

REDUCE, REUSE, AND RECYCLE

Reduce, Reuse, and Recycle: Suggestions for Children

Reduce

- ❖ When you go shopping, take along a bag and tell the cashier that you won't need a new one.
- ❖ Avoid buying fast food unless it is served in recyclable packages.
- ❖ Boycott products that are overpackaged. Choose items packaged in containers that are recyclable or made of recycled materials. Write to companies and tell them why you are making these choices.
- ❖ Don't buy or use disposable products. Switch to cloth napkins, carry drinks in refillable thermos bottles, and carry your lunch in washable, reusable containers. Instead of paper towels, use a cloth or sponge to clean up.
- ❖ Don't buy aerosol cans. They can be recycled in Tompkins County but remember, they contain ingredients which cause air pollution. Instead look for spray bottles or other alternatives.
- ❖ Try to avoid creating hazardous wastes. Many household cleaning products can be replaced with simpler, less hazardous materials.
- ❖ Reduce your use of batteries. They contain heavy metals that are toxic. Try to use mechanical objects, (ones that plug in) or rechargeable batteries.

Reuse

- ❖ Donate outgrown toys and clothing to a worthy cause, rather than throwing them away. Even worn-out clothing can be used as rags for cleaning, car polishing, etc., rather than using disposable paper towels.
- ❖ Build a compost pile. With very little effort, yard wastes and food scraps can be made into compost, which will help your garden or yard to grow.
- ❖ Learn to fix things rather than throwing them out.
- ❖ If you or your family have old magazines or books you want to get rid of, donate them to a hospital, nursing home, or waiting room rather than throwing them away. Share a subscription with a friend.

Recycle

- ❖ Find out what is recyclable in your community, and help your family to make whatever changes are necessary to recycle everything possible.
- ❖ Ask your parents to buy drinks in glass or aluminum containers instead of plastic, since glass and aluminum are easier to recycle. Avoid buying drinks in unrecyclable containers.
- ❖ Whenever possible, choose products made from recycled materials. Unless people want to buy recycled products, companies will not produce them.

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Lesson Plan: Reuse

Objective:

To introduce children to the concept of reuse as an alternative to disposal.

Vocabulary:

Reuse

Ask children how many uses they can think of for a large peanut butter jar or a coffee can. Write them on the board. Tell children that many things can be used again, or reused in the same or in different ways.

Set up a "use-it-again" box for your classroom. Have the children paint, color, or paste pictures on it. Suggest that children place in it all materials that can be used again. Encourage children to contribute to the "use-it-again" box on a day-to-day basis. For example, paper that has only been used on one side can be used again for drawing paper, quiz sheets, etc. Craft items from home (egg cartons, margarine tubs, thread spools, etc.) can also be brought in to make collages and other art projects or donated to the Science Center's Reinvention Station. The phone number is 607-272-0600.

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Lesson Plan: Valuable

Objective:

To show children that some things that are thrown out have value.

Vocabulary:

valuable

Question:

What might there be in one person's trash that would not be trash or waste to someone else?

"One person's trash is another person's treasure."

Set up a "swap box" where the children can bring in old toys or objects that might be thrown out. They can trade an old toy for another that is new to them. An alternative would be to set up a collection box for a local Goodwill or Salvation Army collection.

As a homework assignment, ask the children to write a short story, real or imaginary, describing something valuable that they found buried in the garbage. The stories should include accounts of the previous owners and reasons why the objects were thrown away.

Explain to children that one way to make something last longer - or extend its "life" - is to share it with someone else once you have outgrown or become tired of it.

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Trash Flash Through Time

SUGGESTED GRADE LEVEL: 4-5

OBJECTIVE:

Students will:

- ❖ see how solid waste has been dealt with in the past and why there is a solid waste problem in modern times;
- ❖ examine recycling of the past and compare this to recycling today.

TIME:

30 minute introduction and survey assignment

MATERIALS:

Trash Flash: Older and Wiser Survey sheets included

PROCEDURE:

1. Students will listen carefully and follow along as the teacher takes them on a journey through time. Read the story, *Trash Flash Through Time*, to the class.
2. Immediately following the story, ask the class to consider these questions:
 - ❖ What was the garbage that was tossed out the window and onto the streets of London 700 years ago? (*Were there cans, glass, paper, aluminum, plastic containers, food waste?*)
 - ❖ Describe the method of disposing of garbage 700 years ago.
 - ❖ What is the composition of modern day garbage? (*Food and yard waste, paper, aluminum, tin, glass, cardboard, plastic*)

- ❖ What is our current method of disposing of garbage? (*Primarily landfilling and incineration*)
 - ❖ What do you think was the first attempt to **recycle**? Did your grandparents recycle? How can we find out?
3. Tell the class that perhaps we can learn something about recycling from our past. Our grandparents and their parents recycled or **reused** many materials that are commonly thrown away today. Have students interview a grandparent or other older person in their family or neighborhood using the *Trash Flash Through Time* survey included with this lesson. Students may need to practice their interview skills before beginning this exercise.

Questions for the Class:

After students have completed their interviews, have them participate in this discussion.

1. In what ways did your grandparent or friend recycle?
2. How did they conserve resources?
3. What materials were used for packaging then?
4. How did they keep food items from spoiling?
5. Make an "I learned..." statement regarding your grandparent or friend's use of resources.
6. Have students include their statement in a "Thank You" note to the person interviewed.

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Let's Take A Trash Flash Through Time

You are walking through a quiet, beautiful forest. You feel happy to be in such a peaceful, lovely place as this. You come to an opening under a canopy of leaves, and in the rays of sunshine you see a strange and unexpected sight. It looks sort of like a car, sort of like a thing one would ride at a carnival. It looks like a whole lot of fun, whatever it is, so you open the door and step inside a most miraculous little machine.

There are lights, buttons, levers, graphs, clocks, dials, calendars, and computer screens ... and you know at once ... this is a time machine!

Carefully following the instructions on the screen, you fasten your safety belt, set the clock in reverse, and wait. Dials spin, buzzers sound, and you feel yourself being thrust back into your seat. On the big computer screen above your head, you see events in time come to life: the first trip to the moon; World War II planes flying over Europe; George Washington crossing the Delaware during a harsh winter storm; the Nina, Pina and Santa Maria ships heading westward. Wait! It's going too fast! You've got to stop this thing! Your finger finds a button marked STOP. You press it and the year 1250 flashes above. The machine stops! And the door opens slowly behind you...

It is a misty morning on a cobbled stone street, fog is rolling in and there is a chill in the air. Signs hanging above the shops let

you know you are in London, England. The clapping hooves of a horse-drawn cart can be heard in the distance. Squealing piglets are being joyfully chased by children running all about.

Then from above, SPLASH! PLOP! Out of an open window two stories up comes a shout "GARDY-LOO!" followed by a heavy bucket of garbage. Vegetable peels and table scraps fall right onto the street below. It barely misses you! And now here come the pigs, rushing to the scene to investigate the tasty morsels of garbage they might eat. Can you imagine, people throw garbage out of their windows and onto the streets. Pigs run freely about to eat whatever is edible.

"GARDY-LOO!" The call comes again. Oh! No! Look out. Running, ducking and jumping over slippery, slimy garbage, you head back to the time machine, set the dials to the present, and hit the buttons again. You feel yourself being flung forward in your seat. Dates fly past on the dial, and before you know it, your back, right where you were when you found the machine.

WHEW! What a trip! The door opens behind you, but you remain seated as your mind continues to spin with the memory of your adventure.

Just think of all the garbage! It's good to be back home.

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EXTENSION ACTIVITIES:

1. Invite two or three senior citizens to share stories about what life was like when they were students in school. Have them talk about garbage, things they threw away and things they reused and repaired.
2. Have the students fill out a survey today as if they were adults talking to 4th and 5th graders in the future. Students would describe themselves and their life-style habits as they are today. Try to have copies of all the surveys from this lesson included in the school archives or time capsule.
3. Complete the questionnaire, *Trash Flash Through Time*. Answers are included in italics.
4. Have the class visit a nursing home to talk with the residents about how the world has changed during their lifetimes.

Can you answer these questions?

1. Is most of our garbage:
 - a. buried in landfills,
 - b. burned,
 - c. reused, or
 - d. recycled?

(In Tompkins County, 22,083 tons of garbage were landfilled in 2004 at Seneca Meadows landfill in Waterloo, NY. The County Recycling and Solid Waste Center processed 17,232 tons of recyclables, including yard waste.)

2. Are dumps and municipal solid waste landfills the same? *(No, municipal solid waste landfills have liners to protect the soil and groundwater nearby; dumps are illegal.)*
3. How much of our trash is packaging? *(32 percent by weight and 30 percent by volume.)*
4. To recycle means to process waste materials into new products. True or false? *(True. For example, recycling newspaper into cardboard boxes, or melting down used glass jars to make new ones.)*
5. If you could change something about the way you recycle, what would it be?

SOURCE:

South Carolina Department of Health and Environmental Control. 2001.
Action for a Cleaner Tomorrow: A South Carolina Environmental Curriculum Supplement.
Columbia, SC.

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Trash Flash Through Time: Older and Wiser Survey

Begin by explaining: We are conducting interviews with older generations so we can learn how people handled their garbage and resources in the past. Your stories are valuable to our research. Thank you for agreeing to do this interview. Please answer all of the questions for the time period when you were my age.

1. What is your full name? _____
2. Where were you born? _____
3. What was the year when you were my age? _____
4. What did you do for fun? _____

5. How old were you when you got your first TV? _____
6. What chores did you do? _____
7. How did you get to school? _____
8. What toys did you have? _____

9. What were they made of? _____

Food:

10. How was your family's food kept fresh? _____

11. How did store-bought food come packaged? _____
12. What did you do with the packaging or container when it was empty? _____

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13. Did you carry your own lunch? _____
In what containers? _____

14. If you ever brought food home from a restaurant, how was it packaged? _____

Paper:

15. What did you do with old papers, magazines, and books? _____

16. Did you use paper napkins, tissues or towels? _____
If not, what did you use? _____

17. Did stores provide paper shopping bags? _____

Glass:

18. What types of glass containers did you have (jars, soda bottles, milk bottles, etc.)?

19. Did you throw them away, reuse or recycle them? _____

Aluminum:

20. Did you have aluminum? _____
For what uses? _____

21. Did you throw it away? _____

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Tin cans:

22. What kinds of food did you buy in cans? _____

23. What did you do with the cans when they were empty? _____

Plastic:

24. Were there plastic containers? _____
What came in them? _____
25. What was in your first plastic bottle? _____

Garbage:

26. Where was your garbage thrown? _____

27. Was any of it recycled or reused? _____

Wrap-up Questions:

28. Did people talk about recycling and conserving resources then? _____
29. How do you think people today have changed in their attitudes? _____

30. Would you rather be a child in today's time or the times when you were a child? _____

THANK YOU!

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Grandfather's Toys

SUGGESTED GRADE LEVEL: 2-3

OBJECTIVE:

Children will become familiar with the difference between what we throw away today and what we threw away in the past.

Focus: Our solid waste contains many things we throw away because they do not last.

TIME:

Two class periods plus homework.

MATERIALS:

Antique and modern toys

BACKGROUND:

Toys have changed through the years. At one time, most were made of natural materials. Toys were made of paper-maché, or were handmade like whirligigs, bean shooters, yo-yo's and tops made of wood. Over time, commercially manufactured toys became available, like wooden Lincoln Logs and Tinker Toys and metal Erector sets. Then plastic toys came on the market with toy guns, Frisbees, Hula Hoops and plastic dolls. Now battery-operated and electronic toys like video games are popular.

PROCEDURE:

1. Ask students to answer the following questions: Do you have a favorite toy at home? Have you ever had a favorite toy that didn't last very long? What happened to it? What was it made of?
2. Have students bring in toys that are broken or damaged and might be thrown out. What are they made of? How long did they last?

How would the students redesign the toys to last longer. How might these broken toys be fixed or made into new toys?

3. Ask students if they've seen any of their grandparents' old toys. Discuss the change in materials that toys are made from, how they are made, etc. Discuss toys made in other cultures and at other times in history. Examples of old-fashioned toys such as whirligigs or wooden blocks would be most helpful. How are they different from modern toys? How are toys made in other cultures or at other times in history different from our toys?
4. Develop a list of questions with the students that might ask an older person about toys. For example: What were your favorite toys when you were little? How many toys did you have? What were your toys made of? Who made them? How long did your toys last? Could these toys be fixed if they broke? Would it have been cheaper to fix the toys or get a new one? Why? If broken toys could not be repaired, what did you do with them? How are today's toys different from those you had?
5. Have each student interview an older person about toys from the past. Students may interview an older person at home or in the neighborhood, have an older person come to class, or take a field trip to a nursing home or senior citizen center to interview people. Taping would allow the rest of the class to learn and share.

Option: In conjunction with Grandparent's Day in the fall, invite a grandparent to class so that all students can share in the activity.

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6. Discuss the differences discovered. How might these differences affect our natural resources and what we throw away? What happened to the toys that our grandparents threw away? What will happen to our own toys when we throw them away?

EXTENSION ACTIVITIES:

1. Contact a local museum, library or historical society to see if they have an exhibit on antique toys. Ask the curator if he or she will show them to your class.
2. Find out how some of the old toys were made (corn husk dolls, whirligigs, etc.) and make some in class.
3. Have each student choose and write a report about a toy that was popular in a different time and culture (Cherokee Indian toys, Egyptian toys, etc).

EXTENSION ACTIVITIES ON BATTERIES:

Ask the class, how many of their favorite toys run on batteries? What happens to all the batteries? Have you ever used rechargeable batteries? Have a class session on rechargeable batteries. Some ideas follow:

Batteries should never be thrown in the trash when they run down. They should be collected and taken for recycling. Some stores accept old batteries for recycling or they can be disposed of during household hazardous waste collection periods. Common batteries, such as the ones

in your toys at home, contain many different hazardous materials such as lead, mercury, silver, nickel, or cadmium.

How much contamination is possible from a battery? The mercury contained in one tiny watch battery is enough to contaminate six tons of garbage. How many batteries do you use and throw away in your home? Using non-toxic, zinc based batteries or rechargeable batteries are the best alternatives to common “disposable” batteries.

MATERIALS FOR BATTERY EXTENSION:

Magazines with ads for battery-operated consumer products.

LEARNING PROCEDURE FOR BATTERY EXTENSION:

1. Have the students clip pictures of battery-operated products from the magazines.
2. Display the pictures around the room and ask the following questions: What products do we need to use to help us stay alive (absolutely critical to life)? What products do we need to make our world safer and cleaner? What products do we use to make our lives easier, to save time, to provide power to do a difficult job? What products do we use for play or recreation? What products could be operated with a source other than batteries, which get thrown away when they are spent (solar-powered calculators, household electricity instead of batteries, etc.)

SOURCE:

South Carolina Department of Health and Environmental Control. 2001.
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