

TEACHER PACKET

Single-Stream Recycling

The two recycling establishments in Sioux Falls and in the five-county surrounding area use residential single-stream recycling.

Below is a definition of single-stream recycling from Wikipedia.

Single-stream (also known as “fully commingled” or “single-sort”) **recycling** refers to a system in which all **paper** fibers, plastics, metals, and other containers are mixed in a collection truck, instead of being sorted by the depositor into separate commodities (newspaper, paperboard, corrugated fiberboard, plastic, glass, etc.) and handled separately throughout the collection process. In single-stream, both the collection and processing systems are designed to handle this fully commingled mixture of recyclables, with materials being separated for reuse at a materials recovery facility (MRF).^{[1][2]}

Single-stream recycling programs were first developed in several **California** communities in the 1990s. Subsequently, many large and small municipalities across the United States began single-stream programs. As of 2012, there are 248 MRFs operating in the U.S.^[3]

This is why, in our area, we see only one type of recycle can or bin.
We do not need to separate glass from plastic from metal.

There are, however, separate instructions for certain items that may need to be taken to special drop-off locations, for instance, appliances or hazardous waste.

K-2 Trash and Treasure Trek

CAUTION: No one should pick up some items, for example, used diapers or needles and medical waste, without gloves or a trash picker. Medical waste needs to be disposed of in a medical waste receptacle. (See more at the end of these instructions in Suggestions and Cautions.)

Grade Level	Kindergarten, First Grade, Second Grade
The Basic Premise	Students will go on a trek to find images of items that <u>do</u> and <u>do not</u> belong in nature. When they discuss the items they found, they will decide if each item is trash or treasure and what they should do with it.
*Indicator and Examples	K L 3 Conduct nature walks around the school yard and neighborhood. K STES 1 Care for the environment around the school. Recognize ways to reuse various materials. 1st STES 2 Develop personal habits that display concern for the environment. 2nd STES 1 Recognize ways to reduce, recycle, reuse and renew.
Objectives	1. Early learners will name two artifacts that do not belong in the natural world. 2. They can state two ways that “unnatural” artifacts can be disposed of.
Process	Learners will walk through the chosen location and gather the images of the natural/nature-made and unnatural/man-made artifacts that the teacher/leader has put out in treasure-hunt fashion. They will then decide what should be left outside in the natural world and what to do with the items that shouldn't be left outside.
Location	A park, a woods or a prairie would be best, but the schoolyard will work and, if the weather is bad, the activity can be done in a building with the pretense of a nature walk.
Time	The Trash or Treasure Trek itself will probably take about 15 minutes, depending on how many learners are involved and how many artifacts are placed in location. The discussion, of course, will depend on the attention spans and ages of the group.
Materials	>Prepared images of 17 natural/nature-made and 14 unnatural/man-made artifacts, which may look like trash but might be treasures. >Four clip chains to display the artifact pictures. >Four title cards to be mounted, one each, at the top of the four chains.
Set-up	• Select a large area, preferably outside, to place/lean/stash up to 31 images of items that belong and do not belong outside. • Before setting up the Trash and Treasure Trek, decide how many trash items and how many treasure items you want to use, depending on your group size and the amount of time that you have for the hunt and for the discussion. It would be good if each student could find at least one artifact. Caution: You might want to be sure to use the Man-Made Items first because they include a mix of actual trash and things that can be recycled or reused.

K-2 Trash and Treasure Trek

	Put one of the four title cards from the Teacher Packet at the top of each chain and hang the chains in what will be the discussion area.
Pre-Assessment	Ask the students to give you an example of something nature-made that belongs outside. Can they think of man-made things left outside that don't belong there?
Activity	- Tell the students that they are going to go on a Trash and Treasure hike to collect pictures of things that you might find outside. - Show one trash/man-made item they might find outside and one treasure/nature-made item they might find outside. - Take the students to the location and let them search.
Discussion	When you re-assemble in the area where you have hung the chains, either inside or outside, - Ask the students to think about something they found and whether it is a treasure that belongs outside or a piece of trash that doesn't. - Invite a student to show an item and to tell the class if it is trash to be gotten rid of because it doesn't belong in nature or if it is a nature item that should be left outside. - If it is a nature-made item, ask the student to clip the item on the chain with the earth image title. If it is a man-made item, ask the student to clip the item on the chain with the trash cans image. - Let the other students volunteer to show their items and decide whether to put them on the nature-made or man-made chain. - When all the students have placed their items on either of the two chains, ask them what they know about recycling. - Go to the trash can chain and tell the students that some of the trash items might actually be treasures because they can be recycled and made into something new. - Ask them if they think any of the items on the trash chain should actually be on the recycle chain. - Move the <u>plastic</u> items into one grouping on the recycle chain and clip the image of the plastic park bench under them. - Move the <u>metal</u> items into a grouping on the recycle chain and clip the image of the bicycle under that grouping. - Review what is on the trash can chain and should be thrown away. Review what is on the recycle can chain and should be put in a recycle can. And, review what is on the earth chain and should be left outside. - At the end of the discussion, talk about the 4 R's (below in Extensions) and move the pair of mittens to the 4 R's chain since they can be washed and reused or donated to a charity.
Extensions	Perhaps your students would like to draw or find other items to put on the

K-2 Trash and Treasure Trek

	4 R's chain. 2. You could take your students on a walk around the school building and/or yard to count the number of recycle cans and ask them to suggest another location for one, maybe even meet with the principal to report the count and ask about placing other cans. 3. Lead students in a discussion of the 4R's – Reduce, Recycle, Reuse and Renew. • Reduce – drink more water and less soda or fewer juice boxes* • Recycle – separating items that can be made into other products • Reuse – wash good plastic sandwich bags; reuse soda cans or paper towel tubes for art projects or musical instruments; use the clean side of paper • Renew – ask to plant prairie flowers to attract birds and butterflies; encourage parents to let milkweed grow in their gardens for monarch butterflies 4. Help students identify one way that they can contribute to cleaning up the natural world and to make a commitment to that behavior. 3. See the list of websites in the teacher packet for more information on local recycling or for interactive sites for you or the students to explore.
Suggestions and Cautions	1. A good motto is, "If you care, leave it there." Don't strip leaves off trees; don't pick flowers in natural settings; don't stamp out ant hills. 2. Wild animals usually do not thrive and usually die when they are brought inside and kept. 3. Injured adult birds almost always die. If students insist on trying to heal a bird, call the local office of Game, Fish and Parks and ask if they know of a bird rehabber who can take an injured bird. Raptors, like owls, eagles, hawks, falcons, etc., are protected species. With them, it is important to call Game, Fish and Parks. 4. If students find a baby bird, they should ask an adult to put it in any bird nest they can find. Adult birds will often raise nestlings of other species. 5. Abandoned ducklings and goslings will sometimes be adopted by ducks or geese that already have young dependents. 6. Frogs, toads and snakes need special aquariums, and parents should know the old saying, "Turtles are forever." If any students become dedicated trash pickers, they need to know that some things should be left for adults to gather – needles, dirty diapers. The Sioux Falls Office of Sustainability has supplied gloves and a collection bag for each student.

K-2 Trash and Treasure Trek Resources

This list is also available on the thumb drive in the Teacher Packet.

Recycling Earth's Resources K-2 book

<http://www.teachercreated.com/products/recycling-earths-resources-905386>

YouTube K-5 with a song

GOING GREEN!

<https://www.youtube.com/watch?v=8DJ45Yc3urg>

Carl the Car Needs a Rest, K-2

<http://www.epa.gov/otaq/kids/420k03001.pdf>

Beach Games Detectives, grades 2-4

<http://water.epa.gov/learn/kids/beachkids/games.cfm>

The Environauts Mission to Earth, grades 2-5

<http://www.epa.gov/epawaste/education/kids/space/index.htm>

Recycle City, grades 2-6

<http://www3.epa.gov/recyclecity/>

At amazon.com

The Adventures of a Plastic Bottle: A Story About Recycling (Little Green Books)

Jan 6, 2009

by [Alison Inches](#) and Pete Whitehead

The Adventures of an Aluminum Can: A Story About Recycling (Little Green Books)

May 5, 2009

by [Alison Inches](#) and Mark Chambers
and others

At barnesandnoble.com

Recycle!: A Handbook for Kids

by [Gail Gibbons](#)

Where Does the Garbage Go? (Let's-Read-and-Find-out Science Book))

by [Paul Showers](#), [Randy Chewning](#), [Randy Chewning](#)
and others

ITEM NOTES K-2

Man-made Items

Do not put any food items in recycling bins. Deteriorating food is what causes garbage cans to smell, and food cannot be recycled but may be acceptable for compost piles. Containers for liquids should be drained of contents before being placed in recycle bins.

Coke can, milk jug, juice box, Mountain Dew bottle, milk carton, soup can

These items should all be drained of their contents and put in a recycle bin. In some communities, they can all go in the same bin. In other communities, these items must be sorted by type and placed in separate bins. Check with your local trash or recycle hauler to get directions and to obtain the appropriate bin/s.

Newspaper

Newspaper can be recycled unless it has been used with chemicals, for instance, with Windex to clean windows.

Napkins, paper plate, toilet paper and paper towels cannot be recycled.

Half-eaten Whopper

It doesn't look very attractive, but a little food will be eaten by wildlife and decomposers. A whole lot of discarded food should be cleaned up, or it will attract a lot of unwanted insects. Food and any wrappers should always be thrown in the trash barrel, not the recycling bin.

Lost Mittens

Good clothing can be laundered and donated.

Paper Pepsi cup

This container is probably waxed and will not be recycled, nor will the straw.

Styrofoam cups

Styrofoam is not recyclable.

Recycled Items

Bicycle

Park bench



Natural Items

A common motto among environmentalists is: "If you care, leave it there." That is especially true of animals.

There are natural artifacts, though, that do no harm to the environment if they are left or collected in small amounts.

Apple core

An apple core can be left to be consumed by wildlife. A whole bag of apples in a well-walked area, though, could become very messy and attract hordes of unwanted insects.

Baby bird

Most people are concerned when they see a baby bird out of its nest, but they seldom survive if they are brought inside to be kept alive, and they can't be released back into the wild because they won't know how to survive. Children should get an adult to put the baby bird into any nest that is low enough. Many bird species will raise others' young.

Adult bird

If you find an adult bird on the ground, it is probably injured, but very few adult birds will survive when taken inside. You can try to find a person or agency to rehabilitate the bird, but there aren't many rehabbers, and they all need to be certified. You can call the Humane Society or the zoo or Game, Fish and Parks to ask if they know of a bird rehabber.

If the bird is a raptor – owls, eagles, hawks, falcons – please call Game, Fish and Parks and help them locate the bird. Raptors are federally protected and need to be rehabbed if they can be.

Duckling

Again, it is very hard to raise a baby bird. Most of them die in captivity if they were born wild. The best suggestion is to try to introduce them to adult ducks with young.

Adult ducks will occasionally adopt strays, especially if one their own did not survive.

Reptiles and amphibians

These animals too do not have a high survival rate in captivity if they were born wild. And, remember, a turtle could be forever. And, if they become more trouble than they are worth, they will not survive in the wild because they won't have the needed skills. I'm pretty sure you should never try to make a pet of a snapping turtle.

Branches, leaves and twigs

It's way fun to collect leaves and to walk with branches and sticks, but it would be best for the trees if everyone would find leaves and twigs that are on the ground rather than pulling live specimens, especially from young trees.

Flowers and weeds

It's very fun to blow dandelion seeds and does no harm except to strew the seeds around. Flowers, on the other hand, are lovely to look at and may be private property. Plus, picking the blossoms does take that flower's nectar and pollen from butterflies and other insects.



Pebbles

No harm, no foul.

Portraits on Cardboard

posted in: [1st Grade](#), [2nd Grade](#), [3rd Grade](#), [4th Grade](#), [5th Grade](#), [Cardboard Crafts](#), [Kindergarten](#), [Recycle](#) |



How cool would it be to have an entire wall full of colorful portraits drawn on old pieces of cardboard? A group collage project from last year has me thinking about other possibilities...

1. This was made from a pizza box – I think I even like the rough cut edges, which are bound to happen if kids cut out their own. The faces are drawn first with a skinny black marker.
2. To add a variety of line weight, a black Sharpie is used to trace some of the lines again so that there's a mix of thick and thin.
3. The face is colored in with colored pencils. Don't forget to add the whites to the eyes as that really makes them show up.

recycled art didgeridoo

A didgeridoo is a long wooden trumpet-like instrument used by the Aboriginal peoples of Australia. A real didgeridoo is made of a hollow wooden branch with a beeswax mouthpiece. You and your students can make your very own didgeridoo using offcuts of PVC (plumbing) pipe or wrapping paper tubes.

Objectives:

Identification:

- Students will discover a new way to create music.

Historical:

- Students will have a chance to learn about the Aboriginal People of Australia. Used for over 40,000 years, the didgeridoo ranks among the Earth's most primitive yet enduring instruments.

Creation:

- Students will create a didgeridoo using recycled objects.

Appreciation:

- Students will learn to appreciate the art created not only by them, but by others as well.

What You Need:

- A length of PVC pipe (like the plumbers use). You can also use two cardboard wrapping paper tubes taped together. The length should be manageable. For adults, a didgeridoo is about 5 feet long. For children, 3 or 4 feet is great (depending on the height of the child).
- Paint or markers (if you use PVC pipe, you will need to use acrylic paint).
- Paintbrushes and water.
- Glue (white glue or hot glue).
- String, leather, feathers, beads and any other found objects you have lying about.
- Pictures of didgeridoos are a good idea. Look for books in your library or refer to the resources at the end of this lesson plan.

What You Do:

1. If you are using a PVC pipe, be sure to sand both ends of the pipe down so there are no rough edges.

2. Once you have a length of pipe or cardboard tubing, you are ready to decorate. Using paint or markers, decorate the didgeridoo using bright exciting colors.
3. You can glue all sorts of objects to your didgeridoo as long as you can still comfortably move it around.
4. **Optional:** If you wish, you can make a mouthpiece for your didgeridoo using beeswax. The way this is done is by dipping one end of your pipe or cardboard tube into melted wax, again and again until you build up an almost solid mass of wax with a small opening.
5. You can create a mouthpiece for your didgeridoo by rolling a piece of poster paper into a cone and gluing it to the end of your pipe or tube.
6. To play your didgeridoo, stand or sit with the instrument straight out in front of you, with one end resting on the ground. Place your mouth inside the tube (or on the beeswax mouthpiece) and make a loose motorboat sound with your lips.



KinderArt.com

Egg Carton Animals



Image Key

14 Man-Made Items (K-2)

Items that are not natural, never lived, even if they are manufactured from once-living tissue, like phones and bikes, even lost mittens.

1. Coke can
2. Crumpled newspaper
3. Paper plate
4. Paper towel
5. Empty milk jug
6. Half-eaten Whopper
7. Juice box
8. Milk carton
9. Mountain Dew bottle
10. Paper Pepsi cup
11. Ranger Rick magazine
12. Styrofoam cups
13. Soup can
34. Lost mittens

17 Nature-Made Items (K-2)

Items that belong in nature, both biotic (plants and animals, including insects) and abiotic (dirt, rocks, water, ores, lava)

1. Apple core
2. Baby bird
3. Bird 2
4. Branches
5. Dandelion
6. Duckling
7. Flower 1
8. Flower 2
9. Frog
10. Garter snake
11. Leaf 1
12. Leaf 2
13. Pebbles
14. Pussy willow
15. Turtle
16. Twig 1
17. Twig 2

2 Recycled Items (K-2)

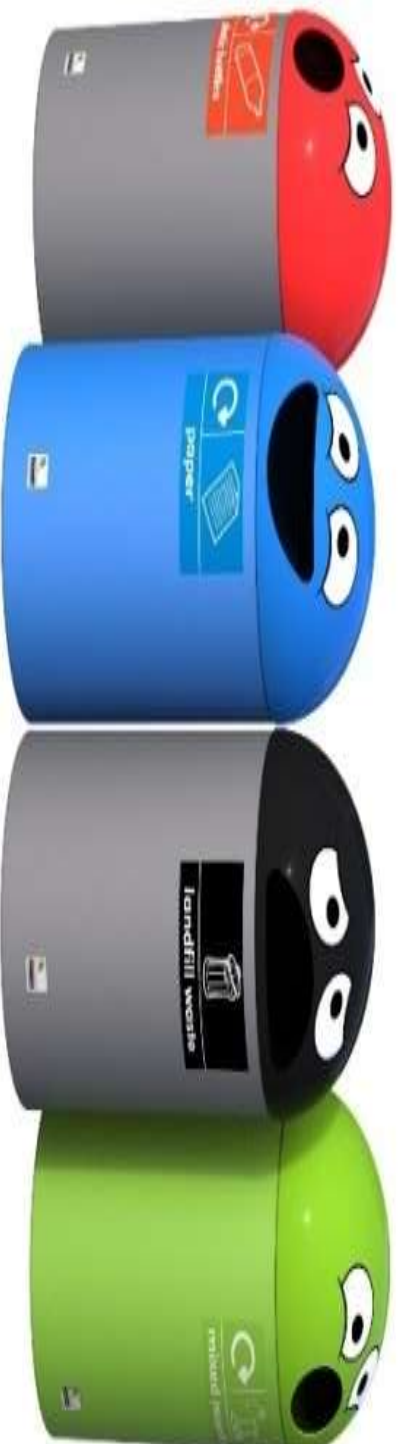
47. Bicycle
48. Park bench



TITLE SORTING CARDS

Man-Made

TRASH OR TREASURE?



MAN-MADE

TRASH OR TREASURE?



NATURE-MADE

TRASH OR TREASURE?



THE 4 R'S

TRASH OR TREASURE?



REDUCE



REUSE



RECYCLE



RENEW

IMAGE CARDS

Print and cut out each
image cards





