



JOIN THE MDOT TEAM!



Albert Challenges
You to Help Keep
Mississippi Clean
and Litter Free!

It's as Easy as
1-2-3!



Forgotten Language

Shel Silverstein

Once I spoke the language of the flowers,
Once I understood each word the caterpillar said,
Once I smiled in secret at the gossip of the starlings,
And shared a conversation with the housefly
in my bed.

Once I heard and answered all the questions
of the crickets,
And joined the crying of each falling, dying
flake of snow,

Once I spoke the language of the flowers. . . .

How did it go?

How did it go?

Bill Minor
Northern District Commissioner

Dick Hall
Central District Commissioner

Wayne H. Brown
Southern District Commissioner



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Post Office Box 1850 • Jackson, Mississippi 39215-1850 • Telephone (601) 359-7001 • Facsimile (601) 359-7110 • www.goMDOT.com

Dear Educator,

Mississippi has a serious problem and it is called litter. In fact, a recent survey showed that Mississippi is 30% more littered than other states. The Mississippi Department of Transportation (MDOT) spends over \$3 million each year just to clean up litter. What a disgrace! This money could be used in better ways, such as repairing roads. The MDOT recognizes the detrimental effect litter has on our state's economy and environment, and is committed to making Mississippi's transportation system cleaner and safer for all.

We are very proud of our Myrtle the Turtle and Albert the Monkey Educational Program and we thank you for inviting the MDOT Anti Litter Coordinator in your area to visit your school. We are happy to leave a copy of our new booklet of lessons and activities for you to use in the classroom as a supplementary resource. These lessons and activities are appropriate for the lower elementary grades but can be adapted for your specific grade level needs. We hope this will be of some assistance to you as you endeavor to continue to educate your students of the need to eliminate litter in their communities, practice the three R's - Reuse, Reduce, and Recycle, and to conserve natural resources. Taking care of our environment today is crucial in order to secure a better tomorrow. I believe that all of us working together can successfully clean up the earth - one community at a time.

I would also like to urge you to send me or the Anti-Litter Coordinator in your area any lesson or activity you may have developed which follows the "Think Green, Keep Mississippi Clean" message. I would love to add it to this booklet so that other educators may use it in their classrooms (giving you the credit, of course). Don't forget to access our website-<http://gomdot.com/home/thinkgreen> for additional information and resources.

In closing, all of us here at the MDOT appreciate the important job you do each and every day preparing our children to become the adults of the future. Thank you!

Sincerely,

Karen Philipp

Karen Philipp
State Anti-Litter Coordinator
Maintenance Division 75-01
P.O. Box 1850
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601-359-7111
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The Rotten Truth about Garbage

You have just finished your meal at a fast food restaurant and you throw your uneaten food, food wrappers, drink cup, utensils and napkins into the trash can. You don't think about that waste again. On trash pickup day in your neighborhood, you push your can out to the curb, and workers dump the contents into a big truck and haul it away. You don't have to think about that waste again, either. But maybe you have wondered, as you watch the trash truck pull away, just where that garbage ends up.

How Landfills Work

<http://www.howstuffworks.com/landfill.htm>

Where is Out?

<http://kid-at-art.com/htdoc/educate.html>

VA Trekkers: Podcast on Recycling (EXCELLENT RESOURCE)

www.virginiatrekkers.com/Recycling/Recycling.html



Photo Source: Bartholomew County Solid Waste Management District
<http://www.bcswmd.com/php/index.php>



Teachers,

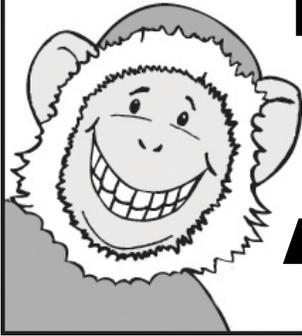
We know you make a difference in kids' lives every day. However, we want to know the kind of difference you are making from a "Going Green" standpoint. Do you have a recycle bin in your classroom? Do you pick up litter around your school? What are some examples of ways you Reduce, Reuse, and Recycle everyday items? We want to know ways you make an impact environmentally on your world. What are you doing to "THINK GREEN"?

If you or your class is doing something fun or special to help "Think Green, Keep Mississippi Clean," please email or mail a photo(s) and paragraph or more describing your project or activity to the MDOT State Anti - Litter Coordinator below.

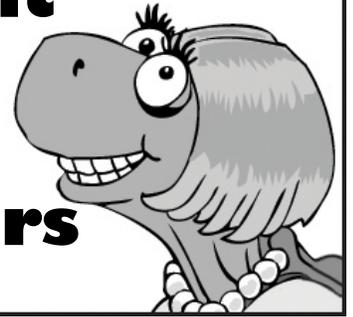
Or, maybe you have a terrific lesson or activity you would like to share with other MS. educators. Send that to us and we'll add it to our booklet (giving you all of the credit, of course).

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MDOT would love to put your info on their official website. So, join the quest and do your part in helping to keep our great state of Mississippi Litter Free!



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Table of Contents

MDOT Anti-Litter Coordinators	page 5
Kid's Safety Rules	page 9
Sheriff's Letter	page 10
Classroom Litter Pledge	page 11
Albert's Litter Facts	page 12
Online Teacher Resources	page 13
Online Student Games	page 14
Litter Lifeline	page 15
Faculty Ways to Reduce Waste at School	page 16
Setting Up a School Recycling Program	page 17
Reproducible Activity Sheets	pages 18-30
Litter Activities	pages 31-47
Recycling Activities	pages 48-71
Stormwater Activities	pages 72-102
Whole School Activities	pages 103-107
Art Activities	page 108-132
Resources	page 133



Teacher Information





SafetyFirst

**Use Safety And Caution When
Having Students Pick Up Litter!**

(See p.7 for Safety Tips)



**Preview All Websites Before
Using In The Classroom**



CAUTION KIDS!



Be careful when picking up trash and litter:

**NEVER PICK UP IN STREETS OR
ROADS WITHOUT AN ADULT
PRESENT!**

- Use a pair of heavy work gloves.
- Watch out for snakes, especially in tall grass.
- Never pick up broken glass or other sharp objects.
- Never pick up hypodermic needles or other items that are dangerous and may harm you. If you find any suspicious objects, report them to an adult immediately.
- Wash your hands after picking up trash.

Date _____

Dear Sheriff _____,

Our class has signed a litter pledge from the Mississippi Department of Transportation (MDOT) promising to do our part to “Think Green, Keep Mississippi Clean”. We are committed to help keep Mississippi roadways litter-free.

All of us are aware that litter is ugly, unsafe and hurts our environment. We sure wish everyone would care about the beauty of our state and not use it as a trash can.

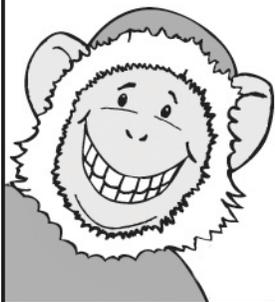
Would you please help us by making sure our litter laws are enforced to teach litterbugs a lesson? We know you have a lot to do, but we sure would appreciate it. Thank you for all of the hard work you do!

Sincerely,

Name _____

School _____

City/Town _____



Albert and Myrtle's Classroom Anti-Litter Pledge



I promise to do all I can to make my home, Mississippi, a more beautiful state by helping to keep the streets and highways clean and safe and litter free.

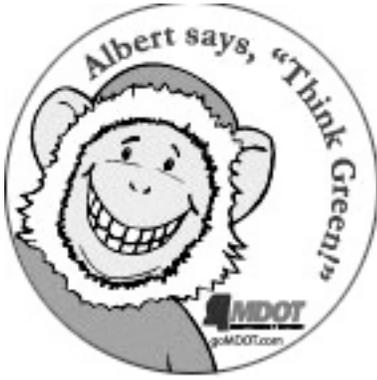
I pledge to always aim to:

1. Always put my litter in a trash can.
2. Keep our streets and highways litter free.
3. Never throw litter from a vehicle.
4. Keep the ground, water, beach and park litter free.
5. Use a litter bag in my family's vehicle.
6. Never throw trash into the bed of a pick- up truck where it can blow out to litter the roads and highways.
7. Always keep my home, my yard and my school campus litter free.
8. Remind smokers to never throw their cigarette butts on the ground because that is littering.
9. Set a good example and to encourage others to Think Green, Keep Mississippi Clean.

Name: _____

Date: _____





Albert's Litter Facts

- **What is Litter?** Trash put in the wrong place. Trash DOES NOT belong on the ground, in the streams, rivers or oceans, or along the streets or highways.
- **Litter is Ugly.** No one likes to live where there is litter. Neighborhoods with a litter problem usually have higher crime, lower property values and less pride in their neighborhood.
- **Litter is Expensive.** The Mississippi Department of Transportation spends over \$3 million cleaning up litter. This money could be spent for other projects, like repairing roads. Fires started by dropped or dumped litter cause millions of dollars of damage every year.
- **Litter is Against the Law.** In Mississippi, if you are caught littering from a vehicle, you can be fined up to \$250.
- **Litter hurts people.** Vehicle accidents can be caused by litter. People in these accidents are injured and sometimes even killed in their attempts to avoid litter in the roadways. Young children fall on litter in playgrounds, get cut and need medical attention. Litter can hurt and injure our Mississippi Department of Transportation Employees who work on state roadways.
- **Litter kills or injures animals.** Many small animals crawl into bottles or jars and get stuck. Animals get caught in plastic six pack rings, plastic bags, and fishing line. Birds that are stuck, can't fly away from danger. Animals get cut, infected and often die.
- **Litter can kill or stunt plant growth.**
- **Litter is a problem that can be controlled and YOU CAN HELP Make a Difference!** One way you can help control litter is by recycling. Recycling means taking materials from products you have finished using and making brand new products with them. For example, most of the aluminum cans in the United States are made with recycled aluminum.

Online Teacher Resources

- Go MDOT <http://www.gomdot.com> *Click on Programs, then Think Green Keep Mississippi Clean*
- Keep Mississippi Beautiful <http://www.kmbpal.org>
- Keep America Beautiful <http://www.kab.org>
- Eco Kids Online <http://www.ecokids.ca/pub/index.cfm>
- EPA Kids <http://www.epa.gov/kids/>
- VA Trekkers: Podcast Recycling
<http://www.virginiatrekkers.com/Recycling/Recycling.html>
- Water Cycle Presentation
http://www.epa.gov/safewater/kids/flash/flash_watercycle.html
- The Water Sourcebooks contain 324 activities for grades K-12
<http://www.epa.gov/ogwdw/kids/wsb/index.html>

Ideas for Recyclable Art Projects

- KinderArt (K5 up) <http://www.kinderart.com/recycle/>
- Making Friends.com <http://www.makingfriends.com/recycle.htm>
- Recycling Ideas and Crafts Projects
<http://www.allfreecrafts.com/recycling-crafts/index.shtml>

Student Online Games

- Kids Can • Kids Can <http://www.cpia.ca/kidscan/>
- EPA Kids <http://www.epa.gov/kids/game.htm>
- Ollie's World
<http://www.olliesworld.com/adventure/onlinegames/online-games.htm>

Online Games for Students

TEACHERS: PREVIEW ALL WEBSITES BEFORE USING IN THE CLASSROOM

K- 5th Grade

ShanaBanana Recycling Game

<http://teachers.pasd.k12.pa.us/elem/elemtechintegr/ElementaryContentLinks/default.htm>

Litterbug Learning Fun Game

<http://www.planetpals.com/interactivegames/litterbug.htm>

Ollie Recycles

<http://www.ollierecycles.com/club/games/sort/gamesort.htm>

Clean Kent Litter Games

<http://www.cleankent.co.uk/funzone/funzone/games.html>

Epic's Virtual Adventure Tour

<http://www.cpia.ca/peanut/>

Dora's Mermaid Adventure

www.nickjr.com/games/doras-mermaid-adventure.jhtml

PA Cleanways Kids

<http://www.pacleanways.org/kids/makedo/games.htm>

Recycle Roundup

<http://kids.nationalgeographic.com/Games/ActionGames/Recycle-roundup>

The Conversionator

<http://www.nrc-recycle.org/theconversionator/shell.html>

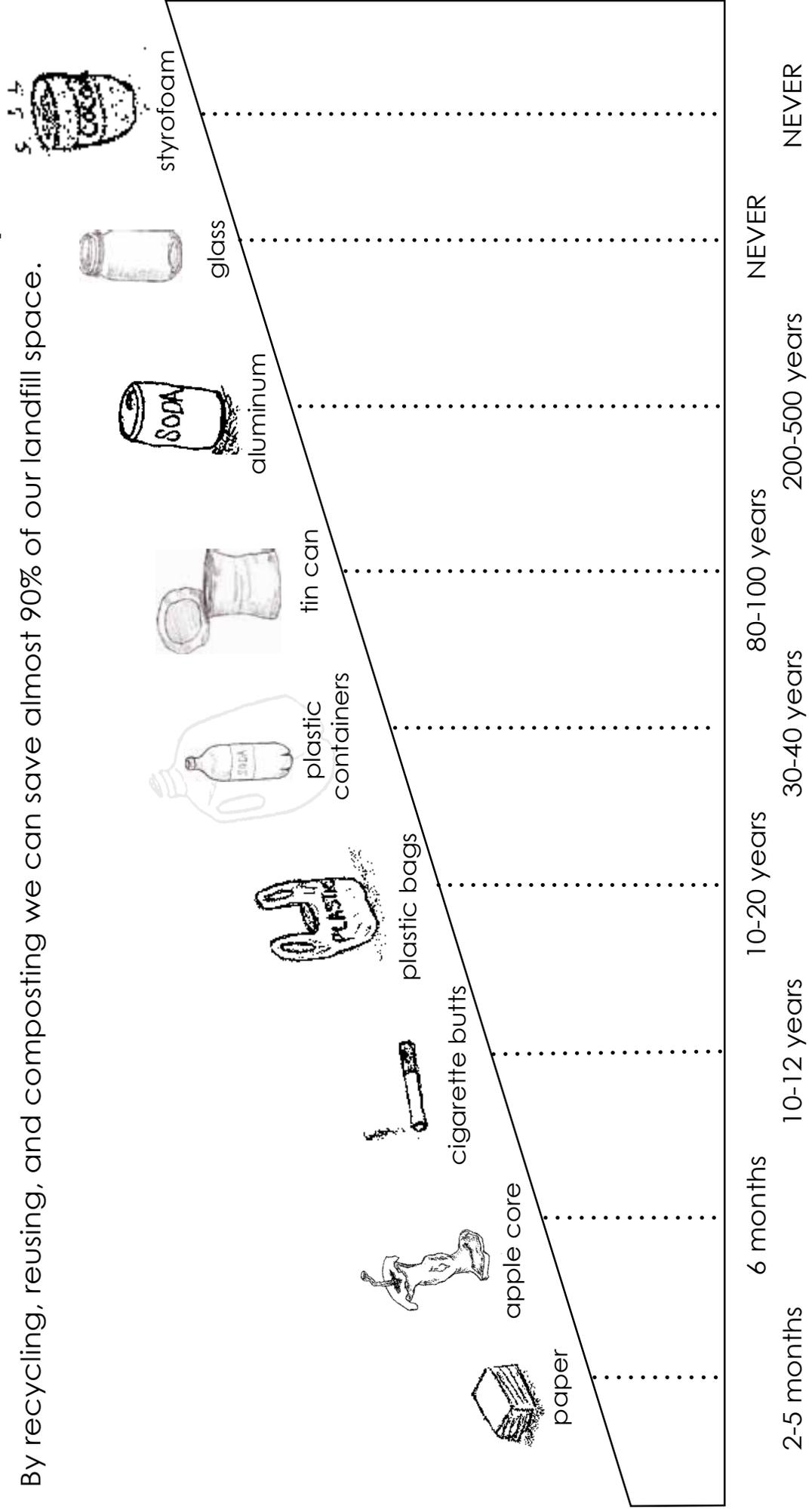
Reggie Recycler

http://www.cpia.ca/kidscan/EN/core_EN.php

LITTER LIFELINE

These are common litter items and the time it takes each item to decompose.

By recycling, reusing, and composting we can save almost 90% of our landfill space.



Ways to Reduce Waste at School

REDUCE

- Use double-sided photocopies to reduce paper consumption.
- Circulate memos via routing slips or use email instead of sending out individual copies.
- Use overheads, marker boards, or blackboards instead of paper flip charts in meetings.
- Convey messages via homeroom representatives or over the public address system.
- Purchase office and classroom supplies in bulk.

REUSE

- Use refillable pens and pencils.
- Reuse old cardboard boxes for storage or for packaging outgoing materials.
- Reuse file folders by reversing the folders or applying new labels.
- Reuse envelopes for internal mailings or filing.
- Post announcements on central message boards.
- Use single-sided sheets of paper as scrap paper for calculations or rough notes.
- Send used books and office equipment to a local charity or social service agency.
- Form a waste exchange within the school or among several schools to enable students and staff to find new homes for unwanted books, clothing, jewelry, sports equipment and other items.
- Take advantage of “student power” (i.e. students in detention could spend the time repairing damaged furniture or sorting items for recycling).

RECYCLE

- Set up bins or boxes for fine paper and recyclables in offices and classrooms. Set up recycling bins for cans and bottles in convenient locations.
- Purchase office and classroom supplies such as writing paper, books, paints, and toner cartridges that have recycled content.

Setting Up a School Recycling and Waste Reduction Program

Not only will you save money for your school, you will be educating the next generation on the value of caring for our community and environment.

1. Obtain top-level support from the school administration, your school district's operation and maintenance staff and your schools custodial staff. Discuss how the program can reduce costs for the school by lowering their disposal costs.
2. Appoint a recycling coordinator, teacher, class or club to implement your program. The best teams have students, teachers, principals, administration and parents who are willing to help.
3. As a team, define your goals and ensure that each member has a role.
4. It is a good idea to choose one or two recyclables to start your new program (i.e. cardboard and mixed paper). Once your program is functioning smoothly, expand your program to include more recyclable materials. Focusing on recycling one commodity at a time allows you to work out the difficulties that may arise with contractual, collection, sorting and educational components.
 - a. Team members can choose the right type of collection container such as restricted openings or slots for paper to keep the garbage out of the recyclables.
 - b. The team will need to determine where containers should be placed on your school sites. Recycling bins need to have trash receptacles next to them or your recycling containers may be used for garbage.
 - c. The recycle team will empty the collection containers bins into larger containers on site so the recycling company can pick them up. Develop this collection system with your school custodial staff. If this part of the program is not managed correctly, recyclables can find their way back into the garbage receptacles.
 - d. The team can create signs or contact local businesses as corporate sponsors and alert the local media of the program. Consider holding a kick-off event at your school site and perhaps tracking and graphing your recycling success to share with your students every month.
 - e. Some schools collect the can and bottle containers, bring them to a local recycler and use the proceeds to purchase recycling containers, fund field trips, and or have an end-of-the-year pizza party for the recycling team.

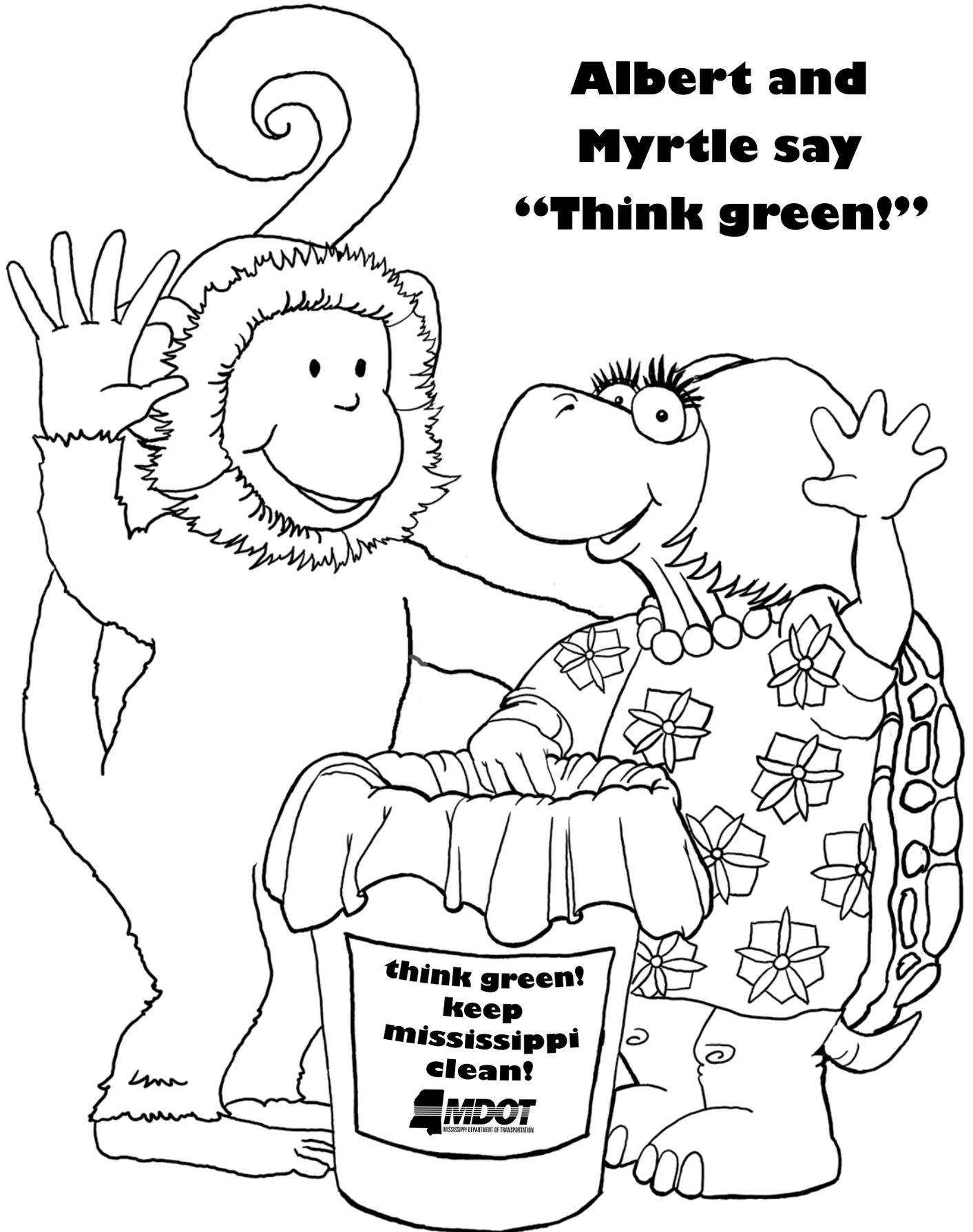


Reproducible Activity Sheets



Meet Albert!

**Albert and
Myrtle say
“Think green!”**



Brain Twisters

Sound out the pictures to form words. Each box contains a message.
Can you write the message?

   _____

   _____

 Sm  _____

  _____

3 R's

"What are the three Rs?"

To find out the answer, fill in the blanks by matching the numbers to the letters below.

5 3 2 7 1 3

5 3 7 6 3

5 3 1 8 1 4 3

1 = C

5 = R

2 = D

6 = S

3 = E

7 = U

4 = L

8 = Y

Fill in the _____ Blank



Directions: In the following sentences, fill in the blanks using words from the word bank below.

1. Litter is _____ to clean up.
2. Think _____ , Keep Mississippi Clean.
3. Litter can spread _____ which can make us sick.
4. Litter can _____ animals.
5. _____ on the road can cause auto accidents.
6. I will keep the roads, water and beach litter _____ .
7. Littering is against the _____ .
8. We are _____ to live in a litter free community.

costly

green

germs

harm

litter

free

law

proud

Word Scramble

Unscramble these words to find out the most often littered pieces of trash.



1. RPEPA

2. EPWPRASR

3. TSBTOLE

4. NASC

5. ISLPCAT

Why Recycle? Crack the Code!

Use the code to find out why it is better to recycle.

Code:

					
ground	energy	saves	keeps	resources	
					
our	water	air	recycling	clean	and

1.



_____ .

2.



_____ .

3.



_____ , _____ ,



_____ .

To trash or not to trash?

trash: broken, discarded or worthless things, rubbish

recyclables: materials which can be reused

Color the things below which can be saved from becoming trash.



plastic bottle



banana peels



empty soda can



soda straw



milk carton



used crayons



old books



grass clippings



newspapers

How many words can you make from

LITTER PREVENTION

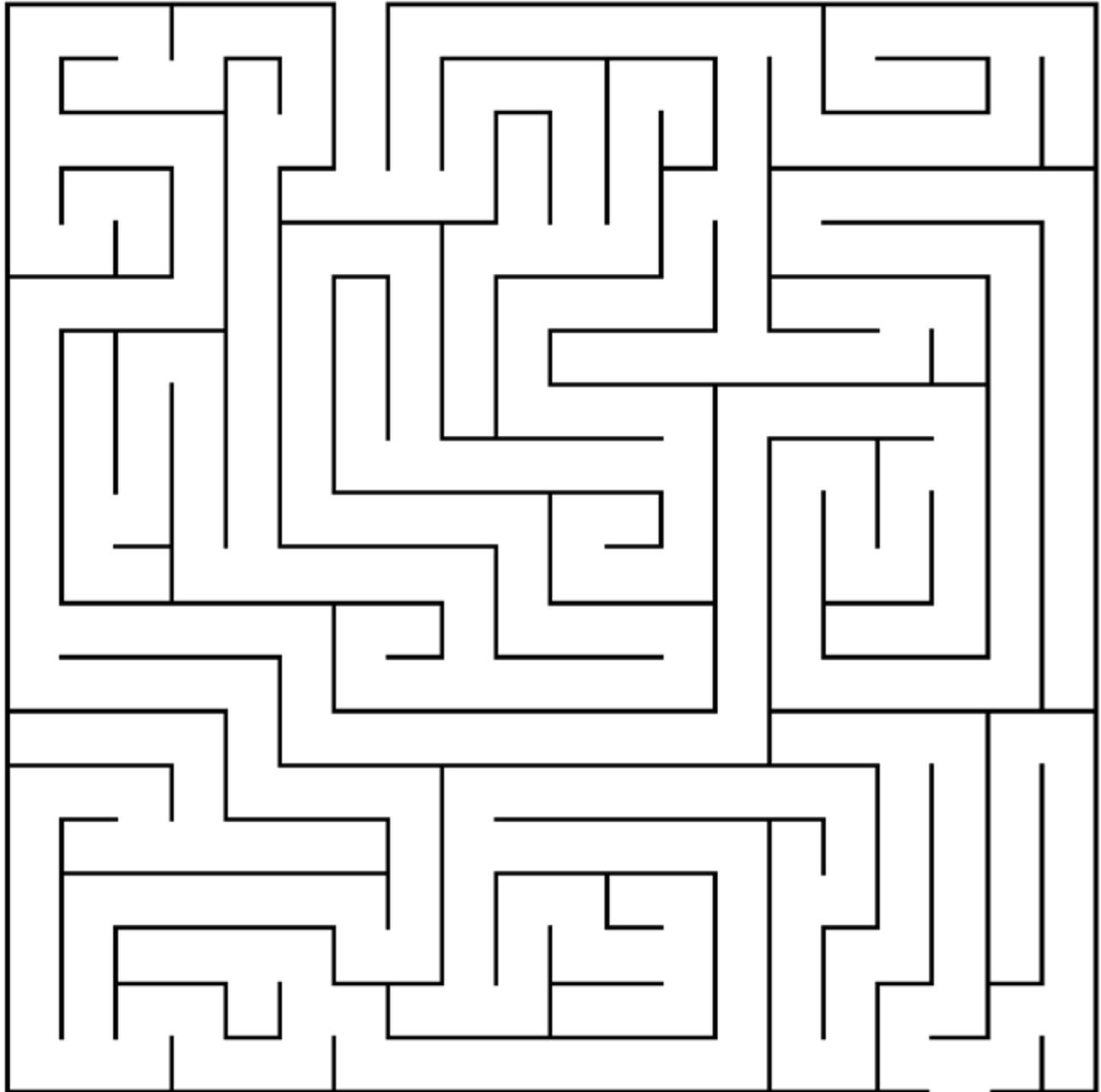


Recycle Maze



Find your way through the maze and put this aluminum can in the recycle bin.

START



The Groundwater Foundation. www.groundwater.org

END



Where Does It Go?

What should be done with the items below? Should you recycle it, put it in the trash, put it in the compost pile or reuse it again? Print out game and put an X in the correct column(s).

(There may be more than one answer).

	RECYCLE 	TASH 	COMPOST 	REUSE 
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Where Does It Go? - Answers

apple core	-	compost
light bulb	-	trash
pickle jar	-	recycle & reuse
banana peel	-	compost
soda bottle	-	recycle & reuse
window pane	-	trash



Litter



Every Litter Bit Hurts

Definition of “litter”: human-generated waste (or trash) that is discarded in an inappropriate place (streets, playgrounds, streams, etc.), or improperly stored trash which has escaped from its container (trash can, dumpster, back of truck, etc.).

Part One: What litter is “bad” litter?

All litter is harmful. Littering is an inappropriate behavior and a bad habit that people have learned.

1. Get a litter bag from your teacher
2. Empty your trash bag and arrange the items so everyone can see them.
3. List the items in your bag, and don't forget to include the paper bag.
4. Rank the items from least harmful to most harmful.
5. Ranking should be a group decision.
6. Write why you chose one item over another as harmful.

Part Two: Educating Others

Create a group poster that explains or shows why litter is undesirable.

Some ideas are:

- Litter is pollution; it is an eyesore that destroys the beauty of a place.
- Litter can be dangerous; broken glass or metal can injure.
- Litter is often eaten by wildlife and this can lead to injury or death.
- Litter can be a threat to public health; illegally dumped tires are breeding grounds for mosquitoes, and rodents frequent waste piles.
- Even the odor of trash piles can be offensive.

#1 - Animal Litter Bag Craft

Feed the animals each time you throw away the trash with these animal litter bags crafts. These handy litter bags are decorated to look like animals. Kids will have a great time decorating these bags with their favorite animal faces.

Make an animal litter bag.

What You'll Need:

- Stapler
- Paper grocery bags
- Scissors
- Crayons or markers
- Construction paper
- Tape or glue
- Work gloves



How to make the animal litter bag craft:

Step 1: Staple the top of a large grocery bag closed.

Step 2: On the plain side of the paper bag, cut out a large opening that will be the mouth of your animal. Be sure the mouth is high enough on the bag so it will still hold trash.

Step 3: Color eyes, ears, nose, and feet on the bag to look like any animal you choose. If you'd like, use construction paper and cut out shapes for the body parts. Tape or glue them onto the bag in the proper places.

You can also cut strips of paper for fur or a mane, and glue them to the bag. Use your imagination -- your creation doesn't have to be an animal you've ever seen before.

Step 4: When your animal is completed, put on your work gloves and walk around your yard or neighborhood. Pick up litter, and put it in the bag through the animal's mouth. Don't pick up any broken glass, needles, or other dangerous materials.

Source: <http://home.howstuffworks.com>

Let Your Imagination Guide You...

Plastic Grocery Bags, NO Kidding!

#2 - Litter Bags

Plastic Grocery Bags, NO Kidding!

Turn bags inside out and give each student colored markers and stickers to decorate their own litter bags. You may want to have the "Going Green" theme and award prizes to everyone (prettiest, most colorful, funniest, etc.)



Litter Bugs

Grade 2 and Up

Littering is often times a bad habit. Working with your group, create a skit about littering. Your cast of characters will portray a type of litterbug from the examples below.

a. The Sport Litter Bug - This litterbug loves to attend all type of sporting events and cheer on his team, he samples every type of food from the concession stand, and leaves a pile of food wrappings under his seat.

b. The Traveling Litter Bug - This bug is constantly on the go. When traveling in his car he can be seen continually throwing items out of his window.

c. The Picnic Litter Bug - A true nature lover, this bug loves to enjoy a meal in the outdoors. When he leaves the site (littered with the remains of his meal), he is surprised to find the site not as pretty as he originally found it and vows to find a better spot next time.

d. The Bad Aim Litter Bug - This bug makes a game out of throwing trash in the trash can. He gets one point if the toss is good. If he misses, he figures there's always next time.

e. The Good Intentions Litter Bug - This bug leaves school every day and stops at the convenience store to pick up a snack. After eating the snack the bug looks for a trash can but can't find one. Thinking it will be out of sight this bug drops his trash in a storm drain.

(The above portion of the activity was adapted from Waste in Place by Keep America Beautiful)

<http://www.kab.org>

America the Beautiful

Grade Level: 3-5

Objective: Students will create a visual of the United States representing how trash affects the environment.

Materials:

Litter or other trash

Background support -like construction paper or cardboard- at least 12" BY 18"

White Glue

Pencil and Eraser

Map of United States



Procedures/Steps:

1- Begin lesson by asking students what they think when they hear the word “litter.”

2- Begin leading discussion into talking about our environment and how people say they care about it, but getting them to do something about it is another matter. Discuss that with Picasso and other artists, sometimes it is necessary to make art that is disturbing in order to get people’s attention and activate them. It is with this in mind that the following project is presented and the reminder to students that art is more than just a pretty picture.

3- Explain to students the project that they will be doing. Have students study the shape of the United States, and using a pencil, draw this outline on the background support.

Paying close attention to the Great Lakes and States like Florida and Texas whose shapes help to identify your finished picture of the map of the United States.

4-Being careful to follow the shape you have drawn, fill in the outline solidly by gluing the trash you have collected all over the map. You have just recycled! The collage may be displayed with the “America the Beautiful?” title. This will help remind others to keep America clean.

Tips and Tricks:

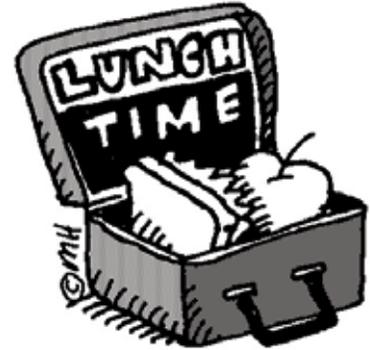
Look for trash in your school and on your playground. Have students look in their rooms, desk, and even in their backpacks. Draw the map on a large cardboard flat rescued from a refrigerator or freezer carton. Have students work together to glue on the trash, and display the works in a prominent place for all to see.

Source: <http://kid-at-art.com/htdoc/lesson1.html>

The Litter-less Lunch Challenge

<http://www.fundyrecycles.com>

Objective: Students will plan, implement and evaluate a litter less lunch activity to reduce waste.



Introduction

Parents often pack lunches with single-use plastic bags, aluminum foil, or wax paper, or they purchase single-serving items. Much of the trash people generate comes from food packaging, and lunch foods are no exception.

In fact, it is estimated that on average a school-age child using a disposable lunch generates 67 pounds of waste per school year (www.wastefreelunches.org). An old-fashioned “brown bagger” can conceivably dispose of over 14, 000 paper lunch bags in their lifetime (www.saveonfoods.com).

A litter less lunch is one where nothing needs to be thrown away. For example, a student could pack a lunch in a reusable lunch box or cloth bag with re-usable plastic containers.

Activity

1. Eat lunch in the classroom on a rainy day, and ask students to measure the amount of waste.
2. Discuss what it means to create a lunch with no waste. Why is it important?
3. Brainstorm with the class what a litter less lunch looks like?

Avoid:

- × Brown paper bags
- × Plastic sandwich bags
- × Styrofoam cups

Instead choose:

- Reusable lunch kits or bags
- Reusable plastic containers
- Reusable drink bottles
- Snacks in minimal wrapping
- Pack a cloth napkin instead of a paper napkin.
- Pack stainless-steel utensils instead of using disposable plastics.

4. Select a day to have a litter less lunch in the classroom. Send a letter home informing parents about the day and possible lunch alternatives. Measure the waste, and compare it to the lunch waste before the class discussed the importance of a litter less lunch.

Follow up activities:

- Ask students to create a collage of things that create a litter less lunch.
- Have the students set a personal goal regarding their lunches, and create a chart so they can track it for a period of time.
- Compose a litter less lunch song or story about how they can make a difference.
- Write about how students can help reduce the litter in their lunches at home.



Example:

During the entire week, please bring a WASTE-FREE LUNCH!

Instead of a:
paper bag
ziplock bag/aluminum foil
drink box
plastic spoon

Bring a:
reusable lunch sack
Tupperware for sandwich/snack
thermos
metal spoon

The lunch service will also be supporting this effort by using silverware instead of plastic utensils for the week.

We will be weighing the garbage before and after
WASTE-FREE LUNCH WEEK

Ms. Siegleman's third grade class calculated that if every child in Nassakeag school threw away one plastic bag every day, we would pollute our earth with:
3,600 in one week;
14,400 in one month; and
129,600 on one year!

Mrs. Sommer's kindergarten class tried to see how many times they could use the same brown bag for snack. Some children used their bags more than 24 times. If everyone in class did this, we would save 456 bags!

WE CAN MAKE A DIFFERENCE!

For information on Waste Free Lunch Programs visit
www.wastefreelunches.org

Henry Heron, A Litter Story

Grades K-1st

OBJECTIVES: Students will be able to recognize litter and be able to explain how it may affect animals. They will also be able to identify ways to reduce and prevent littering.

BACKGROUND: Animals need food, water, air, and space. The water and the space must be clean and free of litter to provide a safe and healthy habitat.

MATERIALS: Henry Heron story copy, plastic six pack ring, rubber bands, picture of a heron or stuffed animal

Procedure:

1. Ask for a show of hands of students who have ever visited a park with a lake. Discuss the things they saw around the lake and guide the discussion toward litter or trash they might have seen. Emphasize the animals they saw and explain that litter may hurt the animals. If you brought a visual, share it with them. Point out that the heron is a large bird with long legs and neck, and it eats fish in the water. Introduce any new vocabulary words in Henry Heron story before you read the it to them.
2. Read Henry Heron stopping in the middle to have students predict what will happen to Henry. After finishing the story, discuss how Henry might have felt and how the people helping Henry might have felt.
3. Show a six-pack ring and pass it around so students can see how strong it is.
4. Take a large rubber band and fasten it over your thumb and little finger (over the back of your hand). Ask the students if they think it would be easy to remove the rubber band without using their other hand. Let several or all of the students try. Have them discuss how hard it is to remove the rubber band. Talk about how animals have trouble removing items that get caught around their feet and necks since they don't have hands and fingers to help remove the items.

Wrap Up/Assessment

1. Have students suggest their own ending or have students retell the major events of the story. Depending upon the level of the students, this might be accomplished verbally, through illustrations, or in writing.
2. Ask students the following questions:
What are other examples of litter that might be found around a lake? How might these things be dangerous to animals? What can you do to lessen the amount of litter?

Henry Heron

Henry is a heron. He likes to hang out at the park's lake. He often stands as still a statue and waits for minnows to swim by so he can grab a quick snack.

Henry is a very curious heron and always explores the nooks and crannies of the lakes and rivers he visits. One day Henry saw something stuck in the grass near the edge of the lake. "I wonder what that could be?" he thought excitedly as he went closer. "Oh, it's only a soda can," he sighed. "Another piece of trash left by a lazy person. I don't know why people can't be neater!!"

Just as he was about to wade away, Henry saw a minnow skimming through the water. He did exactly what comes naturally to herons. His head went down and he came up with the minnow in his beak. "Yum!" he said as he swallowed the minnow. "I love good food." Then Henry noticed he had caught more than just the minnow. The minnow had gone beneath a plastic six-pack ring and as Henry had reached to get it, his head had gone through the ring. It was stuck on his long neck!

Henry shook, he wiggled, he rubbed against the grass, he stuck his head into the water ... but nothing he did would remove the plastic ring. "This is terrible, horrible and awful," Henry announced to the world. But no one was listening. Henry gave one more long, lonely shake of this head.

Morning dawned and Henry stretched, but was brought up short. The plastic ring pulled and squeezed his neck, and made it very hard for Henry to breathe. Then some park visitors saw Henry. They chased him, trying to catch him. We know they just wanted to help Henry, but all Henry knew was that he was scared and wanted to get away. He wished he could disappear. He flew away and landed in a nearby clearing.

After a while Henry got hungry and came out to the middle of the lake. He tried to catch some fish but the plastic ring kept getting in the way or it moved, and scared the minnows away. How could he catch some fish? Henry flew to the shore, still hungry. When he got there he was again chased by people. This time, the people were in uniforms.

The next day Henry was tired, hungry, and terribly discouraged. He went over to the other herons. They also chased him away. "You're scaring all the fish away." "You're making people chase us." "You look stupid with that plastic ring thing around your neck!"

"I didn't get it stuck on myself on purpose," Henry said. "I tried to get it off." But the herons just flapped their long wings and left Henry. One of them even pecked at Henry, and you know that had to hurt!



Teacher note: Stop here. Ask the students to predict what they think might happen to Henry.

Henry was resting quietly in a cove of reeds when suddenly he was covered with a net. He flapped and struggled but he couldn't get away. When hands reached for him, he snapped at them with his beak. The people wouldn't give up. They finally got a good hold on Henry and tried to calm him. They held his neck very still and clipped the plastic ring and then pulled it off. When they released Henry he flapped his wings and flew across the lake. Once he had calmed down, he realized the people had helped him and had removed the plastic ring.

"Yes," he said. "I can eat again! I can drink!" and he dipped his head into the water. "I can sleep and eat and do almost anything!!!" Henry was so excited!

Note to teachers and older students:

It would be nice to say Henry was safe for the rest of his life. Many animals never get rescued in the first place and those that do may get caught in litter again. Animals do not remember what has happened to them in the past like people do.

Animals would probably not realize that litter is dangerous to them either. They may even think a piece of litter looks like something interesting to eat and go after it on purpose. We can help by always putting our trash in the right places.

Source: <http://www.deq.virginia.gov>

Is It Litter Box?

Grades K-4th

OBJECTIVES: Students will be able to differentiate between items that are man-made and those that are natural. They will understand that “trash out of place” such as on roadsides is litter.

BACKGROUND: Natural items might be thought of as those objects that are “made by nature.” Man-made items refer to objects that are “made by man or by machine.” Those objects found in inappropriate places should be considered litter. If people use a proper waste container or recycling bin instead of dropping or throwing items just anywhere less litter and pollution would be generated. For young students, litter is a good example of pollution.

(Pollution: things, often by-products of production which are harmful to our health and to the environment.)

Less litter and pollution would make communities more attractive and healthier places in which to live.

MATERIALS: Box with a cover; natural and man-made (clean litter items)

Procedure:

1. Lay all examples of natural and man-made items on a table. Holding up an object, ask students if they think it was made by nature or man-made. Repeat with other items. Summarize / establish a working definition for both of the terms “natural” and “man-made.”
2. Have students think about being outside on the playground. Pick 2 or 3 man-made objects from the table. Ask students if they would think the playground was littered if they saw these things laying around. Why? Is this considered pollution? Where should these man-made items be placed so they are no longer littering the playground. Can any of these items be recycled? What does recycled mean?
3. Put the man-made items on the floor. Add some natural items. Have students imagine they are eating lunch and see these items on the floor. Determine whether these items need to be removed and where they should be put. Help students conclude that trash out of place becomes litter.
4. Put all items into the box. Explain to students that they will now play a game where they will pretend that all of these items are lying along the side of the road. They must pull an object out of the box. It will be tricky because they can't use their eyes. They will have to try to guess what the object is by feeling it. They will have 3 tries to guess. Students then determine whether the object would be naturally found on the side of the road or if it would be considered litter. Last, students need to decide where litter items need to be placed.

Source: <http://www.deq.virginia.gov>

Dumping is Un-Natural

Grades K-5

OBJECTIVES: Students will understand the negative impact illegal dumping has on the natural beauty of our state.

MATERIALS: bags of garbage collected specifically for this activity, gloves, trash bags



SUBJECT AREAS: Science, Social Studies, Language Arts

VOCABULARY:

Illegal dumping - the disposal of waste at any location that does not have a permit from the Mississippi Department of Environmental Quality (<http://www.deq.state.ms.us>)

Reuse - the use of a product more than once in its same form for the same purpose or for different purposes.

Recycle - the process of collecting materials from the waste stream and separating them by type, remaking them into new products, and marketing and reusing the materials as new products.

Compost - the decomposition of organic matter into a product used to enrich or improve consistency of soil for growing plants.

Procedure:

1. Lay all examples of natural and man-made items on a table. Holding up an object, ask students if they think it was made by nature or man-made. Repeat with other items. Summarize /establish a working definition for both of the terms “natural” and “man-made.”
2. Have students think about being outside on the playground. Pick 2 or 3 man-made objects from the table. Ask students if they would think the playground was littered if they saw these things laying around. Why? Is this considered pollution? Where should these man-made items be placed so they are no longer littering the playground. Can any of these items be recycled? What does recycled mean?
3. Put the man-made items on the floor. Add some natural items. Have students imagine they are eating lunch and see these items on the floor. Determine whether these items need to be removed and where they should be put. Help students conclude that trash out of place becomes litter.
4. Put all items into the box. Explain to students that they will now play a game where they will pretend that all of these items are lying along the side of the road. They must pull an object out of the box. It will be tricky because they can't use their eyes. They will have to try to guess what the object is by feeling it. They will have 3 tries to guess. Students then determine whether the object would be naturally found on the side of the road or if it would be considered litter. Last, students need to decide where litter items need to be placed.

5. Ask: Where should waste go? Waste should ultimately end up in a permitted sanitary landfill. However, the waste may first go from the household, school or business to a transfer station and then on to a landfill. Many counties in Mississippi do not have a landfill, so the waste may have to travel some distance to its final destination in a landfill.

6. Ask: What can be done to make our natural areas that have garbage illegally dumped on them become cleaner, safer places to visit?

(1) Clean up the area - with adult supervision and using gloves, pick up all the “illegally dumped” waste.

(2) Separate waste into different piles of plastics, paper, metals, etc.

(3) Can any of these items be reused? If so, how?

(4) Can any of these items be recycled? If so, how and where?

(5) Is there fruit and vegetable waste that could be composted?

(6) Dispose of any remaining wastes properly.

7. Explain that this situation was “set up”, but there are many real illegal dumps sites along our roadsides, in our parks, and near our rivers and streams,

8. Ask: what can be done to eliminate these real illegal dump sites?

(1) Organized cleanups

(2) Make signs and posters to place in natural areas to discourage illegal dumping.

(3) See if local government or sponsors can provide receptacles for trash and recyclables.

(4) Write letters to local media providing education on proper disposal/recycling techniques.

(5) Write letters to local officials asking for more enforcement action against illegal dumpers.

(6) Help educate the people/citizens of your community about the dangers of improper and proper waste disposal.

Evaluation Questions:

1. What is illegal dumping?

2. How does illegal dumping spoil the natural beauty of Mississippi?

3. How does illegal dumping affect tourism and developing industry in Mississippi?

4. What is the proper way to dispose of wastes?

5. What can you do to help eliminate illegal dumping?

Developed by Phyllis Mooney

BIODEGRADABLE?

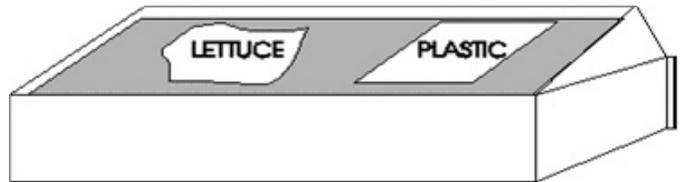
Grades 1-6

OBJECTIVES: What happens to buried garbage?

MATERIALS: ___ 1 milk carton
___ 1 piece of plastic bag
___ 1 piece of lettuce
___ 1 cup of water
___ dirt
___ fork (next week)

Procedure:

1. Fill the milk carton half way with dirt.
2. Lay the lettuce and the plastic on top of the dirt.
3. Cover the “trash” with more dirt.
4. Water your garbage dumps.
5. Wait a week then use a fork to dig out your trash.



RESULTS:

Has the trash changed? ___ yes ___ no

Lettuce ___ yes ___ no

Plastic ___ yes ___ no

How? _____

CONCLUSION:

Planet Pleasers

Grades: 3-5

OBJECTIVES: Recognizing the importance of conserving natural resources and protecting the environment.

BACKGROUND: People have an enormous impact on their environment. Each day the population of the world continues to grow, creating more pollution and litter, endangering more plants and animals and consuming more of our natural resources. To prevent further damage to the environment, people must learn to conserve or preserve by limiting the use of natural resources and producing less waste.

One way to preserve our planet is through recycling. Recycling helps conserve our natural resources by creating less garbage and using old products to make new products. Paper, glass, aluminum and several other materials can all be recycled into new products.

Websites: <http://www.portal.state.pa.us/portal/server.pt/community/recycling/13955>
<http://www.dnr.state.wi.us/org/caer/ce/eeek/earth/recycle/index.htm>
<http://kids.niehs.nih.gov/recycle.htm>

MATERIALS: clean, empty containers made of paper, plastic, aluminum and glass
chart paper, marker
1 copy of student handout "Become a Planet Pleaser"

Introduction: Show students several empty containers made of paper, plastic, aluminum and glass. Ask what the objects all have in common. (They are all made of recyclable materials)

Procedure:

1. Share the Background Information with students. Ask them to think of ways the containers above can be recycled or reused. Encourage creative answers. (The websites listed above may be used as a resource)
2. Explain to students that we need to recycle to reduce the amount of natural resources used and the amount of pollution and litter produced. Pollution is damage to the environment (land, water, air, plants and animals) caused by trash and other harmful substances. Have students give examples of various pollutants, such as litter on the streets and highways and chemicals being dumped into waterways. Then ask students who they feel are the main producers of pollution (humans); then ask students to name who are the most able to do something about pollution (humans).
3. Divide students into groups of four. Direct each group to brainstorm ways people can preserve natural resources and recycle materials at home and at school. Then as each group shares its list with the class, compile the information by recording the group's response on a large sheet of chart paper. Title the chart "Planet-Pleasing Actions" and display it in a prominent spot in the room.
4. Distribute one copy of the student handout "Become a Planet Pleaser." Challenge each student to become a record breaking planet pleaser. Have the student record her/his top planet-pleasing actions from the class list and then record how often he/she completes one of the actions as directed.

Source: 1998 The Education Center, Inc., Lifesaver Lessons, TEC512

Become a Record - Breaking Planet Pleaser

Name _____

Recycling, picking up trash, and protecting our environment are all ways we can keep our planet healthy and strong. So, how can you become part of the action? Beside the numbers below, record your top “planet pleasing actions” such as not throwing trash on the roads and highways and recycling newspapers. Keep your list in a special place. Then any time you complete one of the actions, record that actions number in one of the globe circles. Go for the gold record and fill every circle!

Top Planet Pleasers

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____



Recycle



Preschool Activity: Recycle!



First, read a recycling themed story (suggestions below).

Discuss the story with students.

- Michael Recycle by Ellie Bethel
ISBN: 978-160010224-0
- Why Should I Recycle? by Jen Green
ISBN: 0-7641-3155-9

Next, discuss the items allowed in the local recycling program.

A fun way to do this is to have the children call out “Yes!” or “No!” when you hold up different items.

- Put several items in a curb side bin.
- Pull out one item at time.
- For each item ask, “Can I recycle this in my green bin?”
- Prompt them to say the answer out loud.
- Because the children are very young, make sure the items are easy to guess. For non-recyclable items you may include fun things like teddy-bears, shoes, soccer balls, crayons etc.

Prepare items for the craft a day or two ahead of time. Each child will need a copy of “Preschool Recycle Bin” downloaded from the Keep Henrico Beautiful Web site <http://www.co.henrico.va.us/utility/khbeautiful/education.html> (this download is meant to be double-sided).

You can also download cutouts for a water bottle, soda bottle, and aluminum can.

Other items to prepare include small squares of different materials accepted in your local recycling program. For example, cut small squares of magazines, newspaper, cardboard, paper board, envelopes, and aluminum foil. Make sure there is enough of each item for every child. Additional items you will need for each child include a green crayon and glue stick.

- Give each child their recycle bin hand-out and a green crayon. Have them color their recycle bin (if they finish quickly they can turn it over and trace the words printed on the back).
- Explain to each child that they will get one sample of each item to recycle. Ask them to arrange the items on the paper before they glue them down.
- Let each child fill their recycle bin by gluing the items down with their glue stick.

The final step is to thank the children for recycling!

Mystery Bag of Trash

An Introductory Lesson to Recycling for Younger Children



Objective: Hands on experience choosing what trash is and what is recyclable.

Ages: Kindergarten -Grade 3

Materials: Use a dark trash bag full of cleaned garbage and recyclable items including cans, bottles, jars, plastic bags, containers and other non-food items. Items must be sanitary and have no sharp edges for the students to cut themselves on.

Summary: Students will pull out items and separate into trash and recyclable piles. Explanations will be given at the end.

Method: Each student will pull an item out of the dark bag. They will examine the item and tell the class what it is. They will then put the item on the appropriate table, pile, etc., according to whether they believe it to be trash or recyclable. When all students have taken a turn and all materials are out of the bag, go to each table and pick up each item. Ask the group where it belongs. Reposition items as the class dictates.

Go back through the items, recyclables first. Explain what the items are and if they are recyclable or not. If so, show an example of what they can be made into after recycled. Then move to the trash table and explain each item and why or why not it can be recycled.

Extension: As an extension of the activity, or for more advanced grades, use actual bins for each recyclable. Have the students classify the items by placing them in the correct recycling bin. Explain each choice at the end of the activity.

Join the Recycling Team

Grades 1-6

THEME: Recycling is a positive action everyone can take.

GOAL: Students will understand that recycling is a team effort in which everyone can participate.

METHOD: Reading and discussion

TIME: 30 minutes

SUBJECTS: Language arts, performing arts

MATERIALS: The Little Red Hen

Getting Started

Ask the students how many people are needed to recycle. Is it easier to recycle when people help one another?

Procedure:

Adapt the story of The Little Red Hen by changing the words. The story follows the original until the section where the hen finds the grains of wheat. Adapt the story to read:

One day when she was hoeing, she found some soda cans. "Who will help me put these soda cans in the recycling bin?" "Not I," said the cat. "Not I," said the dog. "Not I," said the duck. "Then I will," said the hen, and she did.

Each morning when she was cleaning around the house, she saved up all the glass bottles, metal cans, newspapers, and cardboard and put them aside. She stacked the paper and cardboard together and put the glass and cans in a large bin.

When the paper stacks became too high to reach, the Little Red Hen asked, "Who will help me put the newspapers and cardboard in bundles?" "Not I," said the cat. "Not I," said the dog. "Not I," said the duck. "Then I will," said the hen, and she did.

When the glass and metal bin was full and there were several bundles of paper and cardboard the Little Red Hen said, "Who will help me take the bin and bundles to the recycling center?"

"Not I," said the cat. "Not I," said the dog. "Not I," said the duck. "Then I will," said the hen, and she did.

So the Little Red Hen piled everything in her car and drove to the recycling center where she put everything in its place. With the money she got for the bottles, she bought a fresh loaf of bread.

The rest of the story can continue until the end, when all the animals help her collect, bundle, and deliver the recyclables to the center.

Source: Kristen Walser

Trash to Treasure

Grades 1-6

THEME: Reusing materials before they are thrown away can conserve landfill space and natural resources.

GOAL: Students will realize they can reduce the trash load by redefining waste as a potential resource.

METHOD: Creating a class treasure chest

TIME: 45 minutes

SUBJECTS: Art, language arts

SKILLS: Creating, observing, making value judgments

MATERIALS: Trash can; old box; scraps of fabric, yarn, paper, ribbons, etc.; egg cartons; glue; scissors



Getting Started

Does everything that we throw away have to be trash?

Procedure:

1. Fill the trash can with the various scrap items and explain to the class that these are things that would normally have been thrown away, never to be used again.
2. Have the children come up one at a time and ask them to select several items out of the trash can. Have students use these materials to create whatever they want—a picture, a sculpture, jewelry.
3. With the leftover materials decorate the old box to make it look like a treasure chest and have the students come up and place their new “treasure” in the chest.
4. Point out that the garbage can is now empty. The students have both reduced the amount of garbage that has to be disposed of and reused it to make something new.

Extensions:

1. Read aloud the poem “Johnny.” Ask the class to think of other items at school or home that could be reused instead of being thrown away. Have the students create drawings to illustrate these objects and how they would be used in new ways.
2. Have the students write a short story or poem about the item they just made. Where did it come from? What did it become? Is it trash or treasure?



JOHNNY

To Johnny a box
is a house
or a car
or a ship
or a train
or a horse.

A stick
is a sword
or a spear
or a cane,
and a magic carpet
is magic,
of course.

By Marci Ridlon

Wise Use of Paper

Grades 1-6

THEME: Many of our daily habits are wasteful regarding the use of paper.

GOAL: Students will recognize how much paper is wasted and how it accumulates over time

METHOD: Collecting and weighing paper, graphing the results

TIME: 2 weeks

SUBJECTS: Math, social studies

SKILLS: Analyzing, comparing, measuring

MATERIALS: Waste paper; two cardboard boxes; scale

Getting Started

Ask the students how much paper they think they use. How much do they think they waste?

Procedure:

1. Each day have the students place in boxes all paper that would normally have been thrown away. In one box, place paper that has been completely used (i.e., written on both sides). In the other, pile paper that has been only partially used or not used at all.
2. At the end of the day select a student to weigh each stack of paper and have the class graph the results.
3. Follow this procedure every day for a week and discuss the following: Were you surprised at the amount of paper that was wasted? What is the effect of this waste on our natural resources and landfills? How can people change their habits so that there is less waste?
4. Repeat the same activity for a second week. How different were the results? List on the board the different ways the students tried to conserve paper. Are there other items that are sometimes thrown away before they are completely used?

Extensions:

1. Using the results obtained above, have the class determine how much paper it would waste in a month. In a year? How much paper would the class save in a month or a year if it reduced its paper consumption by one-half? By one-quarter?
2. Working in small groups, have the class list the paper products they use at home or at school. In a parallel column, have them list products that could be used in their place (e.g., dishcloths instead of paper towels, handkerchiefs for paper tissues).

Source: Adapted from Washington, A-Way With Waste

Waste Reduction at School

REDUCE

- Use double-sided photocopies to reduce paper consumption.
- Circulate memos via routing slips instead of sending out individual copies.
- Use overheads, marker boards, or blackboards instead of paper flip charts in meetings.
- Convey messages via homeroom representatives or over the public address system.
- Purchase office and classroom supplies in bulk.

REUSE

- Use refillable pens and pencils.
- Reuse old cardboard boxes for storage or for packaging outgoing materials.
- Reuse file folders by reversing the folders or applying new labels.
- Reuse envelopes for internal mailings or filing.
- Post announcements on central message boards.
- Use single-sided sheets of paper as scrap paper for calculations or rough notes.
- Send used books and office equipment to a local charity or social service agency.
- Form a waste exchange within the school or among several schools to enable students and staff to find new homes for unwanted books, clothing, jewelry, sports equipment and other items.
- Take advantage of “student power” (i.e. students in detention could spend the time repairing damaged furniture or sorting items for recycling).

RECYCLE

- Set up bins or boxes for fine paper and recyclables in offices and classrooms. Waste-Not Recycling currently has the recycling collection contract with the Poudre R-1 School District. Set up recycling bins for cans and bottles in convenient locations.
- Try vermicomposting (composting with worms) small quantities of food scraps in the classroom, perhaps as a part of a science project.
- Close the recycling loop: purchase office and classroom supplies such as writing paper, books, paints, and toner cartridges that have recycled content.



Litter Detectives

Grades K-12

The students will develop a positive attitude against littering. Students will develop solutions to help reduce littering.

OBJECTIVE: The student will become familiar with popular attitudes toward recycling and the practice of recycling in the community.

RESOURCES: Duplication of survey forms, chalkboard.

INTRODUCTION: Many items present in household waste are recyclable provided that the householder has the initiative to recycle and a convenient outlet exists for the recycled materials. It has been estimated that recycling takes only a few minutes each day.

Some communities collect recyclable materials with regular garbage collection. Some communities rely on householders to transport recyclables to a collection center. Some collection centers pay for certain recyclable materials.

Recycling helps to conserve energy and natural resources, contributes to the economy, and reduces the amount of municipal waste requiring disposal. Recycling also promotes an awareness of the finiteness of our natural resources and offers an environmentally acceptable method of municipal waste management.

PROCEDURE:

1. Engage the class in a discussion on the subject of recycling. Survey the class to determine whether any students assist in a family recycling effort, or recycle on their own. Ask for descriptions of how recycling is accomplished and what materials are recycled. Why do they recycle? Is money earned from the effort? Have any students visited a recycling center? Solicit descriptions and impressions.
2. Suggest to the class that it would be interesting to discover how others feel about recycling. A survey could be conducted which would also determine how many others in the school and community recycle.
3. Have the class brainstorm a list of questions that they might ask to others about recycling. Suggestions include:
 - Do you know the meaning of the term "recycle"?
 - Do you recycle? Why?
 - Why don't you recycle?
 - Do you think you should recycle?
 - What materials do you recycle?
 - How do you recycle?
 - Where do you recycle?
 - Do you get paid for recycled materials?
 - How much time is devoted to recycling each day or week?
 - Do you think you could recycle more?

Assemble the questions selected into a logical order and an easily presentable format. Allow sufficient space for answers. A single page survey form limited to ten or fewer questions is suggested.

4. Duplicate the survey form and distribute one or several forms to each student. Ask the students to interview students in other classes, or teachers, neighbors, friends, relatives, etc., completing a survey form for each interview. Allow several days or a weekend for the survey.
5. Collect the survey forms. List the questions or numbers of the questions on the chalkboard and compile the results. Develop percentages for each response.
6. Discuss the results with the class. Are certain materials recycled more frequently than others? Why? What is the recycling participation rate? Do any recyclers recycle more than one item? Do non- recyclers suggest common reasons for not recycling? Are the reasons valid? Why do people recycle?

Source: <http://www.theteachersguide.com/Recyclinglessonplans.htm>

Catalog Necklace

Grades K-5

Brief Description

Why not recycle those old magazines and catalogs (or colored paper scraps, wrapping paper, or junk mail)? Transform them into a colorful necklace.

Objectives

Students will create a practical gift item by recycling paper material.

Materials Needed:

- toothpicks or pencils
- a wide variety of colorful magazines, catalogs, brochures, or junk mail

Lesson Plan:

In this activity, students make paper beads from colorful paper recycled from catalogs, magazines, brochures, colored paper scraps, wrapping paper, and junk mail.

The process is a simple one. Students cut colorful images into tall, skinny triangle shapes. The triangles should be about 3/4 inch at the bottom and 4-5 inches tall.

Students might experiment with making beads of different sizes. (For example, the triangle could be an inch long at its base and 8 inches tall; it is not recommended that beads be wider than 1 inch.)

Wrap each triangle strip around a toothpick, pencil, or dowel. Start with the wide end (the base of the triangle). Wrap the paper around and around until it is totally and tightly wrapped. (The narrow tip of the triangle will be visible on the top of the bead. Put a dab of glue under the last half-inch or so of the triangle, then press firmly. Let dry.

Repeat the steps above to make additional beads. You will need to make 20 to 30 beads in order to end up with a necklace that is about 24 inches long.

When the beads are completed and dry, pull the toothpick, pencil, or dowel out of the beads, creating a hole through the center of each bead. Students string yarn or thread through the holes to connect the beads and create a necklace.

Repeat the steps above to make additional beads. You will need to make 20 to 30 beads in order to end up with a necklace that is about 24 inches long.

When the beads are completed and dry, pull the toothpick, pencil, or dowel out of the beads, creating a hole through the center of each bead. Students string yarn or thread through the holes to connect the beads and create a necklace.

Students also might varnish the beads to give them extra sheen.

<http://www.education-world.com/>

The activity instructions below are written with small-team competition in mind.

Trash Can Relay

Set up five classroom trash cans in an obstacle course. The first student on the team runs the course, weaving in and out around the cans. When the student reaches the last can, he or she turns around and weaves back to the team. The runner taps the next team member in line, who takes his/her turn running the course...

Waste No Water

Fill a clean open-topped non-breakable container (a plastic spaghetti sauce jar or a soup can work well) with water for each team; be sure the containers are the exact same size and filled to the brim with water. Set a start and finish point. At a signal, the first runner heads for the finish line, walks over the line, turns around and heads back to his or her team, and passes the container to the next person in line. At the end of the race, the team with the most water still in the container is the winner.

Newspaper Relay

Provide a stack of newspapers for each team and have team members divide the stack evenly among themselves. Set up a paper bag or recycle bin (or whatever container your community uses for recycling newspaper) at a finish line. At a signal, the first member of the team carries his or her stack of newspaper to the finish line, deposits it in the container, runs back to the team, and taps the next person in line.

Tumbling Towers

This activity can be done one team at a time. Provide a recycle bin full of clean aluminum cans (for example, soda pop cans). At a signal, students have 2 minutes to stack the cans one atop another. Each student takes a turn at building a tower by stacking cans one atop the other. The student on each team who builds the tallest tower then represents his or her team in a final team-against-team stacking competition.

Submitted By: Gary Hopkins
National Standards
PHYSICAL EDUCATION AND HEALTH: Physical Education
GRADES K - 12
NPH.K-12.3 Physical Activity
NPH.K-12.5 Responsible Behavior

<http://www.education-world.com/>

Recycle Relay

Grades K-1st

Materials Required: Trash items such as (plastic, paper, glass, newspaper, foil, Styrofoam etc.

Activity Time: One lesson

Concepts Taught: recycling, conservation

In teams of three students must sort 3 real life (cleaned) trash items into the best conservation category of reduce, recycle and reuse. As a team they must tell the class why they choose each category for each item and why it is the best choice for that item. For example: Styrofoam - the best choice may be to reduce or use less as it is more expensive to recycle than it is just to make new Styrofoam, it never decomposes and it may not be a functional tool for reusing. The key to this collaboration is in the argument because there is not just one right answer.

<http://www.education-world.com/>

I can sort the garbage.



Garbage

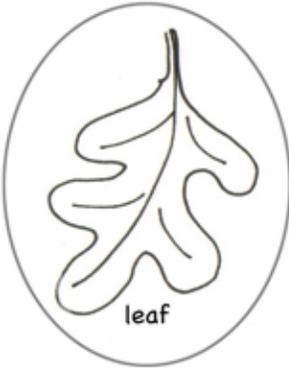
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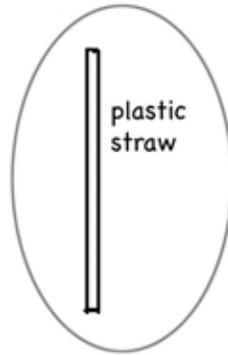
Recycling



foil wrappers



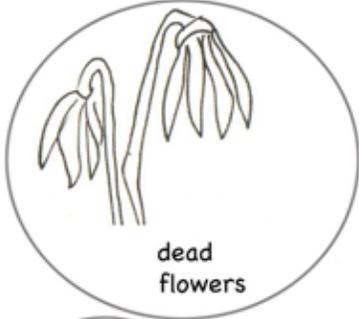
leaf



plastic straw

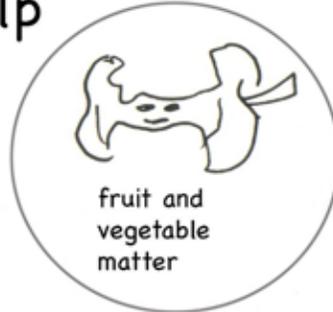


newspapers



dead flowers

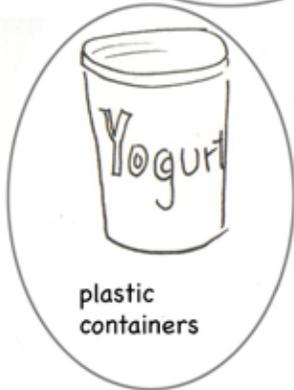
Can you help sort the garbage?



fruit and vegetable matter



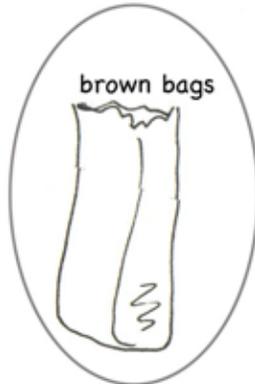
styrofoam containers



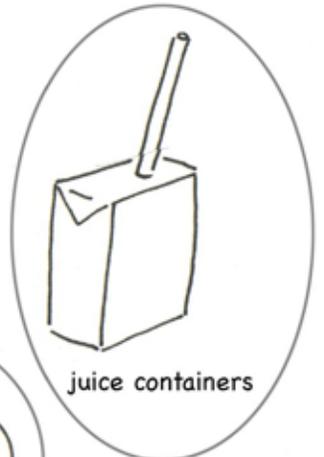
plastic containers



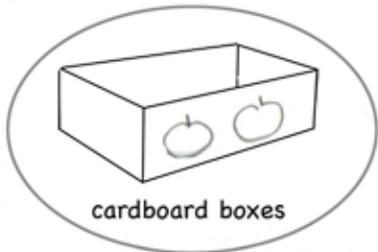
glass containers



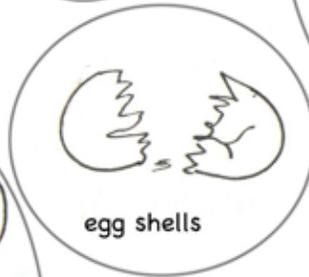
brown bags



juice containers



cardboard boxes

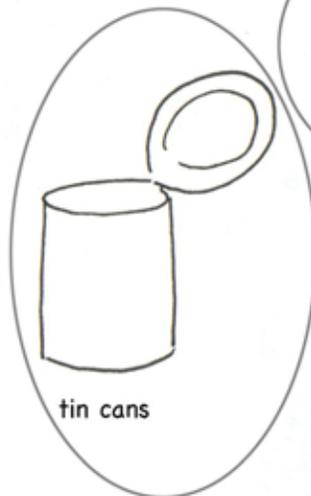


egg shells

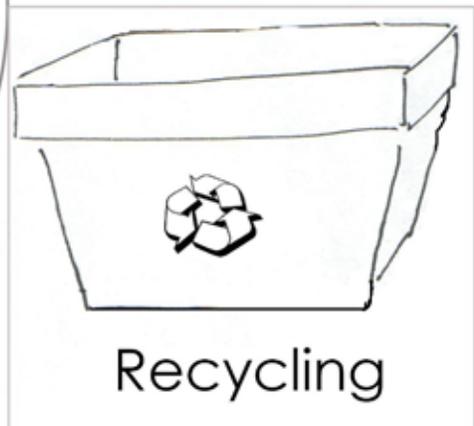
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Garbage



tin cans



Recycling

Caring for the Earth



Integrated Learning Experience 3 Kindergarten - Grade 2

Overview

In this learning experience, children will explore their school environment to become acquainted with different kinds of trash found in school and ways people try to reduce their trash. Students will then address trash issues in their own classrooms. They will generate solutions for handling their class trash that demonstrate their awareness of how they can help care for the Earth.

Materials

- Chart paper
- Class trash (accumulated for one day)
- Clear plastic trash bag (to line trash can - optional)
- Guest speaker - building services manager
- Marking pen
- Masking tape
- Pictures of food, clothing, and other items from magazines or newspapers (optional)
- Rubber gloves (for the teacher)
- Resource Sheets:
 - #1 Pictures of Possible Trash Items”
 - #2 “More Pictures of Possible Trash Items”

Activities One through Six

1. Does the child use the words reuse and reduce in her/his discussion?
 2. Can the child generate solutions for reducing the amount of trash in the classroom?
 3. Is the child becoming aware of ways he/she can help care for the Earth?
-

Activity One

NOTE: If available, line the class trash can with a clear plastic trash bag. Make arrangements with the building services manager to leave the trash in the classroom until after the children leave for the day.

NOTE: The teacher may want to wear rubber gloves for this activity.

Toward the end of the day have the children form a circle on the floor. Put on the rubber gloves. Carry the trash can around the circle while saying to the children: "Look inside our trash can. What kinds of trash did we throw away today?" (Discuss after setting the can down.)

If you lined the can with a clear plastic bag, remove the bag and tie closed. Carry the bag around the circle and again have children describe the trash they see.

Ask the children:

1. What kinds of activities did we do today?
2. What materials did we use?
3. What kinds of things did we throw away? Why?
4. Do you see anything in the bag/can that we could have reused?
5. Why do you think I put on the rubber gloves? (Explain that the gloves are for health and safety reasons and that people in the trash disposal business would wear gloves, too.)
6. Do you think we would have the same trash tomorrow? Why?
7. How much do you think our trash weighs?

NOTE: Since Kindergarten math deals with nonstandard units, have the class create their own large balance scale (turn a chair upside down to create a fulcrum and use a long block for the balancing board). They can determine the weight of the trash bag by using their blocks.

Explain to the class that they will look at the trash again the next day.

Activity Two

NOTE: Make arrangements with the building services manager to speak with the class at the end of these activities.

Repeat the same process (or a modified version) that was done in Activity One. During the children's discussion, include such questions as:

1. Did we do the same activities as yesterday?
2. Did we have the same kinds of trash?
3. Did we have the same amount of trash?
4. Did you reuse something instead of throwing it away?
5. How much do you think our trash weighs today?
6. What do you think we could do to reduce our trash?

Use the following visualization strategy. Say to the class:

Let's imagine that our building services manager is out sick for several days. No one comes to pick up our trash.

Close your eyes and imagine what our classroom would be like. (Provide time for children to think.) Now find a partner. Share your thoughts. (Provide time for pairs to talk.)

What would our classroom be like? (As children share, encourage them to use pantomime, facial expressions, body movements, to explore their thoughts. Have others describe their ideas by using their senses.)

Throughout the discussion, guide children to awareness that there simply is not enough room in the class for the trash, and that trash left like this can be unsafe and unhealthy. Help them begin to see that this situation mirrors our dilemma with regard to the Earth's capacity to hold our trash. This is a perfect opportunity to broaden the children's view of trash in the classroom and to compare it to trash in our community and world.

Some of the children may ask where the trash goes when the building services manager removes the trash from the classroom. Ask this individual to talk to the students about her/him job of handling the trash. When finished, if possible arrange for him/her to remove the class trash, and have the children follow to see where it goes and how it is handled.

Activity Three

Present the following questions to the children:

1. What kinds of trash do you think we would find in other places in our school? (Listen to their ideas.)
2. What are some places you'd like to visit to find out? (Listen to their suggestions.)
3. Let's vote on one place to visit. (Select one.)

Brainstorm several questions children would like to ask about trash at this site. Here are some examples of questions they could ask the workers:

1. What type of work do you do?
2. What kinds of trash do you make?
3. How do you get rid of your trash?
4. Do you do anything to reduce the amount of trash you have?

Have children predict the kinds of trash they might find at this site. Record their predictions on a graphic organizer drawn on chart paper. Use pictures from magazines or newspapers or the "Pictures of Trash" sheet provided (Resource Sheet #1) to post on the graphic organizer.

Explain to the class that you will need to make arrangements for visiting the work site and that the in-school field trip will be held soon.

Activity Four

This is the class visit to the site. If possible, you may want to take along the class predictions on trash to tally the trash objects they see.

After the children return to the classroom, compare their findings with their predictions. Add additional trash items found. Discuss the workers' answers to the children's' questions.

Activity Five

If you wish to have the class visit other sites, repeat the process (or a modified version) outlined in Activities Three and Four.

Activity Six

Say to the children:

1. What are some ways that we are already recycling in our classroom? (Discuss.)
2. Can you think of ways to reduce the trash in our room?

Create a chart like the one below on chart paper. As children brainstorm ideas record their suggestions. You may want to make sketches of the various trash, attach pictures from newspapers or magazines, or use the pictures from Resource Sheet #1.

Ways to Reduce Trash in Our Room	
Kind of Trash	Way to Reduce

As children offer ideas, encourage their use of the words reuse, recycle, and reduce. Remind them that their ideas are ways they can care for the Earth.

Pictures of Possible Trash Items



*Source: United States Environmental Protection Agency, Let's Reduce and Recycle: Curriculum for Solid Waste.

More Pictures of Possible Trash Items*



*Source: United States Environmental Protection Agency, Let's Reduce and Recycle: Curriculum for Solid Waste.

Ready, Set, Recycle!

Introduce your students to the benefits of recycling with three environment-friendly, hands on projects.

Project 1: Can- Collection Contest

Motivate students to reduce waste by involving them in a little recycling rivalry. Invite other classes in your grade level (or school wide) to join in a recycling contest. First, provide each participating class with a large collection box to hold its cans. Announce a place to store the overflow of cans. Also, demonstrate for each class how to use a magnet to tell whether a can is made of aluminum or another metal (a magnet will not attract aluminum). Then set a date for the collecting to begin. On a bulletin board in a main hallway, display a pictograph that tracks the cans each class collects. After several weeks, sell the cans to a recycling center and treat the winning class to a pizza party. Donate any remaining money to a local environment project or to Keep MS. Beautiful.

Project 2: Earth Friendly Fact Finders

Want to fill your room with facts about recycling and pollution? Then try this Earth friendly project! Pair students; then have each twosome research two facts about recycling or pollution. Next, give each pair of students two medium-sized circles cut from blue poster board. Have the partners draw and color the continents of the Western Hemisphere on one circle and of the Eastern Hemisphere on the other. Direct the twosome to staple the blank sides of its circles together at the edges, leaving an opening at the top. Using a black marker, have the pair write one fact on one circle and the remaining fact on the other. Then have each pair stuff its project with paper, staple the opening closed and hang it from the ceiling using a length of yarn.

Source: Deborah Mayo

The Little Recycling Hen

K-4

Goal: Students will understand that recycling is a team effort in which everyone can participate.

Subjects: Language arts, performing arts

Materials: *The Little Red Hen*

Getting Started: Ask the students how many people are needed to recycle. Is it easier to recycle when people help one another?

Procedure:

1. Adapt the story of *The Little Red Hen* by changing the words. The story follows the original until the section where the hen finds the grains of wheat. Adapt the story to read:

One day when she was hoeing, she found some soda cans. “Who will help me put these soda cans in the recycling bin?” “Not I,” said the cat. “Not I,” said the dog. “Not I,” said the duck. “Then I will,” said the hen, and she did.

Each morning when she was cleaning around the house, she saved up all the glass bottles, metal cans, newspapers, and cardboard and put them aside. She stacked the paper and cardboard together and put the glass and cans in a large bin.

When the paper stacks became too high to reach, the Little Red Hen asked, “Who will help me put the newspapers and cardboard in bundles?” “Not I,” said the cat. “Not I,” said the dog. “Not I,” said the duck. “Then I will,” said the hen, and she did.

When the glass and metal bin was full and there were several bundles of paper and cardboard the Little Red Hen said, “Who will help me take the bin and bundles to the recycling center?”

“Not I,” said the cat. “Not I,” said the dog. “Not I,” said the duck. “Then I will,” said the hen, and she did.

So the Little Red Hen piled everything in her car and drove to the recycling center where she put everything in its place. With the money she got for the bottles, she bought a fresh loaf of bread.

The rest of the story can continue until the end, when all the animals help her collect, bundle, and deliver the recyclables to the center.

2. Have the children act out the story as a play.

Source: Kristen Walser-<http://www.mass.gov/dep/recycle/reduce/k6join.htm>



Stormwater



Environmental Planning

Watershed Management

Stormwater, the nonpoint source polluter

Stormwater is drainage runoff that flows over the surface of the land resulting from rain events or snowmelt. The water enters a drain known as a storm sewer where it is either taken to a detention basin and is held before it is slowly released into the ground or nearby stream or it is discharged directly into a stream.

Stormwater can become a problem when it picks up debris, chemicals, and other pollutants as it flows overland. Stormwater can also add large volumes of water to local creeks and streams causing erosion of stream banks and flash flooding.

Below are some ideas as to how you can help prevent stormwater pollution and additional links for further information.

Things you can do to help prevent stormwater pollution

1. Use pesticides and fertilizers sparingly, avoiding excess to prevent polluted runoff.
2. Sweep up driveways, sidewalks, and roads.
3. Never dump anything down storm drains and report anyone who does. Dispose of your hazardous wastes properly. The County offers several household hazardous waste drop-offs throughout the year.
4. Vegetate bare spots in your yard to prevent soil erosion.
5. Compost your yard waste – it makes a great garden additive!
6. Report any discharges from stormwater outfalls during times of dry weather, a sign there could be a problem with the storm sewer system.
7. Direct downspouts away from paved surfaces. Install innovative stormwater practices on residential property such as rain barrels or rain gardens that capture stormwater and keep it on site to infiltrate back into the groundwater instead of washing off into the nearby storm sewer system.
8. Take your car to the car wash instead of washing it in the driveway.
9. Check your car for leaks and recycle motor oil.
10. Pick up after your pet.

<http://www.co.delaware.pa.us/planning/environmental/stormwater.html>

Some Easy Ways to Conserve Water

1. Don't Let It Run

Turning the faucet off while we brush our teeth or keeping a pitcher of water in the refrigerator can save several gallons of water each day.

2. Fix the Drip

Have your parents fix leaky faucets.

3. Turn off the hose outside

If left on overnight, one garden hose can easily waste twice as much water as the average family uses in a month.

4. Take showers instead of baths

A quick shower uses around 20-30 gallons less water than a bath.



Water Pollution Lesson Plan

K-4

Objective: Students will learn the answers to the following questions:

What is pollution?

Which liquids mix with water?

Which liquids won't mix with water?

Anticipatory Set: It is important for students to understand that:

Pollution in our oceans, lakes, rivers and streams is a very serious matter. Pollution is when we add things to the ground, the air, or the water that will make it dirty or will bring harm to the life in and around it. People often dump liquids into oceans, lakes, rivers and streams. Some of these liquids will mix with water; others will not.

Getting Started: Ask the students how many people are needed to recycle. Is it easier to recycle when people help one another?

Procedures and Activity: Begin experiment by asking the guiding questions:

1. What is pollution?

Share ideas about examples of pollution. Then try to come up with a definition. Help them see that pollution is making something dirty or unsafe for life. Lead into thinking about water pollution. Talk about our oceans, lakes, rivers, and streams. What have they heard or read about pollution in these water bodies? Do they ever think about whether or not the water they swim in is safe? Have they ever been concerned about the fish we eat being harmed from living in polluted water?

2. Which liquids mix with water?

One big problem is that too often our oceans, lakes, rivers and streams can look like they are safe and clean when in fact they are not. Some of the solids and liquids we are dumping into water will mix up with the water so we cannot see them with just our eyes. Some things we put into water will not mix and we can see evidence that they are there. What we cannot see is a big problem!

3. Which liquids won't mix with water?

Today we will do an experiment by making an "ocean in a bottle." We will try mixing different liquids with water to see what will and will not mix. In particular, we will see if oil or detergent will mix with water. Do you think we should drink in water with oil and/or detergent in it? Are these two liquids harmful to plant life, fish or other creatures? Oil and detergents are two common liquids that get dumped into our waters.

Activity:

1. Make a "bottle ocean."

Each student or pair should put 3 cups of water into their clean 2-liter bottle. This is like a little ocean, lake, river, or stream.

2. What happens when oil is mixed with water?

Add 1 cup of oil by pouring it into the bottle via the funnel. Screw top on bottle. Mix up the liquids by shaking the bottle. Observe what happens. We observe that oil and water will not mix. We call liquids that will not mix with each other immiscible. What do you think happens when there are oil spills in the oceans? How will oil affect the water, the fish, plant life or animals that live near the water?

You may want to leave the bottle tipped on its side overnight. The next day, see if the oil settled or not. How would this impact our knowing that oil existed in an ocean or lake? How would this help us think about cleaning up oil spills?

3. Remove oil and water mixture and rinse out bottle. What happens when soaps and detergents are mixed with water?

Put 3 cups of water in the clean 2-liter bottle. Add 1 cup of dish soap or liquid laundry detergent via the funnel. Screw top on bottle. Mix up the liquids by shaking the bottle. Observe what happens. We observe suds, bubbles and foaming. Do the two liquids combine?

You may want to leave the bottle tipped on its side overnight. The next day, is the detergent still mixed up with the water or did it separate? Can you still see the foaming and suds? How does this impact our thinking about soapy kinds of pollution?

4. What happens when oil and soap are mixed with water?

Empty, rinse and clean the bottle. Add 3 cups of water, 1/2 cup of oil, and 1/2 cup of soap or detergent. Screw on top. Shake the bottle to mix the liquids. Look at what happens. Can you see evidence of the oil and soap? Observe what goes on in the bottle over a period of time. You will find that oil will mix with soap and then with water. This makes it very dangerous for our water systems. Oil can be present and we don't really see it because it got mixed up and broken down with soap and water.

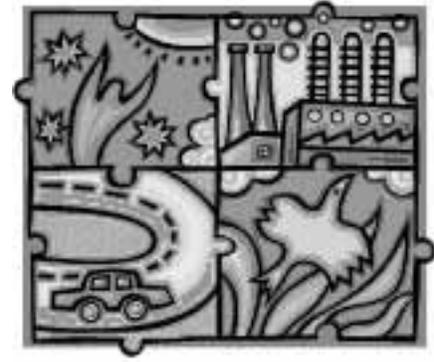
Compare this to trying to wash an oily pan after cooking with it. If you try to use just water, the oil won't come off. But when we add a little dish detergent, we can get rid of the oil.

Source: <http://www.lessonplanspage.com>
by - Cissy Condrey

Causes of Pollution

K-3

by Tracey L. Churchman



Overview: During the past hundred years, due to new technologies, the world has changed in many ways. Some changes have improved the quality of life and health for many people. Others have affected people’s health care adversely causing different kinds of pollution that have harmed the environment.

Purpose: As the future of our country, children need to be able to identify the types of pollution, the sources of the pollution, and how they can protect the environment from further pollutants.

Objectives: The student will be able to:

1. Identify and discuss different kinds of pollution.
2. Identify and discuss sources of pollution.
3. Discuss and explain why it is important to keep the environment free of pollution.

Resources/Materials Needed: lesson vocabulary cards, photographs of water, air, and land pollution, chart paper, “Let’s Stop Pollution” poster, poster board, crayons, markers, and variety of sizes of cardboard boxes, poster or tempera paint, Kleenex, soap, water, variety of pollution bumper stickers.

Activities and Procedures:

The Teacher:

1. Begin the activities by displaying and reviewing the lesson vocabulary. (pollution, surroundings, litter, environment)
2. Discuss the displayed pictures of water, air, and land pollution. Have students identify what is wrong in each of the pictures displayed. Write the students responses underneath each of the pictures. Remind the students that pollution is anything that harms our surroundings and that people cannot survive without clean air, water, and land. Stress that pollution is a responsibility and concern of all people in every community.
3. Ask students to “Brainstorm” to complete a list of ways that they can help to stop pollution. Examples: not put garbage into the lakes and streams, walk or ride bikes whenever possible, pick up litter). List the student’s responses on a poster titled “Let’s Stop Pollution”. Stress that because so many important things in the surroundings are shared by people in other communities, everyone must work to stop pollution of the air, water, and land. Students will then have a variety of activities to teach them about the causes and effects of pollution.

The Students:

1. Provide students with a half sheet of poster board and crayons. Have them make a poster to inform others about pollution. Display the posters around the school.
2. Provide students with boxes and paint. Have them make “litter boxes” with labels and decorations that state why it is important not to litter. Place the boxes in areas around the school or home.
3. Have students wash the outside of a window that is easy to reach. A few days later, let them wipe the same window with a clean tissue. Discuss possible reasons the window became dirty. (Air pollution)
4. Provide students with materials to make replicas of bumper stickers illustrating warnings and laws concerning pollution. Suggestions: NO LITTERING, NO TRUCKS, NO DUMPING, NO BURNING.
5. Field trips to local companies or industries that deal with pollution prevention.
6. Guest Speakers on pollution prevention and/or environmental safety.

Tying it all Together: During the entire period of this unit, students will be encouraged to continue to add to the list of ways to stop pollution. As the lesson evolves and the students begin to understand the harms of pollution, the list will grow. As the culminating activity, the children will take one of the solutions to pollution and present it to the entire class.

Source: <http://www.lessonplanspage.com>

Life in a Fish Bowl

K-2

Objective: Students will understand how water becomes polluted and the effect of water quality on living things.

Materials: Glass fish bowl or similar container (a cut, 3-liter plastic bottle works)
Fish made from plastic meal tray
Overhead projector or flashlight
6 empty containers, each with 1/8 to 1/4 of the following:
soy sauce, liquid soap, blue sugar (add blue food coloring to sugar)
bits of trash, a cigarette butt which is very effective

Vocabulary:	Pollution	Point Source Water
	Polluted runoff	Pollutants
	Storm drain	Fertilizer
	Pesticide	Germ

Background: When people think about water pollution, they automatically imagine a big pipe coming out of the ground near an industry. The pollutants that come from a single, easily identified source such as the end of a pipe are called point source water pollutants. But most water pollution comes from a more hidden form called polluted runoff. This type of pollution does not come from a single source of like a pipe. Polluted runoff occurs when rainwater washes pollutants off of the land and into nearby water bodies. Another form of polluted runoff is when people pour pollutants directly into storm drains, thinking that this water then goes to the sewage treatment plant. Actually, anything passing through a storm drain goes directly into the nearest body of water. To prevent polluted runoff, each of us needs to examine some of our habits. This lesson demonstrates how we cause polluted runoff and how we can make the necessary changes to prevent this type of water pollution.

Procedure:

1. For this lesson, you will show what can happen to a fish in a body of water when people pollute the water. To demonstrate this, create a friendly fish character and have it live in a well known body of water. This could be a stream, lake, river or ocean.
2. If you don't have a fish bowl, you can make one from a pickle jar, clear 3-liter plastic bottle (cut off the tapered top) or any similar container. Your fish can be made from any reusable water proof item.
3. Put the fish on a stick or tape it to the inside or outside of your bowl. To see the effects of pollution on your pretend water body, put the bowl on an illuminated overhead projector or use a flashlight behind it. Remove a cup full of clear water to demonstrate to the students the clean water in the beginning and the dirty water in the end.
4. Read and adapt the narrative. Adapt the language to the student's level. Also look for ways to personalize the story by including the name of your fish and the name of your water body. Ask individual students to add the ingredients in the containers as indicated to represent pollution.

Life in a Fish Bowl Narrative

READ: This is the story of _____ the fish. He lives in the water right here at _____. _____ loves living here. The clean water and sunshine make him healthy and playful.

ACTION: Point to the fish in the clear water in the fishbowl.

ASK: HOW DO YOU THINK _____ FEELS?

READ: There is one place on the land where some soil is washing into the water because someone has cleared the trees and bushes. These trees and bushes used to hold the soil in place. When _____ swims past this place, the soil in the water rubs against _____ gills. This would be like getting soil in your lungs!!

ACTION: Have student pour soil into the water

ASK: HOW DO YOU THINK _____ FEELS?

READ: _____ swims along through the creek. He passes through an area where someone has put too much fertilizer and pesticides on his lawn.

ASK: What is fertilizer? What are pesticides?

READ: It is raining and the extra fertilizer is washing into the water. The fertilizer has caused the algae in the water to grow too fast, making the water cloudy and using all of _____'s oxygen just like you and I do, and none is passing through his gills! The pesticides kill the insects that _____ needs to eat.

ACTION: Add blue sugar to water.

ASK: HOW DO YOU THINK _____ FEELS?

READ: _____ swims past a neighborhood that is near the creek. Some of the cars in the neighborhood are leaking oil onto their driveways. Because it is raining, the oil is washing off the drive, down the street and into a storm drain. The storm drain carries the oil straight into the creek. This oil coats _____'s clean, shiny scales and makes him greasy, dull and sick.

ACTION: Add soy sauce to the water.

ASK: HOW DO YOU THINK _____ FEELS?

READ: As _____ heads away from the oil, he passes another neighborhood where many people are washing their cars and they are using a lot of soap. This soap is running out of their driveways, into the storm drain and coming right into the creek! This soap stings _____'s eyes and gills and weakens his scales.

ACTION: Add liquid dish detergent (stir briskly) to represent pollution from car washing.

ASK: HOW DO YOU THINK _____ FEELS?

READ: Finally, _____ swims away from all of the polluted runoff. He can feel the water with its pollution behind him, but he knows that all of the things that made him feel bad are flowing downstream with him. He swims quickly to get away from the dirty water and OH NO! ____ runs into a piece of garbage that someone threw on the ground and then was washed into the water through the storm drain.

ACTION: Add cigarette butt and piece of paper.

ASK: HOW DO YOU THINK _____ FEELS?

ACTION: Hold up the cup of clear water you set aside at the very beginning.

ASK: WHERE DO YOU THINK OUR FISH WOULD RATHER LIVE?

Questions for Students

1. Would you want to swim in a river or ocean like the one in our story?
2. Go back through the story, deciding on ways you can help solve some of the problems.

<http://www.auburn.edu/>

Fred the Fish

Grades 3-5

(Source: <http://www.stormwatercoalition.org>)

Overview: This engaging activity gives students a visual understanding of some of the consequences of storm water pollution.

Science Skills: Observing, Inferring, Communicating, Describing, Writing, Evaluating
Objectives:

Students will:

- 1) Learn what types of nutrients and toxic substances contribute to storm water pollution,
- 2) Better understand the need for clean water,
- 3) Determine methods to improve storm water quality.

Materials:

- Script pages (included)
- Scissors
- Nine index cards
- Glue sticks or tape
- Light colored sponge
- Yarn needle
- Small weight such as a metal nut
- String
- Wide-mouthed jar or beaker
- Cold tap water
- Pencil
- Four small plastic cups
- Soil
- Brown sugar to emulate pet waste
- Pancake syrup or molasses to emulate motor oil
- Punched paper dots to emulate litter
- Medium beaker or glass jar
- Detergent
- Warm tap water
- Red food coloring to emulate household hazardous waste
- Green food coloring to emulate fertilizer
- Paper and pen or pencil per students

Time Considerations: 45 minutes

NOTE: Safety Considerations:

Do not dump the contents of the large jar down the sink. Instead, pour the contents through a strainer over a large, grassy area or a compost pile where natural filtration can take place. Throw away the paper dots that have been strained out.

Teacher Background:

Storm water is the water that is produced by rainstorms or snowmelt. When storm water falls or runs through urban areas, it often washes nutrients and toxic substances from streets, parking lots and lawns into storm drains. The water that enters the storm drains is piped into the nearest stream or river. In most cases, the storm water never is treated at a sewage treatment facility. The result of polluted storm water, entering streams and rivers is damage to ecosystems. When the streams are polluted, plants, aquatic insects, birds and other animals that depend on the streams for survival, suffer.

Ultimately, humans also suffer. Streams and rivers provide urban wilderness areas, and they are used for recreation, agriculture and drinking water. It is only with pollution prevention efforts by local citizens that waterways will remain clean and safe.

Preparation:

1. Copy and cut apart the nine roles from the script provided. Attach them with glue or tape to index cards. Laminate them if you choose.
2. Cut the sponge into a fish shape. Using the yarn needle, thread a string through the bottom of the fish. Then, attach the metal nut or small weight so that it hangs below the fish.
3. Fill the large glass jar or beaker 2/3 full with cold water. Thread another string through the top of the fish and suspend it in the water by tying it to a pencil positioned across the mouth of the jar. Adjust the length of the string until the fish is suspended midway in the jar of water.
4. Place the soil in a plastic cup or baby food jar and label it. Put brown sugar in a cup and label it "pet waste"; syrup ("oil") in third cup; and paper dots ("litter") in cup four. Pour detergent and warm water into the medium sized jar, and set out red and green food coloring - "household hazardous waste" and "fertilizer."

Activity:

1. Introduce Fred the Fish to the class. Tell them that he has grown up in a protected stream in a nature preserve, but he is about to leave the preserve and journey downstream. The class has been invited to share his adventures. Have the students list several words to describe Fred and the water in the jar.
2. Distribute the script cards, cups, food coloring, and jar of soapy water, to seventeen volunteers. Ask all of the students in the class to number a piece of paper from one to nine. As the students with the script cards read, those with the appropriate ingredients should dump them into Fred's jar on cue. Every student should write down a different descriptive adjective each time that he or she is asked the question, "How is Fred?"
3. After all of the ingredients have been dumped in the jar, lift Fred out of the jar, and discuss the change in his appearance and that of the water. Ask students to compare their lists of adjectives. Where does storm water go? Is it treated?
4. Recap with students the sources of the water pollution in the story. Ask the students to list ways in which each form of pollution in the story and those from their list might be prevented.

Assessment ideas:

1. Using their adjectives and creativity, ask students to draw cartoons or pictures depicting Fred's adventure, including the sources of pollution he encountered.
- Adapted from *Water, Stones and Fossil Bones*, 1991. Washington, DC: Council for Elementary Science International and National Science Teachers Association.

Fred the Fish Script Page

1. Imagine a clean river as it meanders through a protected wilderness area. In this river lives Fred the Fish. HOW IS FRED? Fred has lived in this stretch of the river all of his life. But now he is going on an adventure traveling downstream.

2. Fred swims past a large construction site, where a new mall will be built. There is a lot of loose soil where the land has been leveled. It begins to rain and some of the soil washes into the river. (Dump soil into Fred's jar.) HOW IS FRED?

3. Fred nears a neighborhood. Some fertilizer from the gardens and lawns washed into the river a few months back. (Squirt two drops of green food coloring into Fred's jar.) The fertilizer made the plants in the river grow very fast and thick. Eventually the river couldn't furnish them with all the nutrients they needed, so the plants died and started to decay. Their decomposition is using up some of Fred's oxygen. HOW IS FRED?

4. Fred swims under a highway bridge. Some cars traveling across it are leaking oil. The rain is washing the oil into the river below. (Pour syrup into Fred's jar.) HOW IS FRED?

5. Fred swims past the city park. Some picnickers didn't throw their trash into the garbage can. The wind is blowing it into the river. (Sprinkle paper dots onto Fred's jar.) HOW IS FRED?

6. As Fred nears another neighborhood, he sees bubbles floating in the water. They're soap bubbles coming from a storm drainpipe that runs from the neighborhood to the river. Someone in the neighborhood is washing her car on the street and the soapy water is running into the river. (Pour warm, soapy water into Fred's jar.) HOW IS FRED?

7. Up ahead, a stream joins the river. Fred wants to swim fast through this stretch, because he knows that the stream runs along a trail where people don't clean up after their pets! (Place brown sugar in Fred's jar.) HOW IS FRED?

8. Finally, Fred swims past a trash pile, where people have dumped everything from soda bottles to paint cans. Much of the trash is household hazardous waste that should have gone to the county hazardous waste collection, so it would not pollute the river. (Squeeze three drops of red food coloring into Fred's jar.) HOW IS FRED?

Thirstin's

Wacky

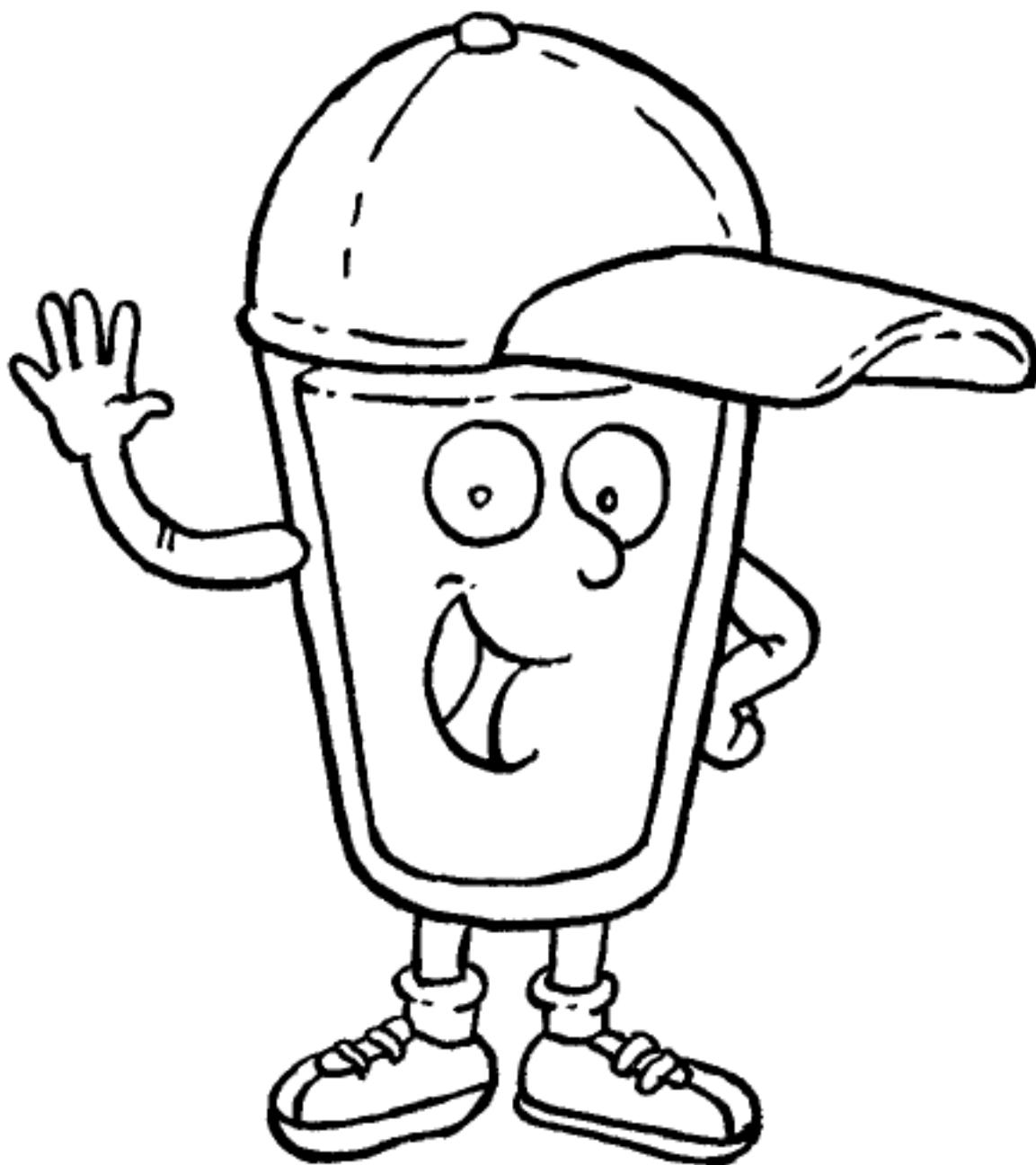
WATER

Adventure



Hello, my name is Thirstin. I am here
to talk about protecting and conserving
DRINKING WATER.

Follow me and I'll show you some fun facts
and activities about water.



Water comes in three different forms:



LIQUID



GAS

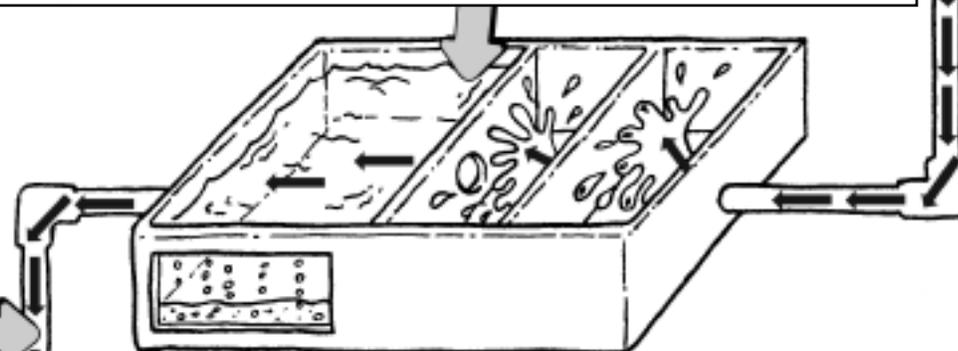


SOLID

Water can get dirty, so before we can drink it, it must be clean. Water is cleaned at a Treatment Plant and then sent to our homes through pipes.

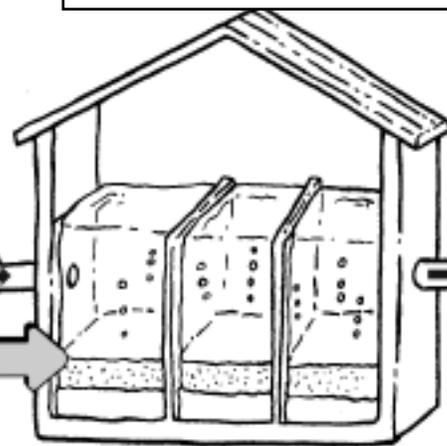


Coagulation: Dirty water has many particles floating around in it. Alum and other chemicals are added to the water to form floc that is sticky and attracts the dirt into larger clumps. When they get heavy, they sink to the bottom during sedimentation.

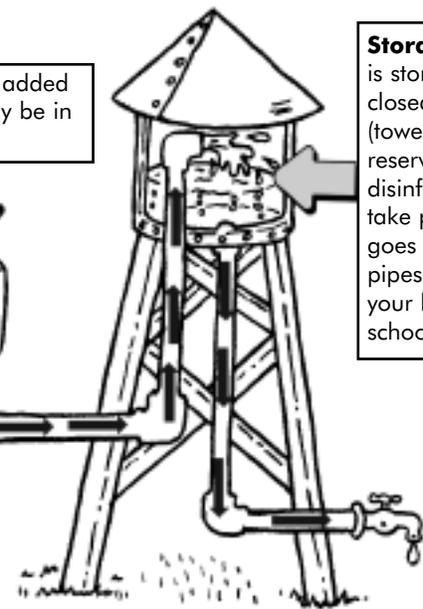


Sedimentation: The heavy particles settle to the bottom and the clear water at the top moves on to filtration.

Disinfection: A small amount of chlorine is added to kill any bacteria or tiny organisms that may be in the water.



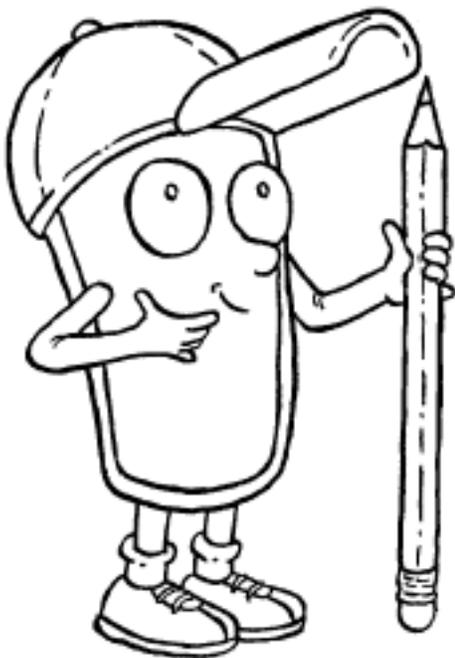
Filtration: The water goes through filters, often made of sand, gravel and charcoal that will catch even smaller particles that float in the water.



Storage: Water is stored in a closed tank (tower) or reservoir so the disinfection can take place. It then goes through pipes and into your home or school.

P M A E R T S B G T
 X O B F L A K E H R
 W T L I D J O Q T E
 P A X L L L E W L A
 I N T T U G V P U T
 P F O E Y T D W C M
 E V S R R A I M K E
 S T R Z B N P O Y N
 N E F A S K W A N T

Find and circle these words:



STREAM

WELL

FILTER

TREATMENT

PIPES

TANK

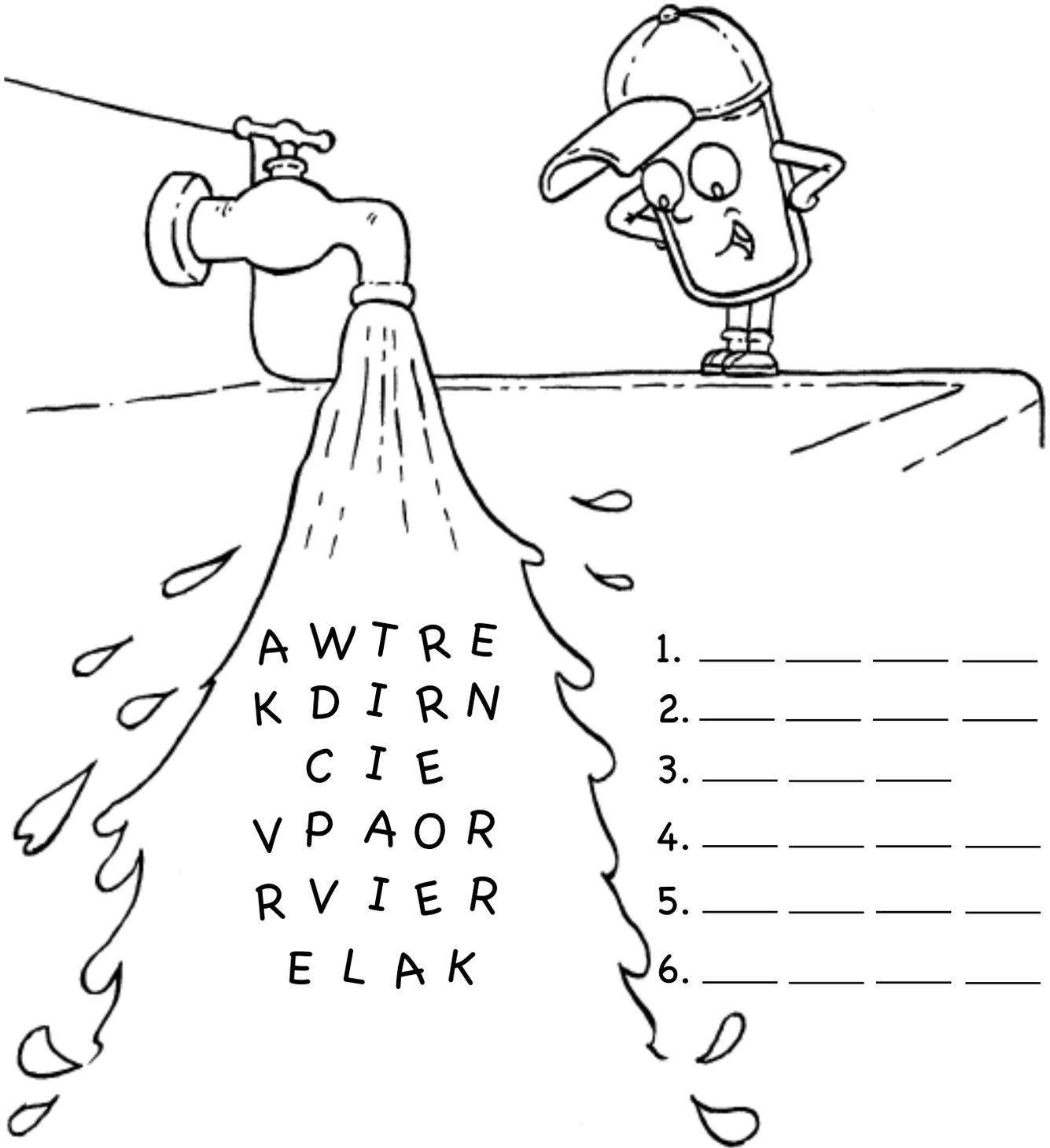
SAFE

POLLUTION

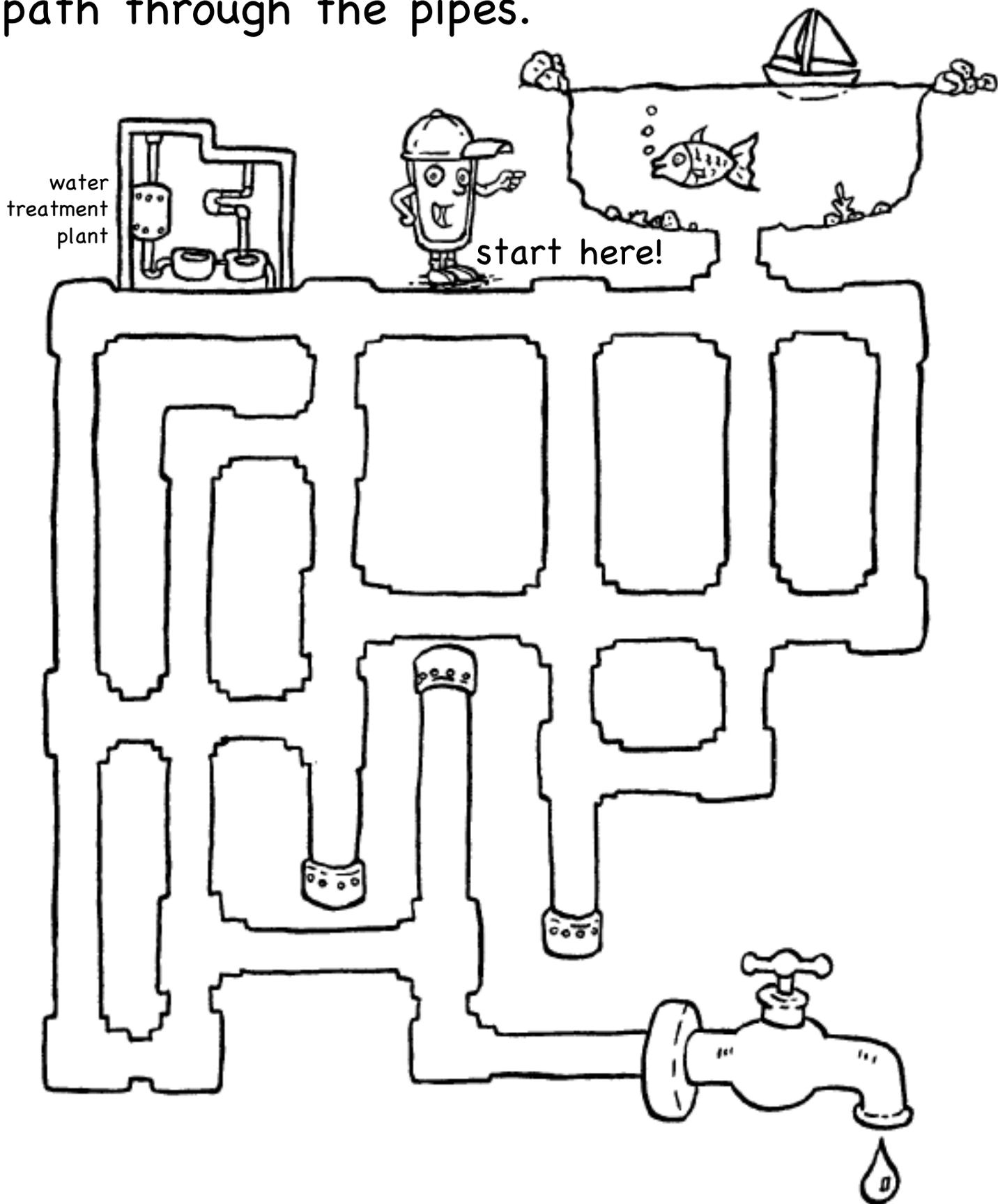
WATER

LAKE

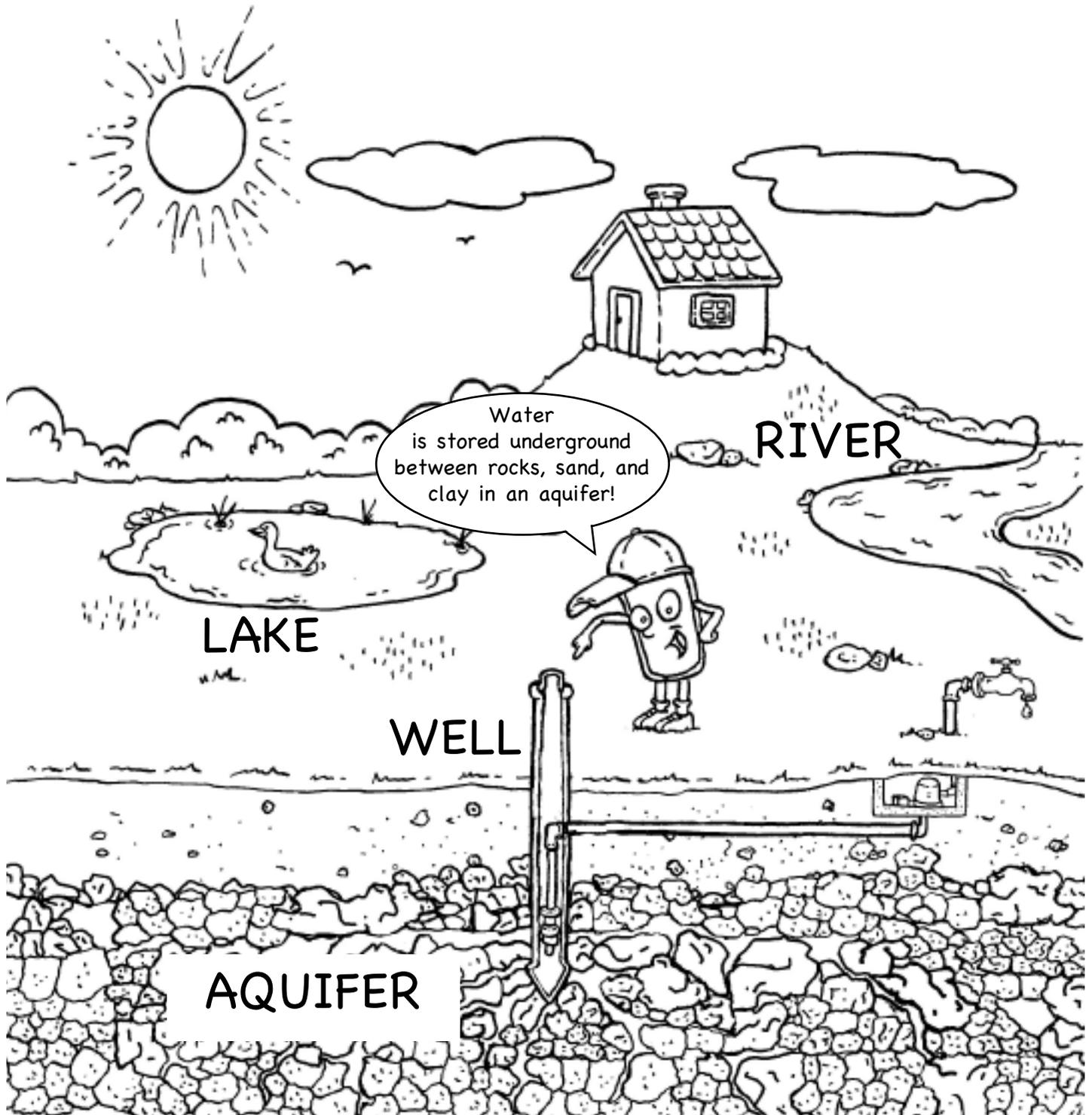
Unscramble the letters:



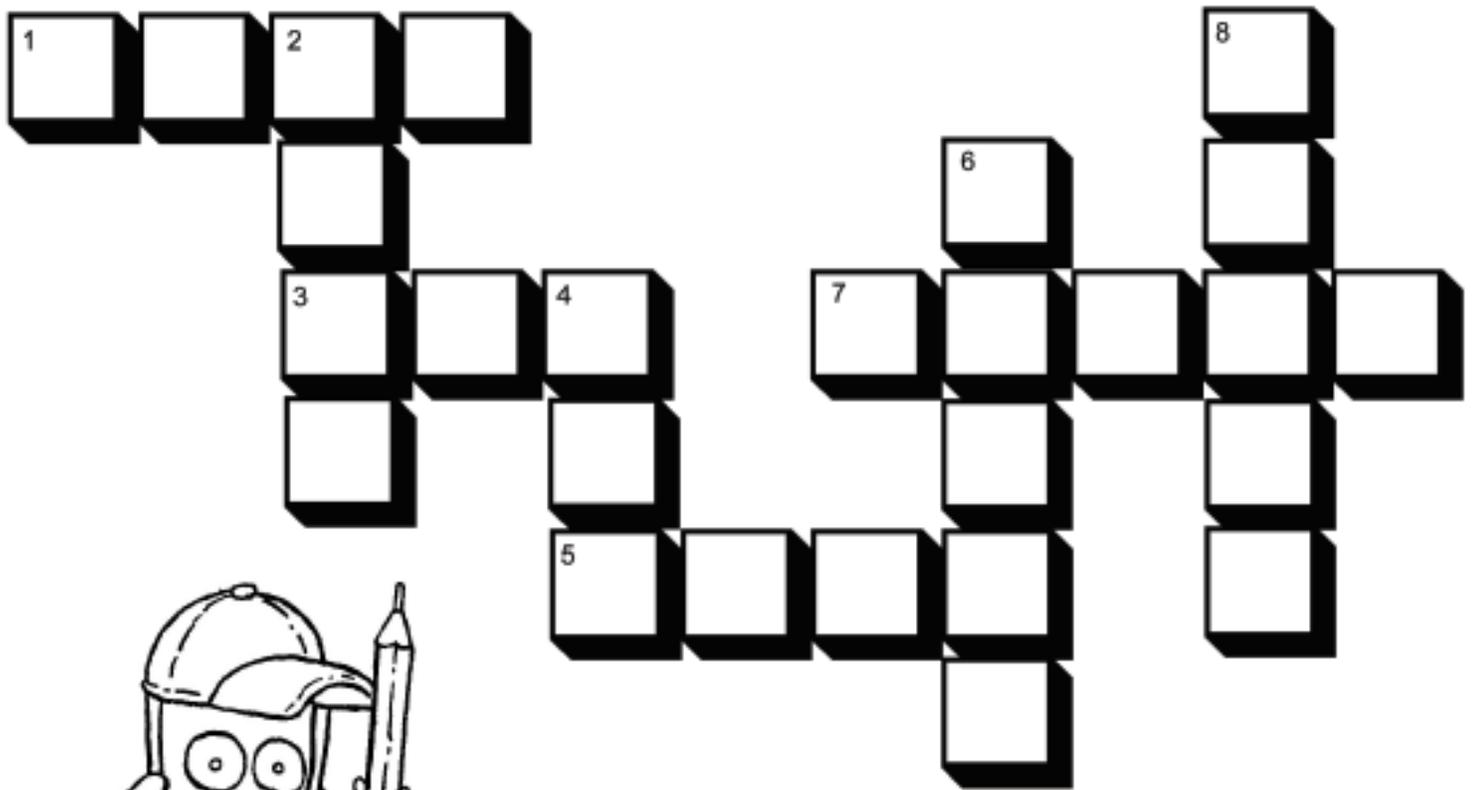
Help the water find its way from the lake to your faucet by following the correct path through the pipes.



Drinking water comes from lakes, rivers, streams, or under the ground (ground water).



Complete the crossword puzzle to test your knowledge of water.



ACROSS

1. Always _____ your hands before dinner.
3. Add this to water to make it cold.
5. Big body of water.
7. If you have a leaky faucet, get it _____.

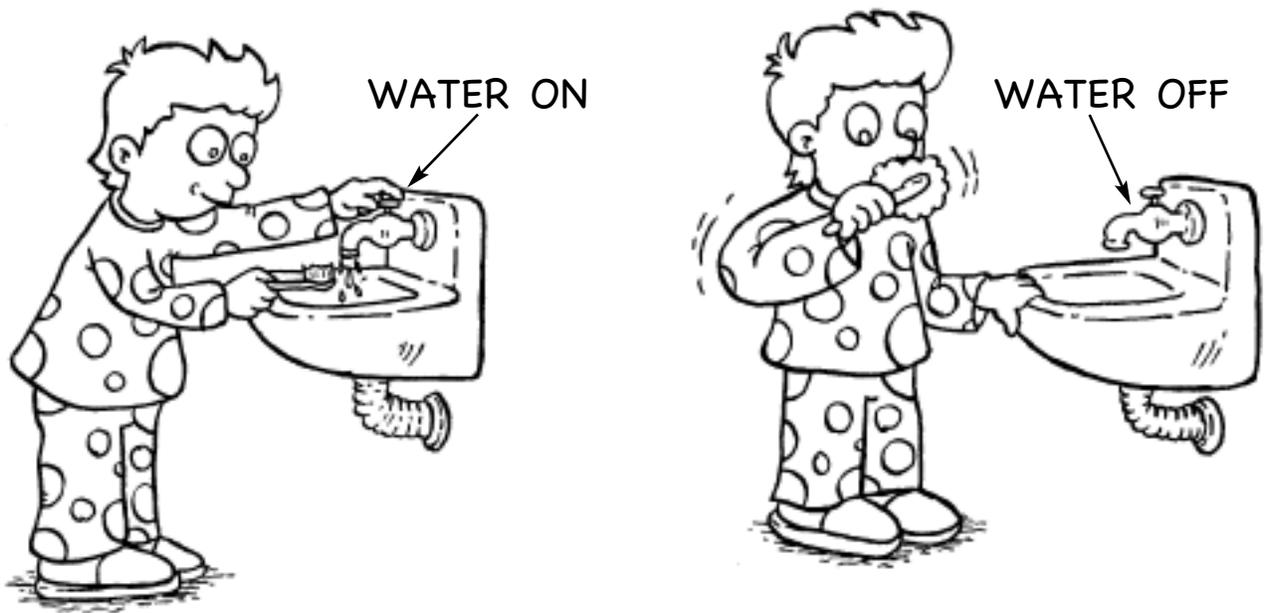
DOWN

2. People go to the beach to _____.
4. Snake-like fish.
6. Water travels through these.
8. When you boil water, _____ rises out of the pan.

Because we need water to live, it is important to conserve as much water as we can.

You can help by:

turning off the water when you're not using it, and . . .



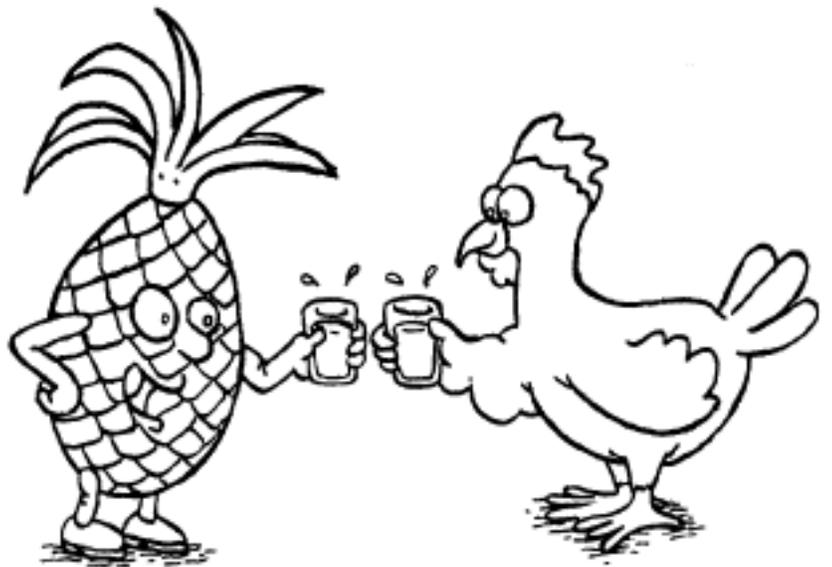
telling an adult when you see a leak.



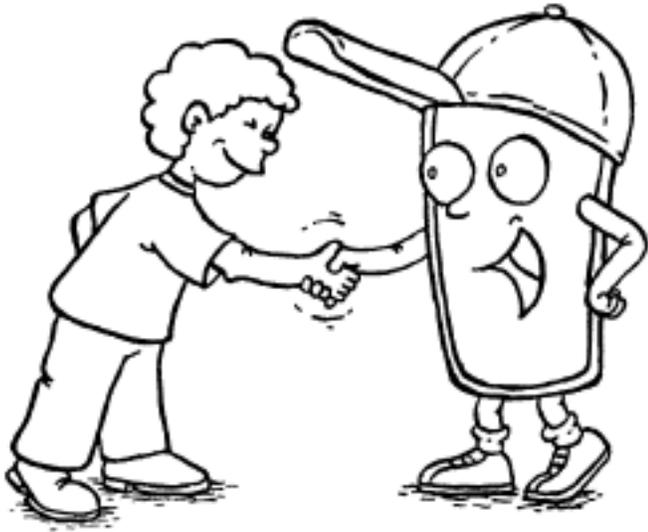
WATER TRIVIA!

Fun Facts About Water . . .

1. How much water does it take to cook a Hamburger?
Approximately one gallon.
2. How long can a person live without food?
More than a month.
3. How long can a person live without water?
Approximately one week, depending upon conditions.
4. How much water is used to flush a toilet?
2-7 gallons.
5. How much water is used to brush your teeth?
2 gallons.
6. How much water does an individual use daily?
50 gallons.
7. How much of a chicken is water?
75%
8. How much of a pineapple is water?
80%
9. How much of an elephant is water?
70%
10. How much of an ear of corn is water?
80%



REMEMBER!



Your help is needed to keep drinking water clean!

Keep rivers, lakes and streams free of trash!

Never allow oil or gasoline to be poured on the ground!

Make a list below of other things you can do to help:

FOR MORE INFORMATION AND
ACTIVITIES, VISIT OUR WEBSITE AT:

www.epa.gov/safewater

Click on Kid's Stuff and submit
an art project!



GAME ANSWERS

Word Search Game

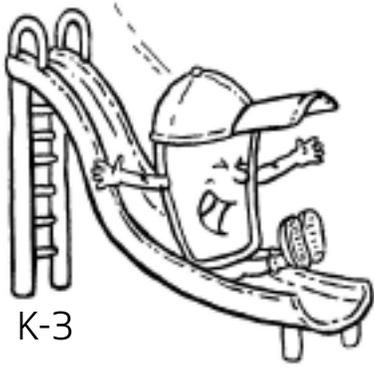


Word Scramble Game

1. WATER
2. DRINK
3. ICE
4. VAPOR
5. RIVER
6. LAKE

Crosswords Game

- | ACROSS | DOWN |
|----------|----------|
| 1. WASH | 2. SWIM |
| 3. ICE | 4. EEL |
| 5. LAKE | 6. PIPES |
| 7. FIXED | 8. STEAM |



Thirstin Builds an Aquifer

AQUIFER IN A CUP (AQUIFER ON THE GO)

BACKGROUND:

Many communities obtain their drinking water from underground sources called aquifers. Water suppliers or utility officials drill wells through soil and rock into aquifers for the ground water contained therein to supply the public with drinking water. Home owners who cannot obtain their drinking water from a public water supply, will have their own private wells drilled on their property to tap this supply. Unfortunately, the ground water can become contaminated by harmful chemicals such as lawn care products and household cleaners that were used or disposed of improperly after use or any number of other pollutants. These chemicals can enter the soil and rock, polluting the aquifer and eventually the well. Such contamination can pose a significant threat to human health. The measures that must be taken by well owners and water plant operators to either protect or clean up contaminated aquifers are quite costly.

 **NOTE:** This demonstration should follow a class discussion on potential sources of pollution to drinking water supplies.

OBJECTIVE:

To illustrate how water is stored in an aquifer, how groundwater can become contaminated, and how this contamination ends up in a drinking water source. Ultimately, students should get a clear understanding of how careless use and disposal of harmful contaminants above the ground can potentially end up in the drinking water below the ground. This particular experiment can be done by each student at their work station.

MATERIALS NEEDED PER STUDENT:

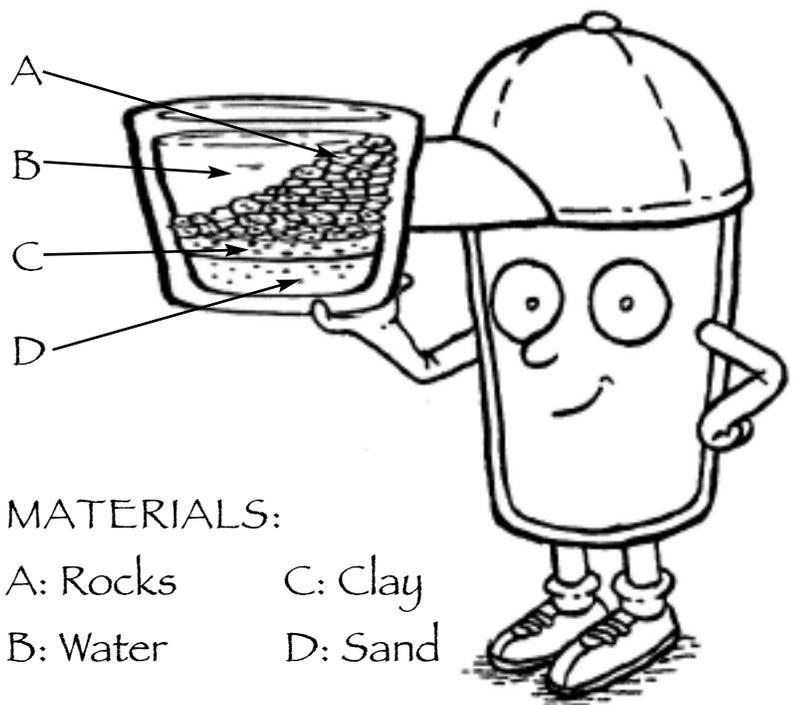
- ✓ **1 clear plastic cup** that is 2 3/4" deep x 3 1/4" wide for each student
- ✓ **1 piece of modeling clay or floral clay** that will allow a 2" flat pancake to be made by each student for their cup
- ✓ **White play sand** that will measure 1/4" in bottom of each student's cup
- ✓ **Aquarium gravel** (natural color if possible) or small pebbles (approximately 1/2 cup per student)
(*HINT: As many small rocks may have a powdery residue on them, you may wish to rinse them and dry on a clean towel prior to use. It is best if they do not add cloudiness to water.*)
- ✓ **Red food coloring**
- ✓ **1 bucket of clean water** and **small cup** to dip water from bucket

PROCEDURE:

1. Pour 1/4" of white sand in the bottom of each cup completely covering the bottom of the container. Pour water into the sand, wetting it completely (there should be no standing water on top of sand). Let students see how the water is absorbed in the sand, but remains around the sand particles as it is stored in the ground and ultimately forming part of the aquifer.
2. Have each student flatten the modeling clay (like a pancake) and cover 1/2 of the sand with the clay (have each student press the clay to one side of the container to seal off that side). The clay represents a "**confining layer**" that keeps water from passing through it. Pour a small amount of water onto the clay. Let the students see how the water remains on top of the clay, only flowing into the sand below in areas not covered by the clay.
3. Use the aquarium rocks to form the next layer of earth. Place the rocks over the sand and clay, covering the entire container. To one side of your cup, have students slope the rocks, forming a high hill and a valley (see illustration below). Explain to students that these layers represent some of the many layers contained in the earth's surface. Now pour water into your aquifer until the water in the valley is even with your hill. Students will see the water stored around the rocks. Explain that these rocks are porous, allowing storage of water within the pours and openings between them. They will also notice a "**surface**" supply of water (a small lake) has formed. This will give them a view of both the ground and surface water supplies which can be used for drinking water purposes.
4. Use the food coloring and put a few drops on top of the rock hill as close to the inside wall of the cup as possible. Explain to students that often old wells are used to dispose of farm chemicals, trash and used motor oils and other activities above their aquifer can end up in their drinking water. They will see that the color spreads not only through the rocks, but also to the surface water and into the white sand at the bottom of their cup. This is one way pollution can spread throughout the aquifer over time.

FOLLOW-UP:

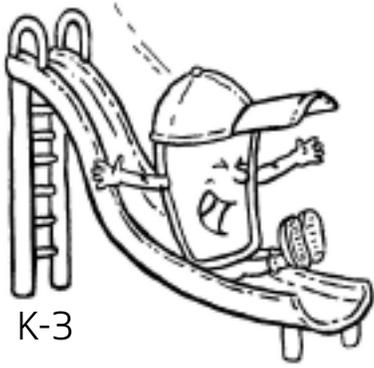
Discuss with students other activities that could pollute their aquifer. Assign students the task of locating activities around the school or their own homes that could pollute their drinking water sources if not properly maintained. Allow students to drain off the water in their cups and carry home their container to refill with water and show their parents surface and ground water and how the food coloring illustrates pollution activity above their aquifer can affect all water. Students should discuss with parents what steps they can take as a household to prevent water pollution.



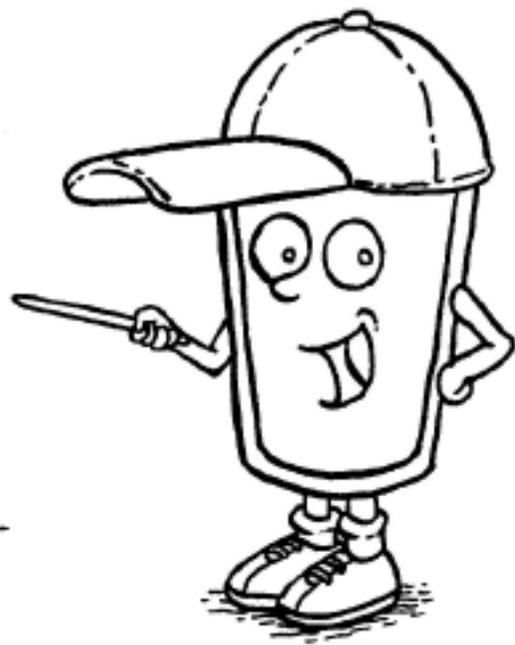
MATERIALS:

- | | |
|----------|---------|
| A: Rocks | C: Clay |
| B: Water | D: Sand |





Thirstins Water Cycle Activity



You will need:

1. jar
2. plants
3. bottle cap or shell of water
4. soil
5. sand
6. small rocks

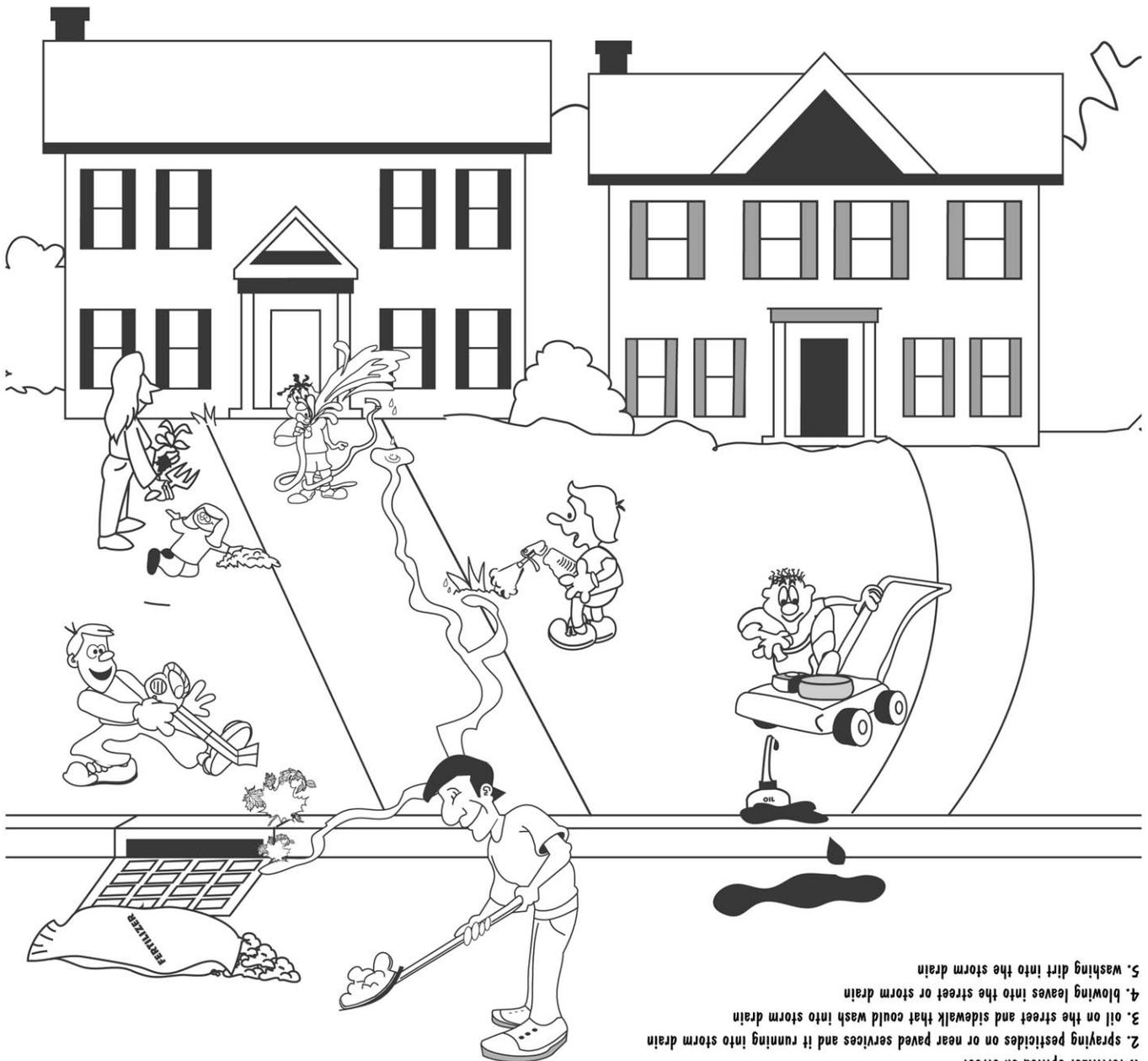
Directions:

1. Fill jar as in the picture and put the lid on.
2. Put the jar in a sunny place and see how the water cycle works.



Working in the garden or on a lawn is a fun activity to do with grown-ups. When helping to clean a yard, remember not to dump anything down a storm drain or in the street. Can you find what is wrong with this picture?

Circle the mistakes that the people in this drawing are making.



- Answers:
1. fertilizer spilled on street
 2. spraying pesticides on or near paved services and it running into storm drain
 3. oil on the street and sidewalk that could wash into storm drain
 4. blowing leaves into the street or storm drain
 5. washing dirt into the storm drain



Whole School Activities



Activities for Litter Awareness Week

Hold a Litter Awareness Week at your school.

Trash Can - Have the students bring a small bedroom trash can (or school may provide) that they can decorate for their bedroom, thus encouraging them to use it more often. Or have each class decorate a big can at school. Ideas: glue print media to can, ie. Magazines, newspapers, etc. then add feathers, beads, etc.

Poster Contest - Have a school poster contest designing the best slogan or artwork to remind others not to litter.

See it, Snag it, Bag it or Slam Dunk Your Junk - Teach your students these catch phrases, while also explaining how to pick up trash safely (ie. if you see glass tell your parent or guardian).

Daily PA Announcements - Read different litter-facts over the morning announcements during litter awareness week.

Fun Snack - At the end of Litter Awareness Week, reward the children by letting them get a little dirty making (and eating) yummy mud pie: add layers of crumbled oreos and chocolate pudding in a cup, throw in some gummy worms and enjoy! Oh, and remind them to clean up when they are done! What a mess.....

Long Term Litter Control Concepts...

Clean Up - Adopt the area around your school and allocate a regular time to pick up. Assign an area to each grade level and give monthly awards to the class whose area stays cleanest.

Stop, Drop and Clean! - Choose one lunch period weekly when students could “stop, drop and clean!”. A lot can be accomplished in just 10 minutes if everyone is working together.

Catch Kids - Small rewards could be given to students who are caught in the act of cleaning up at school.

Kids Hot Spots - Suggest they pick up after school as well: at the park, on the field or in the dug out, at the movies, and in their homes. Tell them to ask their parents to take a walk with them to pick up in their neighborhoods. Kids can also set good examples for their parents!

<http://www.cleanno.org/>

Thinking Green Made Fun!

Bottle Bowling

Set up bowling pins made from 2-liter soda pop bottles, small bleach bottles, or tall dishwashing detergent bottles. Tip: Put about an inch of sand in the bottom of the bottles; the pins will still be easy to bowl down, but the bottles won't fall as easily as they would if there was no sand in them.

Putt for Points

Paint five coffee cans with bright colors. Paint or draw a point value on each can. (Suggestions: Paint the number 5 on one can, the number 10 on another, 15 on a third, 20 on a fourth, and 50 on the fifth.) Set up the coffee cans in a row. Give students three golf balls and three chances to accumulate points for their team.

Trash Toss

Use balled up paper for tossing, team who gets most in the trash can wins.

Dust Pan Carry

Similar to egg on a spoon, put an old soda can on a dust pan and race

3 Legged Pick Up

Pair off & tie 2 inside legs together, pick up dispersed trash & toss in can at the finish

Recyclable?

Recycled & regular cans, team must put trash in correct cans, most correct in fastest time wins

Broom Spin

Hold broomstick to forehead & spin in 3 circles w/brush end sweeping wide circle on floor

Trash Can Obstacle Course

Stagger trash cans, kids weave thru cans as they run the course

Musical Cans

Turn class trash cans upside down & use as musical chairs

SMALL TEAM COMPETITIONS

The activity instructions below are written with small-team competition in mind.

Trash Can Relay

Set up five classroom trash cans in an obstacle course. The first student on the team runs the course, weaving in and out around the cans. When the student reaches the last can, he or she turns around and weaves back to the team. The runner taps the next team member in line, who takes his/her turn running the course...

Waste No Water

Fill a clean open-topped non-breakable container (a plastic spaghetti sauce jar or a soup can work well) with water for each team; be sure the containers are the exact same size and filled to the brim with water. Set a start and finish point. At a signal, the first runner heads for the finish line, walks over the line, turns around and heads back to his or her team, and passes the container to the next person in line. At the end of the race, the team with the most water still in the container is the winner.

Newspaper Relay

Provide a stack of newspapers for each team and have team members divide the stack evenly among themselves. Set up a paper bag or recycle bin (or whatever container your community uses for recycling newspaper) at a finish line. At a signal, the first member of the team carries his or her stack of newspaper to the finish line, deposits it in the container, runs back to the team, and taps the next person in line.

Tumbling Towers

This activity can be done one team at a time. Provide a recycle bin full of clean aluminum cans (for example, soda pop cans). At a signal, students have 2 minutes to stack the cans one atop another. Each student takes a turn at building a tower by stacking cans one atop the other. The student on each team who builds the tallest tower then represents his or her team in a final team-against-team stacking competition.

Submitted By: Gary Hopkins

Source: <http://www.education-world.com/>



Art Activities



Cool School Tools

There are no “rules” when it comes to making art, so you can create with any material or object. Substitute solid waste for conventional art materials and tools. Reusing and recycling items in this way will help save natural resources, landfill space, and money. The following are some suggestions as to how you can reuse and recycle solid waste as art materials and tools.

Protective covering: Reuse an old phone book to keep areas clean when pasting small items. After using, just tear off the page to expose a new sheet of paper.

Paint applicators: Paint doesn't have to be applied with brushes. Consider reusing drinking straws, eyedroppers, and sponges. Reuse old toothbrushes in combination with a craft stick for spatter painting. Just fill the brush with paint, and spatter the paper by pulling the stick across the bristles toward yourself.

Water/paint containers: Reuse margarine tubs and other plastic containers to hold water, paint, and papier mache paste. Use them to store small items for art and crafts projects.

Palettes: Reuse plastic lids from margarine tubs and other plastic containers to hold paint. Leftover, dried acrylic paint will peel easily from plastic lids. Recycle the paint swatches into other artwork, such as collage.

Patterns/templates: Take envelopes, boxes, and bags apart, and use them as patterns. If you wish to make sturdier templates or patterns, trace them off onto cardboard.

Drawing boards: After you've removed all the sheets of paper from a wallpaper sample book, cut the covers from the book's spine, and use them as drawing boards.

Artist's light or tracing table: Use a scrap of clear, acrylic plastic as a tracing table. Place the material on your lap, and set a lamp on the floor. Aim the light up, so that it shows through the plastic sheet and your work.

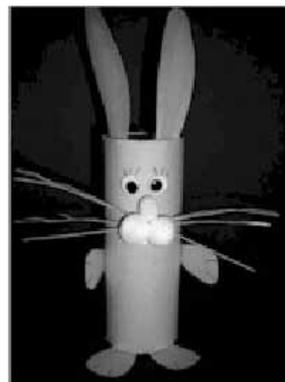
Spray booth: Use a paper grocery sack as a spray booth. Open the sack, and cut away either the front or back of the bag. Lay the sack with the remaining side down on a surface, and place the item to be sprayed inside. To extend the life of your spray booth, cover the “floor” of the bag with newspapers each time you spray a new item.

Source: <http://kid-at-art.com/>

Cardboard Tube Bunny

Supplies:

Bath tissue tube
Pink and white construction paper
Scissors
Cellophane tape
Markers
Wiggle eyes (optional)
Broom straw, string or yarn
Glue
Three white pom poms or cotton balls
Small pink pom pom or small piece of pink tissue paper



Instructions:

1. Cover a bath tissue tube with pink construction paper. Use marker to draw eyes at one end, or glue on wiggle eyes, if you have them.
2. Draw, color, and cut rabbit ears from pink construction paper. Tape these to the inside of the tube above the eyes.
3. Draw and cut four paw shapes, with attached legs, from pink paper. Glue one pair of paws to the sides of the tube. Tape the legs of the second pair to the inside of the bottom of the tube. Bend the paws at the bottom of the tube to the outside so the rabbit will stand.
4. Cut three strands of straw from a broom or whisk broom for whiskers. Glue the centers of the whiskers to the tube below the eyes. String or yarn may also be used for whiskers.
5. Cut two small rectangular shaped teeth from white paper. Glue these just below the whiskers.
6. Glue two white pom poms or small balls of cotton over the whiskers at the top of the teeth. Glue the remaining white pom pom to the back of the tube for the tail.
7. Glue the small pink pom pom over the white ones on the face for a nose. You can also use a small piece of pink crumpled tissue for the nose.

<http://www.thriftyfun.com>

Snowman Tree Ornament

You can recycle to make ornaments, too. You'll have fun, and you'll help save natural resources and landfill space by recycling paper to make a snowman ornament.

You will need:

- Used, white envelopes
- Scrap construction paper
- Cotton from medicine bottles
- Small twigs (optional)
- Pencil
- Compass
- Scissors
- Ruler
- Markers
- White glue
- Masking tape



Instructions:

1. This ornament is made of three pieces of paper glued together to make a snowman. To make the head, cut a rectangle about 1"x4" from the envelope. Cut two more rectangles, one 1.25"x5" for the middle and the other 1.5"x6" for the bottom. Roll each paper into a ring, and fasten by gluing. Then glue all three rings together to make the snowman.
2. Glue on scraps of paper or use a marker to decorate the face and make buttons. Cut a small, thin triangle for the nose. Bend it back at the base, and glue it to the head. Make a scarf by cutting a long, rectangular scrap of paper. Fringe the ends, and decorate with markers or cut paper.
3. Use scrap paper to make a top hat. Make the hat brim by using a compass to draw a circle 1.5" in diameter. Cut out the shape and set it aside. Cut a rectangle about 1.25"x3.5" for the top of the hat. Make a cylinder by wrapping the paper around and gluing it to itself. Glue the cylinder, on edge, in the middle of the circle. If you wish, glue a small circle to fit on top. Decorate the snowman by gluing on the hat and scarf.
4. To make arms, glue cut paper or tape small twigs inside the front of the middle ring. Use a twig or a short piece of dowel rod for the broomstick. Fringe a long, rectangular piece of brown or yellow paper about 2" wide for the broomcorn. Roll it around the stick and glue it shut. Attach the broom to one of the snowman's hands, and glue the broomcorn to the body. Finally, glue the cotton to the bottom of the ornament.

Source: Marilyn J. Brackney; *The Imagination Factory*

Wrap it Up

You can have fun making art and you'll save money by designing your own wrapping paper and gift containers. If you recycle paper to do this, you'll help save trees and landfill space, too.

Tips and Tricks:

A good source of clean, pre consumer waste paper is your local print shop. Ask the printer to save end rolls and sheets of leftover paper for you. Go to the shop on a regular basis to pick up the paper, so it will not take up needed space at the business.

The funny papers or comic section of the Sunday newspaper are very colorful, and they will do as wrapping paper. In addition, your local newspaper will sell or give you end rolls of plain newsprint which you can decorate in many ways.

Interior design and paint stores receive wallpaper sample books on a regular basis. When their suppliers introduce new papers, the old books are no longer useful. You can use pages from a wallpaper sample book to wrap small gifts. Ask the decorator at your local paint store to save books for you.

Materials:

- scrap paper
- newsprint end rolls
- brown sacks
- sacks with designs
- newspaper stock report
- funny papers
- shredded paper
- pre consumer waste paper
- computer print outs
- oatmeal box
- empty box like a teabag box
- aluminum foil

Decorating tools/supplies such as:

- ruler
- pencil
- colored pencils
- poster paints
- watercolors
- markers
- ink pens
- crayons
- rubber stamps and ink pads
- scissors
- craft stick
- old toothbrush
- glue stick
- string
- sponges
- stencil brush
- paint brushes and small pans
- wax paper
- construction paper scraps

Source: Marilyn J. Brackney; *The Imagination Factory*

Wrap it Up

1. Oodles of Doodles

Using ink or markers, make loops all over a piece of scrap paper, newsprint, or a brown paper bag. Choose symbols and draw them inside the loops. Fill the page with the symbols. Color some of the designs with markers or crayons

2. Repeat Design

Recycle the back side of a computer print- out sheet, a piece of newsprint, or a brown paper bag. Divide the paper into long rectangles, and using pens and markers, draw two, three, or four symbols or designs over and over. Color some of the designs.

3. Polished Crayon

Make a stained glass design by dividing into many sections or shapes with a black marker. Color the shapes heavily. Polish the design by gently rubbing the colors with a soft rag.

4. Resist Painting

Choose a piece of white waste paper. Using crayons or oil pastels, draw a picture or fill the page with symbols, leaving some of the paper untouched. Color the symbols heavily. Wet the entire page with a sponge, and paint watercolor over everything.

5. String Painting

Dip all but two inches of a fourteen-inch length of string into acrylic, poster paint, ink, or watercolor. Lay it across a piece of paper, leaving the “clean” part hang over the edge. Place another paper on top of the first one, and holding your hand on top of the paper and string, pull the string back and forth and then out. Repeat with other colors, if you wish. Be sure to use a clean string for each new color!

6. Stenciling

Cut a simple shape from wax paper or the backing from a self-adhesive label. Place over a piece of scrap paper, and use acrylic, poster paint or watercolor to paint the shape’s edges with a stencil brush or a sponge. Repeat till the paper is covered with designs.

7. Rubbing

Lay a piece of newsprint or other thin type of paper over a raised surface such as linoleum or other texture. Remove the paper covering from a crayon. Holding the paper down with one hand and using the broad side of the crayon, make a rubbing by coloring the sheet. Use many colors side by side for a more interesting effect.

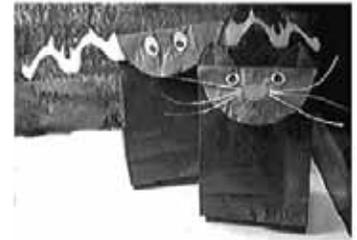
8. Rubber Stamping

Rubber stamps are available in many different designs. Before stamping, decide if you want an overall pattern or one which is more formal. When you have a plan in mind, stamp away on newsprint or other piece of waste paper. If you wish, use markers or colored pencils to color the designs when they’re dry.

Containers

Make an Animal Bag

Curve the top of a plain, brown bag by cutting off the corners. Fold it over about three inches to form the face. Use construction paper scraps to create the animal's features, and glue them to the bag. Fill the container with shredded paper. Place your gift inside, and fold down the top.



Decorate an Oatmeal Carton

Empty oatmeal cartons make great containers for gifts. Just use a glue stick to adhere a paper covering to the box. The container can be reused to give someone else a gift or used for another purpose.



Wrap a Cardboard Tube

Place a small gift inside a tube like a paper towel or a section of a gift wrap tube. Wrap with paper and tie the ends with ribbons or curled paper.



Make a Cardboard Box Anew

Carefully take apart small paper cartons, like the boxes in which teabags or aspirin are packaged. Many of them are plain inside. Decorate them on the white side, and then glue them back together again with your design on the outside. Line them with tissue or shredded paper. You can also study how boxes are folded and constructed, and use them as patterns to make more boxes.

Flower pots

Place shredded paper inside clean terra cotta flower pots and use as gift containers. If you wish, paint designs on the pot with acrylic paints.

Source: <http://kid-at-art.com/>

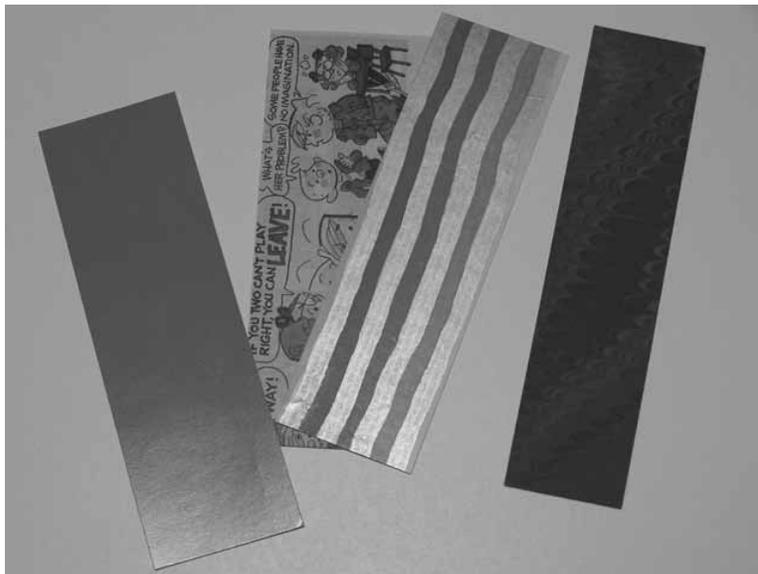
Design a Bookmark

There are many types of waste paper that can be reused to make bookmarks.

You will need:

- Scraps of wrapping paper
- Old calendar photos
- Color comics
- Recycled or scrap paper
- Drawing materials
- Scrap card stock
- Glue stick
- Paper cutter

Choose the type of paper you wish to use for your bookmark, and cut it and the card stock so they each measure about 2" x 5". Glue the paper onto the card stock, and have an adult trim the bookmark so that the sides are square. If you prefer, draw designs on scrap paper. As before, glue the paper to the card stock, and trim.



Source: <http://kid-at-art.com/>

Easy Bird Feeder

Materials:

- Small Paper Plates (cake or snack size)
- Toilet Paper or Paper Towel Rolls
- Paint
- Yarn or Heavy Duty String
- White Glue
- Scissors
- Hole Puncher
- Paint Brushes

Directions:

1. If using paper towel rolls, you may wish to cut them in half.
2. Have the children paint and decorate a toilet paper roll and a small paper plate.
3. Having a theme for the decorating is a good idea. We made ours during Thanksgiving time, so the children used fall colors to paint their bird feeders.
4. Allow the rolls and the paper plates to dry slightly, then using the hole puncher, place three holes at one end of the roll, forming a triangle along the edge (these will be used to hang the feeder, so place them at equal height and at points that will help distribute the weight evenly).
5. On the opposite end of the roll, cut two small half circles on opposite sides at the bottom of the roll (these will allow the bird seed to fall from the roll on to the plate).
6. Glue the roll to the center of the plate with the small half circle openings on the bottom.
7. Loop the string through the three holes on the top of the roll, fill with bird seed and place in a tree for the birds to enjoy.

Submitted by: Adrienne Bolles, from Santa Barbara, CA.

Baby Food Jar Air Freshener

Here's an economical gift the whole class can make for just a few dollars. This idea come from Angela of Portland, Oregon.

Materials:

- Potpourri
- Clean Baby Food Jar (no top needed)
- 5" Paper Doily
- Rubber Band
- Ribbon
- Ribbon rose
- Lace
- Low Temp Glue Gun



Directions:

Fill jar with potpourri. Cover with a paper doily or tulle. Secure with rubber band. Tie a ribbon around the jar to hide the rubber band. Hot glue ribbon rose to ribbon.

Source: <http://www.makingfriends.com/>

Baby Food Jar Animals

What does your pet look like? How about the pet you wish you had? Make one out of a baby food jar. They're cute and easy! This idea comes from Lisa of Anniston, Alabama.

Materials:

- Baby Food Jars
- Scraps of Craft Foam
- Tacky Glue or Low Temp Glue Gun
- Pompoms
- Cotton (for white animals)
- Feathers (for bird)
- Wiggle Eyes -- 10mm
- Plastic Lace for whiskers
- Scissors



Directions:

Clean baby food jar. Remove label. Fill with pompoms to match your animal's face. Put the lid on and turn it upside down. Glue on wiggle eyes. Cut ears (or beak) out of foam and glue in place. Add pompoms if desired. For whiskers, cut pieces of craft lace and glue one end under pompom nose.

Cut a strip of craft foam 1/4" wide and glue around edge of lid.

Make a Didgeridoo

Aboriginal Australians made wind instruments from eucalyptus trees hollowed out by termites.

Materials:

- Empty Tube from Gift Wrap
- Paint and Brush or Q-tips

Directions:

Using traditional symbols for inspiration, paint a long cardboard tube. Blow through one end to make trumpet-like sounds.



http://www.makingfriends.com/musical_instruments.htm

Not-So-Scary TP Snake

Save those TP tubes and make a fun snake to pull around.

Materials:

- 3 Empty TP Tubes
- Green, Dark Green and Black Paint and Brush
- Glue
- Hand Hole Punch
- Wiggle Eyes -- 15mm
- Tacky Glue
- Small Scrap of Red Paper
- Scissors
- Paper Clips
- String



Instructions:

Cut empty tp tubes in half. Paint the inside light green. Paint dark green in the middle of each ring and lighter green near the edges of each ring. Let dry. Paint a rough black line where the colors meet. Punch a hole in each roll near each edge. Hook pieces together (both ends) using paper clips. Cut a forked tongue out of red paper. Glue tongue to one end. On the same end, glue on two wiggle eyes. Add a string to pull him around.

<http://www.makingfriends.com>

People Puppets

Make one to look like you and one to look like all your friends.

Materials:

- Empty Paper Towel Tube
- Jumbo Craft Stick
- Tacky Glue
- Paint and Brush
- Markers
- Two Wiggle Eyes -- 20mm
- Ribbon Bows
- Scissors



Instructions:

Glue a jumbo craft stick inside the empty tube for a handle. To make hair, cut strips down one side 4". Bend or curl the pieces around a fat marker. Trim. Paint the face and hair. Glue on wiggle eyes. Draw on details with marker. Glue on hair bows if desired.

<http://www.makingfriends.com>

Napkin Rings

Materials:

- Assorted Beans (4 or More Varieties)
- Empty Paper Towel Tube
- Low Temp Glue Gun
- Scissors



Instructions:

Cut empty paper towel tubes into 1-1/4" rings. Use glue gun to attach beans all around ring in a decorative pattern.



<http://www.makingfriends.com>

Greeting Card Puzzles

These simple-to-make puzzles will delight your students.

Materials:

- Greeting Cards
- Tacky Glue
- Jumbo Craft Sticks
- Scissors
- Exacto-Knife with Sharp Blade
- Tape



Instructions:

Cut off the front of the Christmas card and trim up or cut into a shape. Lay out enough craft sticks to fit the card. Use tape to hold them together on the back side. Spread a layer of tacky glue over the back of the card. Burnish down the card so all edges adhere. Wipe off any excess glue with a damp cloth. Let dry. Remove tape from back. Use a sharp exacto knife to slice through the card where the craft sticks meet.

<http://www.makingfriends.com>

Warty Mask

There is no end to the creativity in this project! Just ask the kids to bring in an egg carton and layout your scraps!

Materials:

- Empty Egg Carton for 18 Eggs
- Tacky Glue
- Scissors
- Craft Foam, Yarn, Pipe Cleaners, Etc.
- Stapler
- Hole Punch
- Elastic



Instructions:

Cut off last three sections of the egg carton and cut off the two corners of the next row. Staple these sections to the sides for ears. Cut out space for eyes.

Give the kids you craft scraps and watch them create crazy warty masks. Punch two holes where the ears connect to tie elastic to hold the mask in place.

<http://www.makingfriends.com>

Dinosaur Feet

Materials:

- Two Empty Tissue Boxes that are the Same Size
- Craft Foam Scraps
- Glue
- Scissors
- Cardboard
- Green Paint
- Foam Brush

Instructions:

Cut a piece of cardboard to fit inside the openings to make them smaller so their feet will stay in. Glue in place. Paint the boxes green. Let dry. Cut triangles out of white foam. Glue in place for toe nails. Decorate with foam pieces.



<http://www.makingfriends.com>

CD Ornaments

Save those CDs to make reflective ornaments.

Materials:

- Two CDs you don't need
- Gold Cord
- Tacky Glue or Low Temp Glue Gun
- Gemstones



Instructions:

Glue two CDs back-to-back, sandwiching a loop of cord between them for hanging.

Decorate with gemstones and glitter.

<http://www.makingfriends.com>

Paper Bag Serape Craft

On May 5 we celebrate Cinco de Mayo. The FreeKidsCrafts Team designed this easy to make and inexpensive Paper Bag Serape so everyone can be dressed for the occasion.

Materials:

- Large Paper Grocery Bag
- Scissors
- Craft Glue
- Colored Construction Paper

Instructions:

Cut sides out of paper bag.

Cut circle big enough for head to fit through in the bottom of the bag.

Cut strips of bright construction paper the width of the remaining bag and glue horizontally over the front and back.

Cut small strips of construction paper and glue to the bottom for the fringe.

Enjoy your fiesta!



<http://www.freekidscrafts.com/>

Egg Carton Bat Craft

Recycle old egg cartons into these cool bats.

Materials:

- Egg Cartons
- Scissors
- Elastic
- Glue
- Black Paint
- Glow in the Dark Pens

Instructions:

1. For this project you need 3 sections of an egg carton.
 2. Start by cutting out the wings by cutting away a scallop edge.
 3. Using a skewer or pair of scissors put a small hole into the head of the spider, thread your elastic through and tie a knot. This will enable your spider to bounce around!!
 4. Glue on the eyes and you're done.
- For younger kids it would be easier to cut the cartons up and have them decorate the bats.
 - You can also paint these bats black, make a garland out of them or just dangle them from the ceiling with some thumb tacks.
 - Use glow in the dark pens for the eyes for a night time spooky look.

<http://www.craftbits.com>

Seedling Pot Craft

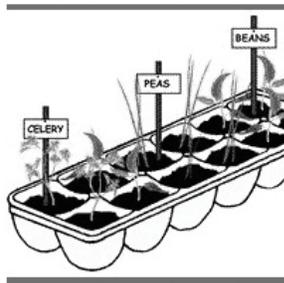
Get a start on your garden and teach children how food grows and also recycling egg cartons.

Materials:

- Bottom of egg carton
- Potting soil
- Easy-to-grow vegetable, flower or herb seeds

Instructions:

1. Poke small hole in bottom of each egg cup (for drainage).
2. Fill each egg cup $\frac{3}{4}$ full with potting soil.
3. Plant a seed in each egg cup.
4. Water, put in sunny window & continue to water when dry. Watch plants grow! (They will need to be transplanted to the garden or bigger pots when they outgrow their pots.)
5. Make sure you have a pan or something underneath to catch any water that may drain through the egg carton.



Source: <http://www.eggs.ab.ca/index.htm#>

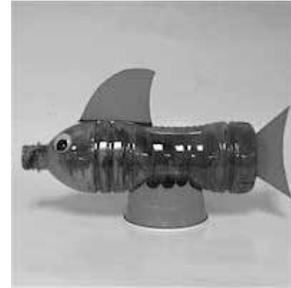
This project reprinted courtesy of Alberta Egg Producers.com.

Recycled Water Bottle Fish Craft

Make a whole school of fish with this easy original water bottle project. Great way to reinforce a lesson on keeping our waters clean.

Materials:

- Clean, Dry Water Bottle
- Green Card Stock
- Acrylic Paint in Three Colors of Green
- Large Wiggle Eyes
- Scissors
- Blue Paper Cup
- Glue



Instructions:

Take the top off a water bottle. Squirt a generous amount of paint inside in all three colors. Replace lid.

Shake vigorously to coat the inside of the bottle. Do not mix too much. You'll want interesting patterns of color, rather than an even mix. Let dry.

Cut out a tail shape making a 1/2" tab to fold and glue to back of fish. Cut out a fin making a 1/2" tab to fold and glue to the top of the fish.

To make the stand, cut off the bottom of a cup keeping only the top 1-1/2". Cut the edge to resemble waves. Set the fish on the cup.

Recycled Animals Craft

This craft reprinted courtesy of Elmer's Glue. We throw away thousands of plastic bottles every day. Here's an opportunity to give them a second life and teach children the importance of recycling at the same time.

Materials:

- Empty plastic bottles and containers (i.e. water bottles or 2 liter soda bottles)
- Elmer's Squeeze 'n Brush
- Elmer's Washable School Glue Gel
- Construction paper
- Eyes
- Pipe cleaners
- Paper cups
- Paper plates etc.

Instructions:

Have each student decide on an animal they would like to create and gather the supplies needed to create that animal. It can even be an animal of their own creation.

Allow students time to create their animal.

Use a plastic bottle for the animal's body.

Encourage the students to use creativity and details in their decoration.

Set animals aside to dry.

<http://www.elmers.com/>

Tissue Box Valentine Card Craft

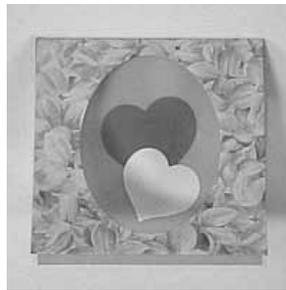
Stop! Don't throw out another tissue box. This FreeKidsCraft.com original craft is a great way to use all those square designer boxes our tissues now come in.

Materials:

- Floral or Other Suitable Square Tissue Box
- Pink, Red and White Construction Paper and Card Stock
- Scissors
- Glue

Instructions:

Cut off three sides and the bottom of the tissue box. Leaving the top and one side attached. Fold and trim evenly. Peel the plastic off the inside of the top. Cover the inside with pink paper. Cut out hearts in red and white paper. Glue to fit inside the opening. Write your message inside.



<http://www.freekidscrafts.com>

Resources

<http://www.gomdot.com>
<http://www.kab.org>
<http://kid-at-art.com/htdoc/lesson1.html>
<http://home.howstuffworks.com>
<http://thepartyworks.com>
<https://utahrecycles.org>
<http://www.fundyrecycles.com>
<http://www.groundwater.org>
<http://www.recycleworks.org/schools/schoolpgm.html>
<http://www.deq.virginia.gov>
<http://www.dswa.com/>
<http://www.co.henrico.va.us/utility/khbeautiful/education.html>
<http://www.kindergarten-lessons.com>
<http://www.cleanno.org/>
<http://www.nps.gov/>
<http://www.education-world.com/>
<http://www.lessonplanspage.com>
<http://www.stormwatercoalition.org>
<http://www.auburn.edu/>
<http://www.epa.org>
<http://www.mass.gov/dep/recycle/reduce/k6join.htm>
<http://www.co.delaware.pa.us/planning/environmental/stormwater.html>
<http://www.mass.gov/dep/>
<http://www.wastefreelunches.org>
<http://www.theteachersguide.com/Recyclinglessonplans.htm>
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