. What you can do when there isn't a receptacle around

Recycling Basics

5. Brief introduction to life cycle of goods:

Paper—recycled—>sorted—>turned into pulp—>becomes new paper goods

Metal—recycled—>sorted—>melted—>becomes new metallic goods

Glass—recycled—>broken—>sorted—>becomes new glass goods

Plastic—>recycled—>sorted—>chopped up into flake—>melted down into resin—> extruded into fiber—>becomes new textile goods

6. Use deductive reasoning for what isn't recyclable and why that may be

Have participants either mime the goods themselves or their lifecycles for tangible reinforcement and to cater to other learning styles

ASL: Signing activity – these are the American Sign Language signs for paper, plastic, metal and glass.

PAPER	Sweeping right hand back twice on open left palm.
PLASTIC	Grab all 4 fingers of the left hand with right hand and wiggle back and forth 2x.
METAL	Hooked right index finger (like letter x) and sweeping motion under chin from throat 2x.
GLASS	Pretend to tap top teeth 2x with right index finger

INFORMATIONAL NOTES FOR TEACHERS

Reduce. Buy and use fewer resources. This is the most effective form of waste prevention, but in many ways it is also the hardest. Think before buying. In our consumer-oriented society, there is a tremendous push to keep up with the newest technology, but do you really need the latest computer or mobile phone upgrade? Focus on purchasing items that are durable, well made, and have multiple uses. Some consumerism is justified; often it is good for the economy and in some cases, the environment. For example, replacing an old refrigerator with a new, energy-efficient model.

Reuse. Before disposing of items, consider whether there might be life left in them. Broken items can often be fixed, and older items can be used for a different purpose. Worn-out t-shirts, for example, make great dust cloths, and an old stepladder can be turned into a plant stand. Moreover, an outdated computer can be upgraded. You can help those in need by donating to organizations such as Goodwill or the Salvation Army, or earn extra cash selling items through online sites such as eBay or Craig's List.

Recycle. With nearly 9,000 curbside recycling programs across the country, recycling is easy and often it is free. That is probably why it is the most familiar and widely adopted of the three R's. In some areas, the rules governing the types of materials that are acceptable for recycling are less than straightforward, which makes recycling more difficult. Despite this, recycling is essential in preventing waste and conserving resources. Moreover, it is equally important to buy products made from post-consumer recycled materials.

Recycling Facts!



- Recycling is the process of turning used waste and materials into new products. This prevents potentially useful materials from being wasted and reduces energy use and pollution.
- Recycling is part of the waste disposal hierarchy - Reduce, Reuse, Recycle.
- A wide variety of different materials can be recycled, including paper, plastic, glass, metal, textiles, and electronic equipment. You just have to make sure you are putting it in the right place.
- The idea of recycling isn't something new, historical evidence shows that humans have been recycling various materials for thousands of years.
- There are different methods of waste collection. These include drop-off centers (where waste materials are dropped off at a specified location), buyback centers (where certain materials are exchanged for money), and curbside collection (where recycling vehicles pick up waste material intended for recycling along residential streets).
- Powerful magnets are used to sort through different types of metals.
- Recycled paper can be made from three different types of paper; mill broke (paper scrap and trimmings), pre-consumer waste (paper that was discarded before consumer use), and post-consumer waste (paper discarded after consumer use, such as old newspapers).
- Recycling plastic is more difficult than other materials, and plastics are not typically recycled into the same type of plastic.
- Recycling old aluminum uses only 5% of the energy used to make new aluminum.

- Aluminum can be recycled from cans, bicycles, computers, cookware, wires, cars, planes and other sources.

- Glass recycling is often separated into colors because glass keeps its color after recycling.



From: <http://www.sciencekids.co.nz/sciencefacts/recycling.html>

In the Bin Recycling Game

GENERAL BACKGROUND

This game is a take on the classic Captain is Coming which is like a combination of Mother May I, Memory and Simon Says.

INTRO

The object is to teach participants about The Three R's and recycling through interactive play. The participants should play through the motions working together individually and as teams to complete the tasks given to them.

KEY INFO

Can be played on a fairly large flat space

Groups of 10 or more, can accommodate ages 3-adult

GAMEPLAY

Before you start:

- Have players spread out at least fingertip width apart in a space large enough for movement.
- They all need to face the same direction and face the caller (who is facing them)
- If out of bounds need to be marked, make them clear before gameplay starts
- Facilitator needs to review commands and have willing volunteers to give examples of how to do the motions. This game can seem confusing at first, but is very easy to pick up quickly.

RULES

The general idea of the game is that a set of commands (outlined below) are explained to players, then during gameplay a command is called to the players, and they must complete it. If they do not, or they complete the wrong command, they are eliminated from regular gameplay and become a judge to be on the lookout for infractions of other players.

The winner is the last participant standing or whoever is deemed a winner at the discretion of the caller.

The crux of the game is a motion called "In the bin." At this command, all players are to stand at attention with arms at their sides. They can't move until the command "on the shelf" is called. This is the equivalent of "at ease." If a move is called while "in the bin" is still in play, and a child moves, then they are out of regular gameplay and become a judge.

FACILITATOR NOTES

- For younger groups, the fewer commands participants have to remember the better.
- The number of commands used is at the discretion of the facilitator, but it is suggested to use at least a few of the ones requiring multiple players so that the game progresses quickly and players are eliminated from active gameplay at a more steady rate, otherwise the game can get very lengthy.
- The duration of the motions is at the discretion of the facilitator. If children are enjoying being tanglers, let them do that for a minute, or if the shopping dance gets wiggles out, let it ride.

In the Bin Recycling Game

KEY COMMANDS (YOU MAY PICK AND CHOOSE, ONLY THE ONES WITH AN * ARE CRUCIAL FOR GAMEPLAY)

COMMAND	# OF PEOPLE	ACTION
In the Bin*	1	participants stand at attention with their arms at their sides, not moving
On the Shelf *	1	at ease, participants can move freely, this is the only thing that allows them to move after “in the bin” is called
To the Landfill	1	participants run to the left (Landfill=Left)
To the Store	1	participants run to their right
Reduce	1	participants squat down into small balls
Reuse	2	participants get into pairs, one participant on the ground hands and knees the other with a knee on the back, hand on the hip, looking out (Captain Morgan style)
Recycle	3	participants get into groups of three, elbows interlocked all facing outwards
Repurpose	4	four participants get together front to back in a line with hands on shoulders
Paper	1	participant stands with arms and legs spread wide looking as “flat” as possible
Plastic	1	participants stand with arms over their head in a triangular shape like the neck of a bottle and then spin in place
Metal	1	participants stand with their arms in front of them making a circle (think like you are mimicking a basketball goal)
Glass	1	participants stand and hold arms out, elbows bent up, and hands pointing in towards ears (think the “field goal” motion, with the hands pointed in towards your head)
Tangler	1	participants get on their backs waving their arms and legs in the air (think a stuck beetle)
Litter Pick-up	2	one participant stands with arms in a circle in front of them (like they are holding an invisible trash can) the other reaches down and picks up invisible litter to put in the can
Recycle Truck	3	three participants get back to back in a squatting position, with one “driver” and two people “dumping” recycling
Recycle Cart	2	(only for appropriate ages) a pair of participants stands front to back and the one in front leans back at an angle while the other holds them up by the shoulders (like how you tip a recycle cart back in order to roll it)
Recycle Center	5	five participants stand shoulder to shoulder and motion pulling things off of a conveyor belt
Shopper	1	participant does “the shopping cart” pretend to roll a cart through a store and get things off the shelf and put them in the cart

In the Bin Recycling Game

FURTHER READING

(information behind the game and why the commands are what they are)

- In the Bin* - this literally means in the recycle bin. This is a place of possibility. This is where objects go in the next step of the cycle. They may go on to make new things, they may get pulled out to be repurposed, or they may serve as a reminder to use less of something. The recycle bin is where the process starts. Without it, we don't have recycling.
- On the Shelf* - a lot of things that get recycled actually end up back on the shelf where they came from. Consumerism is what drives recycling and buying things from stores is where it all starts. Whether it is stuff for your kitchen, bathroom, or laundry room, a lot of the stuff you get off of shelves is recycled and ends up back on them. An aluminum can, when recycled, can be back on the shelf within 60 days.
- To the store - much like "on the shelf" the store is where we get a lot of the items that are (and are not) recyclable. We don't recycle trees and plants like you do an item that you buy at a grocery store.
- To the landfill - not all items can get recycled. What is not recyclable, or what is not recycled actually ends up at a landfill. That aluminum can that got back on the shelves in 60 days, had it gone to the landfill, could take more than 500 years to break down!
- Reduce - Reduction is a very important part of recycling. It means using less of something. If you get one candy bar at the store, you don't need a plastic bag to hold it. That is reducing, it is using fewer plastic bags.
- Reuse - Reusing means giving something a second life (or third or fourth) by using it again. That plastic bag that your candy bar came in can be used again as a liner for the trashcan in your bathroom.
- Recycle - This is, at its most simple form, taking something old and turning it into something new. Reduce, reuse and repurpose are all part of recycling.
- Repurpose - This element of recycling is taking something and giving it an entirely new life as something else. For example: you can take an old t-shirt and turn it into a reusable shopping bag. This lets you repurpose, and also reduce by using fewer disposable shopping bags.
- Tangler - This is lingo for tangly things that go into the recycling that should not. This can be anything from plastic bags, to wires, hoses and rope. When these go to the recycling center they can get wrapped around parts of the sorting machines and cause lots of damage.

In the Bin Recycling Game

- Paper - this is one of the main things that you can recycle! This can mean office paper, magazines, newspaper, cardboard and even old pizza boxes.
- Plastic - plastic is one of the most popular recyclables! You can recycle everything from soda bottles to detergent bottles, old buckets, and clear takeout containers! Just remember to keep the lids on those bottles.
- Metal - metal recycling has been popular in the US since the Revolutionary War! You can reuse it thousands of times in all sorts of forms. You can recycle everything from aluminum foil to drink cans, to food cans and even cooking pots!
- Glass - Glass can be recycled infinitely! This means that as long as you keep recycling those glass jars or bottles, they can keep being made into new glass jars and bottles for the rest of forever!
- Recycle Truck - how do recyclables get from your bin to the recycle center? In trucks of course, hardworking recycle truck drivers get them there.
- Shopper - We the consumers are who are buying all this stuff to put in our bin.
- Recycle Center - This is where all of these recyclables go to get sorted and hard working individuals sort out paper, plastic, metal and glass; often by hand, to go to the appropriate place.
- Litter Pick-Up - just because recycling is great doesn't mean that you can't be a good steward to the environment and pick up litter when you see it. And when you see recyclables laying around, be sure to pick those up and dispose of them in the appropriate place as well.
- Recycle Cart - this is how your recyclables get to the curb.

CLOSING THE LOOP



