waste NOT!

Activities for early childhood programs blending learning readiness with waste management concepts
What you will find in this kit

Why waste NOT!

How to use waste NOT!

waste NOT! Activity Suggestions

I ideas for reducing, reusing, recycling in the classroom

Additional Resources

Master sheets for:

- "I Recycle" Cutting Exercise
- "Let's Sort Our Garbage" Game
- Take-Home: Why do we need to reduce, reuse, recycle?
- Take-Home: "We Can Recycle" Cutting Exercise
- Take-Home: Garbage Pizza
- Take-Home: "What Comes Next" Game
- Take-Home: You can create toys by reusing objects found in your home

- waste NOT! Poster

Parent Education Group Discussion Ideas

"What Comes Next" Cards (sets of 4)

- I recycle glass
- I recycle cans
- I recycle plastic
- I recycle paper

"Find the Pair" Game (for classroom and take-home)
Why

**waste NOT!**

**WHAT IS THE PROBLEM?**

We are making more garbage than we have safe places to put it. Too much garbage:
- Uses up our natural resources;
- Damages the environment;
- Costs too much money;
- Endangers our health.

**WHAT IS SOLID WASTE?**

Solid waste is the garbage which is collected from our homes, schools, offices, and businesses. Every person produces about 4-1/2 pounds of trash each day. Solid waste includes pop cans, cereal boxes, diapers, old letters, newspapers, apple cores and grass clippings. Solid waste can be reduced, and most can be reused or recycled.

**WHAT CAN WE DO?**

Create less garbage.

**HOW?**

By reducing, reusing and recycling.

These activities are provided to help you and the families you work with become active in making less waste.

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**REDUCE**

Reducing waste is one of the best ways to solve our problem. We can reduce waste by:
- Not buying it to begin with;
- Shopping for items with less packaging;
- Limiting the use of single serve packages (juice boxes, pudding, chips);
- Limiting the use of paper and plastic disposable plates, cups and utensils;
- Buying in bulk.

**REUSE**

Reusing means finding a way to use something instead of throwing it away. Some ways to reuse are:
- Use both sides of paper;
- Save butter tubs, coffee cans, shoe boxes, milk cartons for a variety of uses;
- Mend clothes and fix broken toys;
- Give unwanted items to others;
- Reuse items like shopping bags, lunch bags.

**RECYCLE**

Recycling means returning used products to a recycling center so they can be made into new items. To recycle materials, a factory will melt, shred or change them to make a new product. Recycle as many materials as your community collects.

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How to use

**waste NOT!**

The activities in this kit teach children about reducing, reusing and recycling, and can be a part of the learning readiness activities you may already be using in your program.

This kit has been created to enhance the multi-cultural aspects of your program. All take-home activities and many of the classroom activities are provided tri-lingually: English, Spanish and Hmong.

Use these activities in any early childhood classroom - as group activities and for free play.

Or use them as part of a parent education discussion group and as a focus for parent-child interaction times. Topics for parent discussion and take-home activities are also included in this kit.

Please photocopy these activities as needed for use in your classrooms and to send home to your families.

If you have questions about reducing, reusing and recycling, call your local county solid waste management office.

- Ramsey County Recycling Hotline: 633-EASY (3279)
- Hennepin County Recycling Hotline 348-6509
- Metro Recycling Hotline at The Connection® 922-9000
Activity Suggestions

Bring in real examples of cans, bottles, paper and plastics. Using these real items with these activities will increase the effectiveness of the lessons.

1. "What Comes Next" Cards

WHAT YOU NEED TO GET STARTED
A set of 16 "What Comes Next" cards provided with this kit.

HOW TO BEGIN
As a group activity, take one set of four cards. Show each card, in order, to the children and talk about what is in the picture. Then shuffle the cards and invite each child to take a turn finding which one comes next.

As children become skilled at this, you can shuffle all 16 cards for them to sort and sequence.

These cards can also be a shelf activity for an individual child or small group to use during a free play time.

2. "Find the Pair" Game

WHAT YOU NEED TO GET STARTED
A set of the "Find the Pair" cards provided with this kit.

HOW TO BEGIN
With a small group of children, set the cards out in rows, face down. Each child can turn over a pair of cards to see if it's a match. If the child gets a match, s/he gets another turn. You can talk about the pictures as the children make pairs. "This card shows us something about reusing," or "What does that card show us?" or "That's one way we could reduce waste. What might another way be?"

3. "I Recycle" Cutting Exercise

WHAT YOU NEED TO GET STARTED
Copy "I Recycle" page from this booklet.

HOW TO BEGIN
Give each child a copy of the "I Recycle" page. For youngest learners, you could have them practice tearing on the dotted lines. For older learners, blunt scissors could be used to practice cutting on the lines. These signs then can be colored and posted in the classroom or taken home.

While doing the activity, practice reading the signs with the children and talk about the different things we can recycle.

4. "Let's Sort Our Garbage" Game

WHAT YOU NEED TO GET STARTED
Copy the "Let's Sort Our Garbage" signs and cards in this booklet. Cut both as shown on the dotted lines. Make as many of the cards as seems right for your group.

HOW TO BEGIN
Set the 4 signs (paper, glass, cans, plastic) out on a table or on the floor. Using a small container or bag to hold the cards, ask each child to take a card and match the card with the correct sign.

The signs and cards can be used as a table or shelf game for a child to choose during free play.

Another option is to use actual objects like cans, glass and plastic containers, newspapers instead of the cards.

5. Dramatic Play Area

WHAT YOU NEED TO GET STARTED
Some boxes, recyclable objects such as cans, bottles, newspapers.

HOW TO BEGIN
Set up a recycling center in your housekeeping or dramatic play area. As children are playing house, they can practice recycling.

6. Block Play Area

WHAT YOU NEED TO GET STARTED
Blocks and construction toys

HOW TO BEGIN
Create a village on the floor with blocks and construction toys. Use trucks to collect garbage from the homes or businesses. Children can take turns being in charge of the recycling, or the landfill. Talk about where things go.

7. Take-Home Activities

The following take-home activities are provided in this booklet. Copy as needed to send home with your families. These activities can also be used in the classroom for parent-child interactions.

"We Can Recycle" CUTTING EXERCISE
For practicing tearing or cutting skills.

"What Comes Next" GAME
For practicing putting things in the right order.

GARBAGE PIZZA
For matching things found in the home with those on the garbage pizza.

WHY DO WE NEED TO REDUCE, REUSE, RECYCLE?
Simple, important information for parents about the problems of our garbage and what we can each do about it.

YOU CAN CREATE TOYS BY REUSING OBJECTS FOUND IN YOUR HOME
A list of ideas for parents.

"Find the Pair" GAME
Sets of cards in this kit for exercising your child's memory.

8. Parent Education Discussion

A list of ideas for stimulating discussion with your parent group.
Ideas for reducing, reusing and recycling in the classroom

**REDUCE**

- Use one paper towel for hand drying.
- Limit the use of single serving packages (such as chips, pudding, juice).
- Limit the use of paper plates and cups when possible.
- Limit the use of plastic spoons, forks and knives when possible. Remember these items can be reused after properly sterilizing.
- Use reusable drinking cups. Follow proper sterilizing measures.
- Use both sides of paper for writing and for crafts.
- Buy supplies in bulk.
- Repair toys that are broken.
- Avoid buying products that are over-packaged.
- Use cloth lunch bags that can be used many times.
- Buy rechargeable batteries for toys, radios, etc.
- Don’t litter.
- Use cloth bags for shopping.

**REUSE**

- Reuse empty butter/margarine tubs to store and display small items. Larger plastic ice cream buckets are great for toys with multiple pieces.
- Shoe boxes can be used for storage and for making small dollhouses.
- Magazines and newspapers are a natural for all sorts of crafts.
- Cardboard boxes can make big dollhouses or great places to crawl into or through.
- Leftovers from projects at home such as lumber, fabric, wallpaper can become part of craft activities. Make a collage from all sorts of found objects.
- Pots and pans, plastic dishes not suitable for home can be part of a housekeeping area.
- Coffee cans can be used as pots for flowers and plants.
- Discarded telephones, calculators, keyboards can be part of a dramatic play area.
- Discarded clothes - dresses, hats, scarves are also great additions to a dramatic play area.
- Create a list of possible items that your families could bring in to enrich the program while reusing at the same time.
- Give unneeded toys or other objects to others.

**RECYCLE**

- Create a recycling area in your center. Set out boxes or garbage cans for this purpose. Label each box for sorting:
  - plastics
  - paper
  - clear glass
  - green glass
  - brown glass
  - aluminum
  - tin cans
- Involve the children in recycling.
  - Make an activity of sorting and getting materials ready to recycle.
  - Make a field trip of taking your classroom recyclables to the recycling center in your building or community.
- Buy recycled products.
Additional Resources

Some resources available from the Minnesota Office of Waste Management (OWM)

**Videos**
(available for 2 week loans only)

*AliuMan the Can*  
(15 minutes)

*Recycling Raccoon's Amazing Adventure*  
(24 minutes)

*Mr. Roger's Neighborhood*  
(30 minutes)

**Coloring Activities**

*Everyone Can Help Their Community Through Goodwill*

*Nature's Recyclers*

**Booklet**

*Reduce, Reuse, Recycle Activities for All Grades*

For more information about these and other resources to use with children, call the OWM Clearinghouse at 612/649-5482 or 1-800-877-6300, Greater Minnesota.

Other resources

**Books**

*Simple Things Kids Can Do to Save the Earth* by Earth Works Group, John Jarva

*A House is a House* by Mary Ann Hoberman

*Dear Mr. Garbage Man* by Gene Zion

*Farewell to Shady Glade and The Wump World* by Bill Peet

*Heron Street* by Ann Tumer

*Rainforest* by Helen Coucher

*The Beaver* by Alvin Tresselt

*The Forest; The River; The Roadside; and The Rock Pool* by David Bellamy

*The Legend of the Indian Paintbrush* by Tomie dePaolo

*The Little House* by Virginia Burton

*Trash* by Charlotte Wilcox

*Where Does Garbage Go?* by Paul Showers

*Recycle* by Gail Gibbons

*Here Comes the Recycling Truck* by Meyer Seltzer

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The following pages in this booklet are provided for you to photocopy and use in your classroom and as take-home activities for your families.
"I Recycle" Cutting Exercise

1. Eye
2. Recycle symbol
3. Newspaper
4. Eye
5. Recycle symbol
6. Mayonnaise bottles
7. Eye
8. Recycle symbol
9. Cola cans
10. Eye
11. Recycle symbol
12. Cola bottles
PAPER

GLASS

CANS

PLASTIC
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Why we need to reduce, reuse and recycle?

WHAT IS THE PROBLEM?
We are making more garbage than we have safe places to put it. Too much garbage:
• uses up our natural resources;
• damages the environment;
• costs too much money;
• endangers our health.

WHAT CAN WE DO?
Create less garbage.

HOW?
By reducing, reusing and recycling.

REDUCE
Reducing waste is one of the best ways to solve our problem. We can reduce waste by:
• not buying it to begin with;
• shopping for items with less packaging;
• limiting the use of single serve packages (juice boxes, pudding, chips);
• buying in bulk.

REUSE
Reusing means finding a way to use something instead of throwing it away. Some ways to reuse are:
• use both sides of paper;
• save butter tubs, coffee cans, shoe boxes, milk cartons for a variety of uses;
• mend clothes and fix broken toys;
• give unwanted items to others;
• reuse items like shopping bags, lunch bags.

RECYCLE
Recycling means returning used products to a recycling center so they can be made into new items. To recycle materials, a factory will melt, shred or change them to make a new product. Recycle as many materials as your community collects.

¿Porqué necesitamos reducir, reusar y reciclar?

¿CUAL ES EL PROBLEMA?
Nosotros estamos produciendo más basura que los lugares que tenemos disponibles para depositarla. Mucho basura:
• desgasta los recursos naturales;
• daña nuestro medio ambiente;
• cuesta mucho dinero;
• pone en peligro nuestra salud.

¿QUE DEBEMOS HACER?
Producir menos basura.

¿COMO?
Reduciendo, reusing and reciclando.

REDUCIR
Reduciendo desechos es una de las mejores maneras de resolver este problema. Nosotros podemos reducir desechos:
• empezando por no comprarlos;
• comprando artículos con menos empaque;
• limitando el uso de artículos empacados individualmente (juegos en caja, postres, fritos);
• comprando al por mayor.

REUSAR
Reusar quiere decir encontrar la manera de usar algo en vez de botarlo. Algunas maneras de reusar son:
• use ambos lados del papel de escribir;
• guarde potes de mantequilla, latas de café, cajas de zapatos, cajas de leche, para otra variedad de usos;
• remiende ropa y arregle juguetes rotos;
• regale los objetos que usted no desea a otros;
• reúste objetos como bolsas de compra, y de almuerzo.

RECICLAR
Reciclar quiere decir regresar productos usados a un centro de reciclamiento para que éstos puedan ser transformados en productos nuevos. Para reciclar materiales, una fábrica los derretirá, desfibrará o cambiará en una forma tal de crear un nuevo producto. Recicle tantos materiales como su comunidad acumule.
Aquí está una actividad que puede hacer con su hijo(a).

Con su ayuda, su hijo puede practicar a cortar y colorear. Usando unas tijeras desafiladas, cortando sobre las líneas punteadas, y coloreando los dibujos, su hijo puede crear letreros para ponerlos en el lugar de su casa donde usted clasifica sus objetos reciclables.

We

Nosotros reciclamos papel.
We recycle paper.
Peb khaps ntawv.

We

Nosotros reciclamos latas.
We recycle cans.
Peb khaps kaus poom.

We

Nosotros reciclamos plástico.
We recycle plastic.
Peb khaps phauby roj hmab.

We

Nosotros reciclamos vidrio.
We recycle glass.
Peb khaps lam hwj.
Here's Your Garbage Pizza

Each day, as a Minnesotan, you have a 4-1/2 pound garbage pizza delivered from your house.

Where does it go?

Nov yog ib daim (Pizza) uas tsis zoo noj Lawm.

Txhua Txhua hnub twg nej muaj li 4-1/2 pound pizza uas tau thauj tawm ntawm nej Tsev mus pov tseg. Yuav coj mus pov rau qhov twg?

Aquí está su "Pizza Basura"

Cada día, como todo Minnesotano, usted produce una "pizza basura" de cuatro libras y media que es repartida desde su casa.
¿A dónde va a parar esta basura?

Look at this drawing with your child. Circle the things that go into your garbage.
Talk about what you can do together to reduce, reuse, and recycle.

Nrog koj tus me nyuam saib daim duab no. Sau voj ncig qhov uas yuav coj mus pov tseg.
Sab laj nrog koj tus me nyuam seb yuav ua cas thiaj yuav txo tau yam uas tsis siv Lawm tsawg, yam twg yuav zoo muab rov los siv dua, thiaj yam twg yuav khaws xa rov mus zom ua dua tshiab.

Observe este dibujo con su hijo(a). Encierre en un círculo los objetos que se van dentro de su basura.
Converse sobre lo que pueden hacer juntos para reducir, reusar y reciclar.
Aquí están algunas cartas para usar con su hijo(a).
Con su ayuda, su hijo(a) puede usar unas tijeras desafiladas para cortar por las líneas.
Luego trabaje con su hijo(a) para arreglar estas cartas en el orden correcto. Su hijo(a) aprenderá acerca de lo que viene después y sobre reciclar latas.

Here are some cards to use with your child.
With your help, your child can use a blunt scissors to cut along the lines.
Then work with your child to sort these cards into the right order.
Your child will learn "what comes next" and about recycling cans.

I recycle cans. Yo reciclo latas. Kuv khaws kaus poom.

Nov yog tb co pib uas kof yuav tau nrog kof tus me nyuam stv ua ke.
Koj yuav tau pab kom kof tus me nyuam xuas txiab txiav raws cov kab. Nrog kof tus me nyuam xaiw cov pib no los tso kom raws seem. Koj tus me nyuam thiaj pab tias yam twg yuav tso rau qhov twg thiab qhov chaw tso kaus poom yuav yog qhov twg.

I recycle cans. Yo reciclo latas. Kuv khaws kaus poom.
Aquí están algunas cartas para usar con su hijo(a).
Con su ayuda, su hijo(a) puede usar unas tijeras desafiladas para cortar por las líneas. Luego trabaje con su hijo(a) para arreglar estas cartas en el orden correcto. Su hijo(a) aprenderá acerca de lo que viene después y sobre reciclar plástico.

Here are some cards to use with your child. With your help, your child can use a blunt scissors to cut along the lines. Then work with your child to sort these cards into the right order. Your child will learn "what comes next" and about recycling plastic.

Nov yvb i b o pib uas koj yuav tau nrog kof tus me nyuam siv ua ke.
Koj yuav tau pab kom koj tus me nyuam xus txiajb txiav raws cov kab. Nrog koj tus me nyuam xaij cov pib no los tso kom raws seem. Koj tus me nyuam thiaj paub tias yam twg yuav tso rau ghov twg thiaj ghov chaw tso cov plhaub roj hmob yuav yvb ghov twg.
Here are some cards to use with your child.

With your help, your child can use a blunt scissors to cut along the lines. Then work with your child to sort these cards into the right order. Your child will learn "what comes next" and about recycling paper.

Nov yob ib co pib uas koj yuav tau nrog koj tus me nyuam stv ua ke.

Koj yuav tau pab kom koj tus me nyuam xias txiab txav raws cov kab. Nrog koj tus me nyuam xaiv cov pib no los tso kom raws seem. Koj tus me nyuam thaj paub tias yam twg yuav tso rau qhov twg thiaj qhov chaw tso cov ntawv yuav yog qhov twg.
Aquí están algunas cartas para usar con su hijo(a).
Con su ayuda, su hijo(a) puede usar unas tijeras desafiladas para cortar por las líneas.
Luego trabaje con su hijo(a) para arreglar estas cartas en el orden correcto. Su hijo(a) aprenderá acerca de lo que viene después y sobre reciclar vidrio.

Here are some cards to use with your child.
With your help, your child can use blunt scissors to cut along the lines.
Then work with your child to sort these cards into the right order.
Your child will learn "what comes next" and about recycling glass.

I recycle glass. Yo reciclo vidrio. Kuv khaws lam hwj.

Nov yog ib co pib uas koi yuav tau nrog koi tus me nyuam siv ua ke.
Koi yuav tau pab kom koi tus me nyuam xua txiav txiav raws cov kab.
Nrog koi tus me nyuam xaiv cov pib no los tsu kom raws seem. Koi tus me nyuam thiaj paub tias yam twg yuav tso rau ghow twg thiab qhow chaw tsu lam hwj yuav yog qhow twg.

I recycle glass. Yo reciclo vidrio. Kuv khaws lam hwj.
You can create toys by reusing objects found in your home

- Cardboard milk containers make great building blocks. Wash out containers thoroughly. Cut off slanted top. Push two together, open end into open end, to make one block.

- Save lids from milk bottles. Use with your child to practice counting.

- Plastic bottles make containers that can have clothespins dropped into them. Turn the bottle over and shake them out. Fun for a two year old.

- Color on yesterday’s newspaper. Use it as a game to find words or numbers. “Can you find all the 3s on this page?” Or look at the pictures with your child and ask them to make up a story about what they see.

- Any cardboard box can be used for making a dollhouse, decorate it using scraps of paper, greeting cards or pictures from magazines.

- Cut the top off a plastic pop or milk bottle and use the bottom for a flower pot. Your child can plant seeds, water them and watch them grow.

- Save the lids from milk bottles, yogurt, magazine or other containers. Mix them all together and ask your child to sort them - by size or by color.

- Make a play village on the floor using containers and milk cartons. Decorate them with paper from old shopping bags and color them.

Usted puede construir juguetes al reusar objetos que se encuentran en su casa.

- Los envases de cartón de la leche son estupendos para construir bloques. Lave los envases minuciosamente. Corte la parte de arriba. Junte dos de ellos, empujando los extremos abiertos uno dentro del otro, para construir un bloque.

- Guarde las tapas de botellas de leche. Use las con sus hijos para practicar a contar.

- Las botellas plásticas pueden servir como recipientes para depositar pinzas de ropa. Dé la vuelta a la botella y sacúdalos. Divertido para un niño de dos años.

- Coloree en el periódico de ayer. Uselo como un juego de encontrar palabras o números. “¿Puede usted encontrar todos los números 3 en esta página?” O mire las fotos con sus hijos y pídale que inventen una historia basada en lo que vea.

- Cualquier cajeta de cartón puede ser usada para hacer una casa de muñecas, decórela usando pedazos de papel, tarjetas o ilustraciones de revistas.

- Corte la parte de arriba de un envase plástico de gaseosa o leche y use el fondo para hacer una maceta. Su hijo puede plantar semillas, regarlas y verlas crecer.

- Guarde las tapas de botellas de leche, yogur, margarina, u otros envases. Mézclelos todos y pídale a su hijo que los clasifique - por tamaño o por color.

- Construya un pueblecito de jugar en el piso usando envases y cajetas de leche. Decórello con papel de bolsas viejas y coloreelo.

Nej tseem yuay rov qab muab tau tej taub mis ntawv, taub mis yas, hau mis, thawv ntawv, ntawv xov xwm, thiab cov hnab ntawv uas ntim khoom tim taj laj los mus siv dua ua khoom menyuan yaus ua si xws li nram no.

- Cov taub mis ntawv tseem yuay muab tau coj los ua tau tej yam khoom ua si rau menyuan yaus. Muab ntawv kom huv huv ces muab yav saud txaw tawn muab ob sab coj los rau ua ke ces ho muab coj los sib rhos ua ke ua tau ib lub (block) rau menyuan yaus ua si.

- Khaws cov hau mis cia tau muab qhia menyuan yaus kawn sauv.

- Cov taub mis yas muab khaws cia tau siv pov tej koob khawn khab scaws rau hauv. Ces muab lub taub nhos kom cov khoom ntawv tawn los. Zoo rau menyuan yaus ob xyoox ua si heev.

- Cov ntawv xov xwm los zoo khaws cia rau menyuan yaus tau siv thá xim ua si. Thiab muab rau menyuan ua si xws li ko kom menyuan nhriav tej nyuas tiaj ntawv los yog naj npawb. “Xws li koj nhriav pues tau tas nhro cov 3s nyob rau hauv daim ntawv no?” Los yog saib cov duab nrog koj tus menyuan thiab kom lawm qhia koj txog rau daim ntawv xov xwm saib lawv pom dahbsi.

- Txeua txeua yam thawv ntawv los nej yeej tseem yuay siv tau un tej nyuas menyuan tsev ua si. Siv nrog rau tej nyuas ntawv xov xwm li (Magazine) coj los yov yog coj los lo rau.

- Xws li cov taub mis yas yog siv tau lawm muab lub hau txaw kiaj pouv tauv, es muab cog puj ntsos rau hauv kom menyuan niag haub ywv dej rau thiab diau rau menyuan tau saib cov puj ntsos hlaw tuj.

- Khaws txeua txeua yam hau mis los yog hau lam hwj cia los yog txeua yam hau, es tau coj los cov ua ke teu muab rau menyuan yauv ua si twv lawv kom laww ho muab cov hau ntawv coj los sib phim, thiab kom laww muab khaws nyias rau nyias saib lawv puas paub yam twg yam yam tuj.

- Tseem yuav siv tau tej nyuas taub mis ntawv, thiab tej nyuas thawv ntawv coj los teeb ua ib lub zos ua si rau menyuan yaus. Siv tej nyuas hnab ntawv qub uas yuav khoom tom taj laj los ntawv coj los tau yov thiab xov rau.
Parent Education Discussion Ideas

Talking with parents about reducing, reusing and recycling can be a topic on its own or it can be a part of other topics in your program.

One of the ways we help our children learn is to allow them to make choices. Reducing waste, reusing discarded items and recycling materials is about making choices. A discussion on how we provide choices for our children can include a focus on reducing, reusing and recycling.

We can also help children learn by providing them ways to be helpful around the home. Include children in shopping, preparing meals and cleaning the home. A discussion on encouraging a child to be responsible at home can include a focus on involving the child in the recycling efforts at home.

Here are some other ways to stimulate a discussion of reducing, reusing and recycling in a parent education group.

**Idea #1**

Review the list of ideas for reducing, reusing and recycling. Discuss the following questions:

- Which of these ideas can be done with parents and children working together?

- How can we help children learn the importance of reducing, reusing and recycling?

- Are there other ways you can think of to reduce waste? Reuse products? Recycle materials?

**Idea #2**

Hand out the "Garbage Pizza." Have parents look at the variety of things we throw away that can be recycled.

Develop an easy-to-follow plan to increase the number of times that children and parents recycle at home.

1. What kinds of materials?

2. Where will these materials be placed so they can be recycled?

3. Who will put the materials in the container?

4. When will these materials be picked up from the home?

5. What needs to be done to be sure that the materials will be picked up?

**Idea #3**

Use the take-home handout on creating toys, discuss fun and creative ways for parents to work or play with their children with toys made from reused objects.

**Idea #4**

Distribute copies of the "Find the Pair" game. Show how it can be used to help parents talk with their children about the variety of ways we can reduce, reuse and recycle.
waste NOT!

Reducir
Reusar
Reciclar

Reduce
Reuse
Recycle

Txo kom tsawg
Siv dua
Khaws xa mus zom
ua dua tshiab
I recycle glass.  
Yo reciclo vidrio.  
Kuv khaws lam hwj.
What comes next?

I recycle glass.  
Yo reciclo vidrio.  
Kuv khaws lam hwj.
What comes next?

I recycle glass.  
Yo reciclo vidrio.  
Kuv khaws lam hwj.
What comes next?

I recycle glass.  Yo reciclo vidrio.  Kuv khaws lam hwj.
What comes next?

What comes next?

What comes next?

What comes next? 

What comes next?

What comes next?

What comes next?

What comes next?

What comes next?

I recycle cans. Yo reciclo latas. Kuv khaws kaus poom.
What comes next?

I recycle cans.  Yo reciclo latas.  Kuv khaws kaus poom.
What comes next?

I recycle cans.  Yo reciclo latas.  Kuv khaws kaus poom.
What comes next?

I recycle cans.  
Yo reciclo latas.  
Kuv khaws kaus poom.
MIST ER ROGERS

Activities for Young Children
About the Environment
and Recycling
ACTIVITIES

Introduction

The following pages contain activities to do with children. They are quite simple to do and often use recycled materials. We hope using simple recycled materials will help you demonstrate your concern for the environment to the children. And, after all, it's not the newness or expense that make toys valuable, it's the imagination and feelings that children put into them.

You may find it helpful to gather castoffs yourself for use with children. Perhaps parents and children can help gather these items, too. Children can see that there are many uses for items that might be thrown away.

Here are some things to gather:

- sheets of paper. They can be cut up for collages or, if used on only one side, used for drawings.
- paper scraps from projects can be used for artwork and collages
- old clothes can be cleaned and used for dress up activities, painting aprons or rags
- buttons can be cut off old clothes for puppets or for artwork (Be careful about using buttons with very young children.)
- leftover yarn or ribbon can be used for artwork and dress up activities
- paper bags have many uses — containers, puppets, etc.
- milk cartons and jugs
- cardboard tubes
- old shoe boxes
- cardboard boxes

Notes
Sorting Recyclables

Mr. McFeely helps Mister Rogers sort the glass bottles and cans before taking them to the recycling center. At the center, they talk to the workers and watch what happens to the bottles and cans.

"Sorting Recyclables" can help children:
- recognize similarities and differences;
- learn more about recycling.

Materials
- cardboard
- newspapers
- empty cans
- plastic milk containers
- bottle caps
- grocery bags

You might talk with the children about the different things that can be recycled, and set up a place where these things can be stored in grocery bags. The children could bring such things from home to add to the collection. When you have collected quite a number of recyclables, you can play a sorting game with the children. First, you could talk with them about the different materials: How they are alike and how they are different. For instance:

- Which things are the same color?
- Which are the same texture?
- Are some heavier than others?
- Which ones are the lightest?

You might talk with the children about Mister Rogers' visit to the recycling center and point out that the things have to be sorted according to what they are made from. Then see if the children can help sort the things into plastics, different kinds of paper, and cans. If you have glass bottles, you should take great care to make sure none of the children accidentally breaks one and gets hurt. You might also caution the children about handling metal cans to be sure they don't cut themselves on sharp edges. You could take the plastic milk containers outside and let the children flatten them for easier storage.
An Eggshell Garden

Watching seeds grow provides children with an understanding of how things change and encourages them to take care of growing things. This kind of appreciation of the world around them can contribute to a life-long interest in the environment.

"An Eggshell Garden" can help children:
- learn more about recycling;
- learn more about the way things grow.

Materials
- eggshell halves
- soil
- garden seeds (an assortment)
- empty egg cartons to hold shells
- small spoons
- water

Because eggshells are delicate, this activity takes time and patience. Encourage the children to fill the shells carefully with soil. Small spoons will make the task easier. You can put the filled eggshell halves in an egg carton to keep them steady while the children plant an assortment of garden seeds. Help them water the soil as needed and record the growth of each seedling. When the plants grow to several inches, you can plant them outside, shell and all.
<table>
<thead>
<tr>
<th><strong>Homemade Soup</strong></th>
<th><strong>Banana Bread</strong></th>
</tr>
</thead>
</table>
| Adults, by their example, help children learn not to be wasteful. One parent tells that she routinely saves onion skins, carrot ends, potato peelings, celery leaves, and broccoli and cauliflower stalks, which she freezes and later uses to make a hearty stock for vegetable soup. “Homemade Soup” can help children:  
  - learn ways to conserve our food supply;  
  - work cooperatively with others. | Cooking experiences are enjoyable activities for children, partly because of the nurturing and caring that is associated with food, but also because it is a time when they can participate in a grown-up activity and work together with a special adult. “Banana Bread” can help children:  
  - find uses for leftover food;  
  - learn to work cooperatively. |

### Materials
- stalks, leaves, peelings, and skins that have been rinsed and saved  
- seasonings  
- leftover raw or cooked vegetables  
- large pot  
- wooden spoon  
- knives  
- noodles, rice, barley, or dried beans  
- bowl  
- mixer  
- wooden spoon  
- loaf pan  
- potato masher or fork  
- 3 or 4 very ripe bananas  
- 1 1/2 cups of flour (half unbleached, half whole wheat)  
- 1 egg  
- 1/4 cup butter or margarine  
- 1/2 cup brown sugar  
- 1 cup oatmeal  
- 1 teaspoon vanilla  
- 2 teaspoons baking powder

You could make this a two-day project by cooking the soup stock one day and the homemade soup on the second day. The children can put the vegetable stalks and peelings into a large pot and cover them with water. You might add leftover raw onions, garlic, and additional celery and carrot pieces at this time. The stock should simmer for four or five hours before you strain out the peelings, stalks, and leaves. On the second day, you can heat the broth and add other leftovers, such as small amounts of cooked vegetables, noodles, rice, or beans. Let the soup simmer for about an hour. Just before serving, the children can add seasonings such as parsley, oregano, and chives.  

The children could mash the bananas with a potato masher or fork and help you measure the different ingredients. Using an electric or hand mixer, combine the butter and brown sugar and add one beaten egg. Then add uncooked oatmeal, mashed bananas, vanilla, and let the children stir the mixture with a wooden spoon. Combine all the other ingredients and add them to the bowl, stirring until the flour is moistened. Pour the mixture into a greased loaf pan and bake in the oven at 350 degrees for about an hour or until a toothpick inserted into the center comes out clean.
Litter Hunt

LEARNER OUTCOMES
Students will be able to describe some effects of litter on the environment.

Students will be able to explain how a kindergarten student generates or prevents litter.

ACTIVITY DESCRIPTION
Students will collect litter on the school grounds and inside the building. They will discuss how things become litter and the effect of litter on their school. They will also identify what can be done to reduce litter.

Teachers: Be aware that this takes cooperation from colleagues and be sure there is enough litter to be found before beginning the activity.

MATERIALS NEEDED
- Paper bags
- Newspaper
- Optional: Map of school area

TEACHER BACKGROUND
Litter is waste material that is out of place, that has not been discarded properly. There are several sources of litter—careless people walking and riding in cars, uncovered trucks, not enough trash cans, animals which scavenge in poorly covered trash cans of homes and businesses. Litter is ugly and dangerous. It costs time and money to clean up litter in your school and city. Some litter is accidental and some is deliberate. All litter is dangerous because broken glass and sharp objects can cut people, especially when hidden in playground sand or a swimming area. It is also dangerous for animals. Birds and small animals mistake pop tops and styrofoam cups for food and eat them. Animals can get cut on broken glass or can be trapped inside of glass jars. Litter also wastes natural resources.
**VOCABULARY**

disposal - the act of throwing out or away.
litter - waste that is out of place.

**ACTION STEPS FOR ACTIVITY**

1. Ask students if they know “What is litter?” After a few answers, take something from the waste basket and drop it on the floor, saying “This is litter—it is waste that is out of place.”

2. Tell students they are going on a Litter Hunt around their school to find waste out of place. Supply each student or team with a collection bag. The class may search school grounds or inside the building. Tell students not to pick up any broken glass or sharp items.

3. Dump the litter on some newspaper, choose several pieces and ask “How do you think this became litter?” (careless people, wind, etc.)
   - How does litter affect our school grounds?
   - Discuss with students why people should not litter (ugly, dangerous to people and animals, wastes resources).
   - Discuss “What can be done to stop litter?” (teach people, be more careful ourselves)
   - Optional: Mark on a map of the school area where the litter was found. Discuss why the litter was in that location.

4. To close this lesson, sort the litter into types of waste to determine which natural resources in the litter have been wasted (see lesson K-2).
   - Be sure to dispose of each type of waste properly.

**ENRICHMENT ACTIVITIES**

- Ask school maintenance person how much litter is collected at school each day. Have this person save one day’s litter to show the class.
- Sing the song "Litter is Garbage"
- Read and discuss a book from the selected reading list.
- Art Project - Making “Litterbugs” Procedure: Have each child make a “litterbug.” It can be very imaginative—encourage antennae, legs, eyes, nose, large mouth etc. The litterbug could be named and glued on a bag. After bags are completed, class could go outside to find litter on school grounds to feed the “litterbug.” If weather is an issue, students could hang the litterbug bags on their desks and feed them litter throughout the day.
- Make litter collection bags out of used plastic bags. Give them to friends, family members or local businesses.

**ASSESSMENT AND EVALUATION**

Standardized Assessment:
Outcome 1. Litter Hurts Our World - Worksheet, requiring students to circle vignettes portraying negative consequences of waste in the wrong place.
Outcome 2. How We Generate or Prevent Litter - “Litter is Waste in the Wrong Place” worksheet, requiring students to circle examples of littering.

Individualized Assessment:
Each student draws a poster, recites a “rap,” or in some other expressive way portrays negative consequences of waste in the wrong place.

Cooperative Assessment:
Students work together on a mural, skit, or other expressive creation that portrays negative consequences of waste in the wrong place.
Reduce, Reuse and Recycle

**Learner Outcomes**

Students will be able to determine which waste items can be reduced, reused or recycled.

Students will be able to describe ways to reduce, reuse and recycle waste.

**Activity Description**

Students will sort objects into groups of things that can be reduced, reused or recycled. They will identify ways that they can practice each strategy.

**Teacher Background**

Many students are already aware of the word RECYCLE. However, they may not fully understand the full meaning of the 3 R's—REDUCE, REUSE and RECYCLE. The proper order of the 3 R's is important.

**Reducing** use of materials is an important way to reduce waste. We can reduce waste by:

- limiting use of single serve packages (chips, pudding and juice boxes).
- using reusable containers for lunch instead of paper lunch bags, plastic sandwich bags.
- limiting use of paper and plastic disposable plates, cups and utensils.

**Reusing** materials is also important:

- use both sides of the paper.
- find new uses for butter tubs, coffee cans, shoe boxes, lunch bags and reusable milk cartons.
- mend clothes and toys.
- give unneeded items to others.

**Recycling** is the third way to save natural resources. To recycle materials, they must be melted, shredded or changed in some way to make a new product. Recycle as many materials as your community collects:

<table>
<thead>
<tr>
<th>Old Product</th>
<th>New Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>newspaper</td>
<td>more newspapers, cereal boxes</td>
</tr>
<tr>
<td>cardboard</td>
<td>more cardboard</td>
</tr>
<tr>
<td>glass</td>
<td>glass jars, fiberglass insulation</td>
</tr>
<tr>
<td>plastic</td>
<td>plastic containers, park benches</td>
</tr>
<tr>
<td>aluminum can</td>
<td>pop cans</td>
</tr>
<tr>
<td>tin and bi-metal cans</td>
<td>soup cans, new cars</td>
</tr>
</tbody>
</table>
VOCABULARY

collage - an artistic collection of objects pasted on paper.
reduce - to make less waste.
reuse - to use something again instead of throwing it away.
recycle - to turn waste into new products.

ACTION STEPS FOR ACTIVITY

1. Use the waste from Activity K-2 or bring a large bag of waste collected from home and school. Be sure to have some items which can be: reduced, reused, recycled (see Teacher Background).

2. Show the students the bag of trash and tell them that there are ways to save many of our natural resources. Discuss with students REDUCE, REUSE and RECYCLE.

3. Weigh the bag of trash.
   • As a class, look at each object in the bag and decide if the object needed to be used (REDUCE), can be used again (REUSE), or can be made into something new (RECYCLE).
   • Sort the objects into three labeled bags.
   • Put the remaining waste into a fourth bag labeled ‘trash’.

4. Ask students:
   • What could be used instead of the products in the “reduce” bag?
   • What are some new ways to use objects in the “reuse” bag?
   • What might things in the “recycle” bag become?
   • Show the students products made from recycled material.

5. Weigh the new, smaller ‘trash’ bag and discuss how much we could reduce our waste if we REDUCE, REUSE and RECYCLE.
   • Could any of this trash be reduced by using reusable products instead of throwaways?

6. As a class, prepare the objects in the ‘recycle’ bag for recycling.
   • Sort into bags for glass, plastic, newspaper, aluminum, and other metals. Use a magnet to tell the difference between aluminum (non-magnetic) and other metals.
   • Prepare: Glass – rinse clean, and remove labels and lids
     Aluminum – rinse and crush, if desired
     Other metals – rinse, remove labels
     Newspaper – put in grocery bag or tie with string
     Plastic – rinse, remove caps

7. To close this lesson discuss with students what they can do to practice the 3 R’s.

   REDUCE Ask parents not to buy single serve packages, limit use of disposable plates, cups and utensils.

   REUSE Use both sides of paper, fix toys and clothes and give unneeded ones to other people, find new uses for empty containers.

   RECYCLE Help recycle at home and school, for example, ask parents to support recycling by buying tissues, greeting cards and notebooks made from recycled paper.

ENRICHMENT ACTIVITIES

- Invite students in cooperative groups or as partners to make a “found object” art collage. Tie in information on artists and illustrators who use collages as a method of reusing materials.

- Read and discuss a book from selected reading list.

- Color or cut pictures from magazines and paste on paper under the proper heading—Reduce, Reuse or Recycle.

ASSESSMENT AND EVALUATION

Standardized Assessment:
Outcome 1a. Reducing Waste; What I Can Do - Worksheet, requiring students to circle the item in each pair that contributes less to the waste stream.

Outcome 1b. Throw Away or Reuse? What I Can Do - Worksheet, requiring students to draw a line from each item in a garbage can to a vignette showing how the item could be reused.

Outcome 1c. Recycling Resources; What I Can Do - Worksheet, requiring students to draw a line from each item in a garbage can to the most appropriate place for this waste.

Individualized Assessment:
Each student draws a poster, recites a “rap,” or in some other expressive way indicates an understanding of the 3 R’s.

Cooperative Assessment:
Students work together on a mural, skit, or other expressive creation indicating they understand the 3 R’s.
Section 2
First Grade

WhataWaste Curriculum: Waste at Home

WhataWaste: Home Garbage Tally
   What is in Our Waste at Home?
   Reducing Waste, What Can I Do?
   Throw Away or Reuse, What Can I Do?
   Recycling Resources, What Can I Do?

EcoArt! Earth Friendly Art and Craft Experiences for Ages 3 to 9 Years Old. Laurie Carlson, Williamson Publications
   Earthworm Wonderland
ECOART!

Earth-Friendly Art & Craft Experiences for 3- to 9-year-olds

LAURIE CARLSON
This project looks like a beautiful piece of decorative artwork, but lift the decorated paper ring and you can view earthworms hard at work.

Worms help turn garbage into soil, and they keep the soil loose and aerated by burrowing through it. They make soil by taking in the compost (food and yard clippings) and dirt, then pushing it out their tail. The dirt that comes out of the worms, called castings, is soft and very fine — perfect for gardening!

To help you study these fascinating, hard-working worms indoors, make a pretty home for them from an old, used, large glass jar. Borrow a few earthworms from your garden soil, but, when you are finished studying them, be sure to return them to your garden, yard, or a park, where they can continue their good work for the earth.

Put the soda pop can, open end down, inside the jar. Carefully spoon moist soil around the can, so the can stays in the center and the soil fills the area around it. (The can keeps the worms from always staying in the center of the jar where you can't see them.)

Once the jar is full of soil, the worms can be added. If you have a good spot to dig them in your yard, borrow a handful and put them in the jar. They will burrow down into the soil within a few minutes. If you need to buy worms, they can be purchased wherever fishing supplies are sold. You can get different types and sizes of worms; Red Wigglers are small and lively and won't crowd the jar. Don't put too many in — about a dozen is plenty for a gallon jar. Punch a few holes in the jar lid with the hammer and nail, so the worms get a good supply of oxygen.

Keep the soil lightly moist, but not wet. Don't let it dry out or the worms will dry out, too. To feed them, sprinkle on crushed, dry dog food or bits of shredded carrot peels. Worms also like coffee grounds and cornmeal.

Worms like darkness, just like under the ground. Cut the black paper to fit around the jar. Use colored chalks to decorate it with interesting designs. Draw on only one side of the paper.
Tape the ends of the paper together to make a ring that fits around the jar. Slide it up when you want to watch the worms, slide it back down over the glass when you are finished. They will burrow next to the glass so you will see them better. Notice how quickly they burrow away from the light when you are watching them.

When you are through studying them, turn them loose in your yard or at a park, putting them under a bit of sod or in some loose soil in a shady spot. They will burrow down below the surface and make a new home there.
Waste at Home

LEARNER OUTCOMES

Students will identify what solid waste is produced in their homes.

Students will identify what activities cause waste to be generated.

Students will identify the natural resources in the waste.

ACTIVITY DESCRIPTION

Students will perform a home waste survey and learn how to classify waste by material type.

MATERIALS NEEDED

- Book, Trash, by Charlotte Wilcox
- "What Is In Our Waste At Home?" worksheet
- WhataWaste Poster: Garbage Pizza

TEACHER BACKGROUND

Waste (trash, garbage) is material which has been throw away because it is worn out, used up or no longer needed. Most of us are unaware of the amount of waste we discard each day and the natural resources in that waste which consequently are lost to us. We need to know how much waste we throw away and what material the waste is made from, before we can decide the best way to save the natural resources in the waste. Waste is generally grouped based on the type of material in the waste (glass, plastic, metal, paper, food, other). Each of these material types comes from different natural resources.

<table>
<thead>
<tr>
<th>Waste</th>
<th>Material</th>
<th>Natural Resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>applesauce jar</td>
<td>glass</td>
<td>sand and rocks</td>
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<tr>
<td>cereal box</td>
<td>paper</td>
<td>trees and soil</td>
</tr>
<tr>
<td>soup/pop can</td>
<td>metal</td>
<td>tin/steel/aluminum</td>
</tr>
<tr>
<td>pop bottle</td>
<td>plastic</td>
<td>oil and natural gas</td>
</tr>
</tbody>
</table>

NOTE: Save the waste items brought from home for Activity 1-4.
solid waste - anything that is useless, unused, or unwanted; trash and garbage.
natural resources - things in nature that we use to make products and to live (air, water, soil, plants, animals, fossil fuels, minerals).
fossil fuels - oil, natural gas and coal used to produce energy and products.
minerals - special material from land and rocks. Metal is made from minerals.

VOCABULARY

TEACHER ACTION STEPS FOR ACTIVITY

1. Ask students “What things did you throw in the garbage this morning or last night?” List items mentioned on the board.
2. Tell students the items listed are examples of solid waste. Tell them the definition of solid waste.
3. Read the book, Trash, by Charlotte Wilcox and discuss the author’s description of solid waste.
4. Show the students “What Is In Our Waste At Home?” worksheet. Review the worksheet with them:
   - Discover how much garbage is thrown away at home in one week.
   - Learn what types of things are thrown away.
5. (ONE WEEK LATER) Total the weight of the garbage thrown away in one week at the students’ homes. Total the weight of the students and compare. Which weighs more, garbage or students? Why is so much thrown away?
6. On a large piece of paper, draw a circle, cut into pie shapes and label wedges, “Plastic, Metal, Paper, Glass, Food, Other.” Label the circle “Garbage Pizza.”
   - Have students write or draw examples of waste from their worksheets and take turns coming up to the “Garbage Pizza” to tape their examples into the correct wedge.
   - As students attach their examples to the pizza, have them tell what type of activity caused the waste. (eating, playing, mail, buying things with packaging…).
   - What natural resources are being thrown away with this waste?
7. Compare the class “Garbage Pizza” with the WhataWaste Poster: Garbage Pizza. The poster shows the average amounts of different types of waste thrown away throughout the United States.
   - How does your class Garbage Pizza compare?
   - Does any of your waste go into the recycling container instead of the garbage can? How does this make a difference?

ENRICHMENT ACTIVITIES

- Have students experience how much garbage weighs. An average of 4 pounds of waste is thrown away for EVERY PERSON EVERY DAY in the United States. Use a large, strong plastic garbage bag. Have one student place something weighing 4 pounds in the bag and try to lift it. Have each student add four more pounds and try to lift it until the bag is too heavy to lift. How many students added garbage? How much did the bag weigh? Picture how much one day’s garbage weighs for all the students in your school; the people in your city; the 230 million people in the United States.

ASSESSMENT AND EVALUATION

Standardized Assessment: Outcome 1. Waste at Home - Worksheet—students to circle waste products produced in homes. Outcome 2. Waste Comes from Natural Resources - Worksheet—students draw lines from waste products to the natural resources from which they come.

Individualized Assessment: Review “What Is In Our Waste at Home?” worksheet with each student (Activity #4).

Cooperative Assessment: Students work together on a mural, skit, or other expressive creation that indicates natural resources are lost when waste is thrown away. Another possibility: assess breadth of classroom participation in Activities #6 and #7, “Garbage Pizza.”

MINNESOTA OFFICE OF WASTE MANAGEMENT
What Is In Our Waste At Home?

1. Weigh one bag of garbage: _______ POUNDS

2. Ask parents how many bags of garbage are thrown out each week: _______ BAGS

3. How many pounds of garbage in one week: _______ POUNDS (multiply 1 x 2)

4. Write six things thrown away this week: for example: egg shells, cereal box, broken toy car.

5. Bring one or two waste items to class (Items must be clean. No glass or sharp objects please.) Save for Activity 1-4.
# Home Garbage Tally

<table>
<thead>
<tr>
<th>Days of Week</th>
<th>Aluminum</th>
<th>Scrap Paper</th>
<th>Newspaper</th>
<th>Glass</th>
<th>Tin Cans</th>
<th>Plastic</th>
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</table>
Reducing Waste—What I Can Do

In each box, circle the thing that would make less waste or use less oil and gas.

1.  
   - Lunch box with soda
   - Paper bag

2.  
   - Canvas lunch bag
   - Paper bag

3.  
   - Takeout burger
   - Hamburger

4.  
   - Thermos
   - Apple juice

5.  
   - Clothesline
   - Washing machine

6.  
   - Basket with laundry
   - Tissue paper

7.  
   - Bottle of grape soda
   - Cases of grape soda

8.  
   - Car
   - Bicycle

9.  
   - City bus
   - Cars

10.  
     - Disposable diapers
     - Dirty diaper bin
Throw Away or Reuse? What I Can Do

Draw a line from each thing in the garbage can to the picture that shows how that thing could be reused.
Recycling Resources—What I Can Do

Draw a line from each thing in the garbage can to the best place for this waste—the recycling bin, the compost area, or the garbage truck.
Section 3
2-3 Grades

What a Waste Curriculum:
  Litter Hurts Our World
  Litter is Waste in the Wrong Place
  Waste in the Classroom
  Waste Comes from Natural Resources
  Throw Away or Reuse, What Can I Do?
  Recycling Resources, What Can I Do?
  Reducing Waste at School, What Can I Do?

Where Does Our Waste Go?

Cornell Education: Trash Goes to School Curriculum:
  My Reduce/Reuse Story
  Discover Composting Organisms
  Mini Landfill

Working on Waste, MN Extension Services-4-H Youth Development:
  The Incredible Edible Landfill

Delaware Solid Waste Authority:
  Luscious Layered Landfill

EPA Curriculum Materials:
  Trash and Climate Change
  Planet Protectors Series
Litter Hurts our World

Circle each picture that shows a bad thing that can happen when we throw away waste improperly. You will need to draw 5 circles.
Litter is Waste in the Wrong Place

Circle each picture that shows an example of littering, or putting waste in the wrong place. You will need to draw 6 circles.
Waste in the Classroom

Draw a circle around each picture that shows a waste product produced in the kindergarten classroom. You will need to draw 4 circles.
Reducing Waste At School—What I Can Do

In each row across, circle the picture that would make the least waste or use the least amount of gas or oil.

“What would make the least waste...”

1. when mowing the lawn?
   - a.
   - b.
   - c.

2. when buying laundry soap?
   - a. REGULAR SIZE LAUNDRY SOAP
   - b. APEX LAUNDRY SOAP
   - c. JUMBO LAUNDRY SOAP

3. when shaving?
   - a.
   - b.
   - c.

4. when cleaning up a spill?
   - a.
   - b.
   - c.

5. when buying juice?
   - a.
   - b.
   - c.
Where does our waste go?

LEARNER OUTCOME
Students will be able to describe effects on the environment of two different ways of disposing of solid waste.

ACTIVITY DESCRIPTION
Students will visit their school dumpster and discuss with school maintenance staff and the waste hauler where the school waste goes. They will also discuss the environmental effects of landfills and incinicators and make a landfill or incinicator art project.

MATERIALS NEEDED
- WhataWaste Poster: Where's the Waste?
- Bag of waste (plastic, glass, paper, metal, food)

TEACHER BACKGROUND
Solid waste in Minnesota is disposed through landfills (30%), incineration (31%), and composting of mixed waste (31%). Recycling and yard waste composting make up the difference. Incinicators burn the waste and the remaining ash is then disposed, often at landfills. All municipal solid waste including ash disposal requires special care because it contains materials which are hazardous to our health. Some incinicators are waste-to-energy plants which turn waste into useful electricity or steam. Incineration is generally considered a better disposal method than landfills, but it is very expensive and requires great care so that the air is not polluted.

New landfills must have plastic and clay liners to protect the water and soil from pollution caused by liquids which drain from the waste. The waste must be covered with dirt each day to control rodents, scavenging birds and odor. Many existing landfills do not have sufficient protection against soil and water pollution. Polluted water has sometimes made its way into people's drinking supplies. Existing landfills are filling up and it is very difficult and very expensive to build new landfills. Some states, such as New York, must transport their waste to landfills in the Midwest.

In addition to the potential for pollution and the cost of operating landfills and incinicators, there is another drawback to these disposal methods. They waste the natural resources in the objects being discarded. Everything we have is made from natural resources, which are better preserved through Reducing, Reusing, Recycling and Composting.

VOCABULARY
- incinerate - to burn waste under controlled conditions.
- landfill - open land where solid waste is buried.
- pollution - contamination of air, water or soil from waste or other harmful substances.
- natural resource - things in nature that we use to make products and to live (air, water, soil, plants, animals, fossil fuels, minerals)
- solid waste - anything that is useless, unused, or unwanted; trash and garbage.
- compost - humus (organic part of soil) made from the decay of yard wastes, food and other organic materials.
1. Collect a bag of waste which includes plastic, glass, metal, different types of paper, packaging, and perhaps some non-meat food scraps.

2. Ask students where does all this waste go? Gradually lead students through steps of disposal: classroom trash goes to school dumpster, waste hauler (garbage truck) picks it up and takes it to the landfill or incinerator. Recyclables are taken away to be recycled.

3. Take a walk to the school dumpster, led by a school maintenance staff person, if possible. Try to schedule the walk to coincide with a waste pickup. Ask the waste hauler and maintenance staff these questions or call the waste hauler's office to schedule a visit to the class.
   - How big is the dumpster?
   - How often does the waste hauler empty it?
   - Where does the school waste go?
   - How far is it?
   - What is it like at the landfill/incinerator?
   - Does the waste hauler take the school's recyclables?
   - Where do the recyclables go?

4. Use the "Where Is the Waste?" poster to show a picture of an incinerator and a landfill. Ask students to describe what it must be like at a landfill (smelly, ugly, big piles of junk) or incinerator (hot, smelly, noisy). Ask students if they can think of any problems with landfills or incinerators (air pollution from incinerators, water and soil pollution from landfills, nobody wants them near their homes because they use up land and waste resources).

5. What happens to our natural resources when they go to an incinerator or landfill? (burned or buried). (Remember, everything is made of natural resources.)

6. Have students cut pictures from magazines or draw objects which would eventually become waste. Glue the pictures to a piece of paper to represent a landfill or to a picture of an incinerator. Discuss that eventually almost everything can become waste and go to a landfill or incinerator. When the landfill paper is full, discuss what happens when our landfills get filled up. Find natural resources in pictures which are being wasted.

ENRICHMENT ACTIVITIES

- Draw pictures or have an imaginative discussion of what to do with our waste (shoot it into space, build mountains, smash it until it is very small).

- Draw a story of a favorite toy from the beginning in the toy store to its end at a landfill.

- Place into a colander a small amount of mixed waste, including coffee grounds or tea leaves. Pour warm water into the colander, which has been placed inside a glass bowl. Watch the color of the water change. This is the way rain water in a landfill can carry pollutants into rivers, wells and other drinking supplies.
Landfill!

Draw arrows to show each step from throwing a juice box away to the juice box going into a landfill.
My Reduce/Reuse Story

(Adapted from Recycling Alaska Activities Handbook, Dept of Env Conservation, Juneau, AK)

GRADE LEVELS: K-3

SUBJECT AREAS: language skills, art and English

CONCEPT: How can we reuse items that we might normally throw away?

OBJECTIVE: To reduce the amount of garbage we produce.

MATERIALS: old magazines and used paper

KEYWORDS: reduce, reuse

PROCEDURE: Have children go through old magazines and select pictures of things which will ultimately become a waste product (cereal boxes, other types of packaging, for example). Have the children paste these pictures into a small "recycling" book (paste picture on used paper).

Have one student dictate into a tape recorder a story about reuse and/or recycling of these materials, or how their use could be avoided altogether. Play this tape back and listen to it.

This could be a group project for K levels and either a group or individual project for level 1-3.

FOLLOW-UP: Discuss other ways of doing without wasteful things and of reusing things rather than throwing them away, such as donating outgrown clothing, saving egg cartons and plastic containers for art classes, or passing magazines along to a hospital or a friend.
Discover Composting Organisms

(Adapted from Composting: Waste to Resources, Cornell Waste Management Institute)

GRADE LEVELS: K-3

SUBJECT AREAS: science

CONCEPT: What makes composting work?

OBJECTIVE: To expose students to some of the organisms that carry out decomposition.

MATERIALS: fresh sample of compost, glass slide or petri dish, hand lens or microscope, paper, pencil

KEYWORDS: bacteria, fungi, decompose

BACKGROUND: The insects, worms, bacteria, and fungi found in your compost pile do the work of making compost. You can see some soil animals with the naked eye, and for some you will need a hand lens or microscope. These organisms are some of the decomposers that fit into the cycle of life.

Cycle of Life

- Producers (Grass)
- Primary Consumers (Sheep)
- Secondary Consumers (Wolf)
- Decomposers (Insects, Fungi)

PROCEDURE: Put a small compost sample on a glass slide with a drop of water. Observe the sample under a hand lens or microscope. If you don't see live organisms, take a fresh sample from the compost. Draw pictures of what you see.

Option: Try to identify organisms with a field guide.

FOLLOW-UP: Take a field trip to see a compost pile, and bring a hand lens to do on-site investigations.

Discuss what would happen in the world if there were no decomposers. What would happen to leaves in the fall, or to dead trees in the forest? (Decomposers are the recyclers of the natural world. They break down organic matter and turn it into materials that can once again be used to support life. That is why compost contains many nutrients that help plants to grow. Without decomposers, we would all be buried in wastes!)
A Mini Landfill

(Adapted from Nutrition Comes Alive, Level 6, A Case of Waste, by the Division of Nutritional Sciences, Cornell University)

GRADE LEVELS: K-3

SUBJECT AREAS: science

CONCEPT: Which materials will decompose, and which will not?

OBJECTIVE: To observe the difference between degradable and non-degradable wastes.

MATERIALS:
- large glass or plastic jars, or aquarium
- various pieces of garbage to bury (small food scraps, bones, metals, cardboard, paper, plastic)
- soil from garden or other outdoor area (not sterilized potting soil)
- water
- plastic wrap
- worksheet: Where Does This Trash Belong?

KEYWORDS: degrade, landfill, decompose, compost

BACKGROUND: Landfills have changed a lot over time. In the 1700's people threw their garbage in the street and pigs and other animals ate it. We make much more garbage today than they did then. If we threw our garbage in the streets today, we would be buried in it!

Today most of our garbage goes to a landfill; some is burned and some recycled. Sending most of our garbage to a landfill is becoming a problem because we are running out of spaces. Where would a city put a landfill?

We have to start looking at our garbage in a different way. In our garbage, there are many resources that should not end up in a landfill. We need to:
1) Reduce the amount of waste we produce,
2) Recycle all that we can,
3) Compost all organic material,
4) Incinerate what is left if that option is feasible and/or available, and
5) Landfill the leftover material.

PROCEDURE: Follow the directions below to make your own mini-landfill.

1. Fill the jar about half full of soil. Add 4 or 5 different pieces of garbage. Keep a list of all the things you put in.
2. Cover the garbage with more soil. Sprinkle the soil with water and cover the top of the jar with plastic wrap.
3. Place the jar in a warm place for about ten days.
4. Then empty the contents of the jar onto a newspaper and examine the bits of garbage. Record and date any changes that you see. Repeat several times to record changes.

Type of Garbage - Changes Observed - What Else Could Be Done With This Item?
1. 
2. 
3. 

http://cwmi.css.cornell.edu/TrashGoesToSchool/MiniLandfill.html 10/24/2005
4. 

5. 

**FOLLOW-UP:** Based on your observations, which materials do you think would naturally decompose? Should they be sent to a landfill, or should they be composted?