

# New York Recycles!



FOR TEACHERS

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## Waste Reduction, Reuse, Recycling, Composting and Buy Recycled Lessons and Activities Answers for Teachers

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For More Information Contact

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## *New York Recycles!*

November 15

Teachers!!! Get your students involved in *New York Recycles!*  
This web page contains activities involving: waste reduction, reuse, recycling,  
composting and buying recycled.

### DOWNLOAD THESE LESSONS AND RECYCLING ACTIVITIES!

Please evaluate each activity to see if it fits your grade level.

#### ACTIVITY PAGES

Spelling Words	(Easy, Moderate and Hard Listed Together)
I Think...	(Moderate to Hard)
Recycling Maze	(Easy)
Recycling Maze	(Moderate)
Math Problems	
The Coded Message	(Easy)
The Coded Message	(Hard)
Sort, Recycle and Save	(Easy)
Matching Game	(Moderate to Hard)
Crossword Puzzle	(Hard)
Word Search	(Easy)
Word Search	(Hard)
Word Jumble	(Hard)
Litter Matching Game	(Hard)

#### REFERENCE MATERIALS

Reading List  
Vocabulary Words  
Web Page Resource Information  
Gee Whiz Facts  
Sure Bets  
To Make A Ton, You Would Need...  
Average New York State Garbage Can

Do you have any ideas for our web pages?  
E-mail us at [dshmwrr@gw.dec.state.ny.us](mailto:dshmwrr@gw.dec.state.ny.us)

#### PLEDGE CARD

Students and teachers can show their support and enter our contest.

#### CERTIFICATE OF APPRECIATION

Give to your students to show them our appreciation for learning about recycling.



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Spelling Words

**Easy**

Paper  
Glass  
Ore  
Tree  
Metal  
Sand  
Oil  
Waste  
Litter  
Soil  
Worms

**Moderate**

Reduce  
Reuse  
Recycle  
Compost  
Buy Recycled  
Leaves  
Plastic  
Garbage  
Landfill  
Energy  
Pollute

**Hard**

Environment  
Aluminum  
Biodegradable  
Natural Resources  
Corrugated  
Pollution  
Organic  
Yard Waste  
Microorganism  
Waste Stream  
Waste Reduction

**Extra Credit:**

Post-Consumer  
Pre-Consumer



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**I think...**

1. The best thing about recycling is \_\_\_\_\_
2. I recycle \_\_\_\_\_
3. I wish I could recycle \_\_\_\_\_
4. Throwing away recyclables is \_\_\_\_\_
5. Learning about recycling is \_\_\_\_\_
6. My favorite thing to recycle is \_\_\_\_\_
7. My school recycles \_\_\_\_\_
8. Sometimes recycling is hard because \_\_\_\_\_
9. I promise not to litter because \_\_\_\_\_
10. Other things I do to help my environment are \_\_\_\_\_



Recycle



Reuse



Reduce



Compost



Buy Recycled

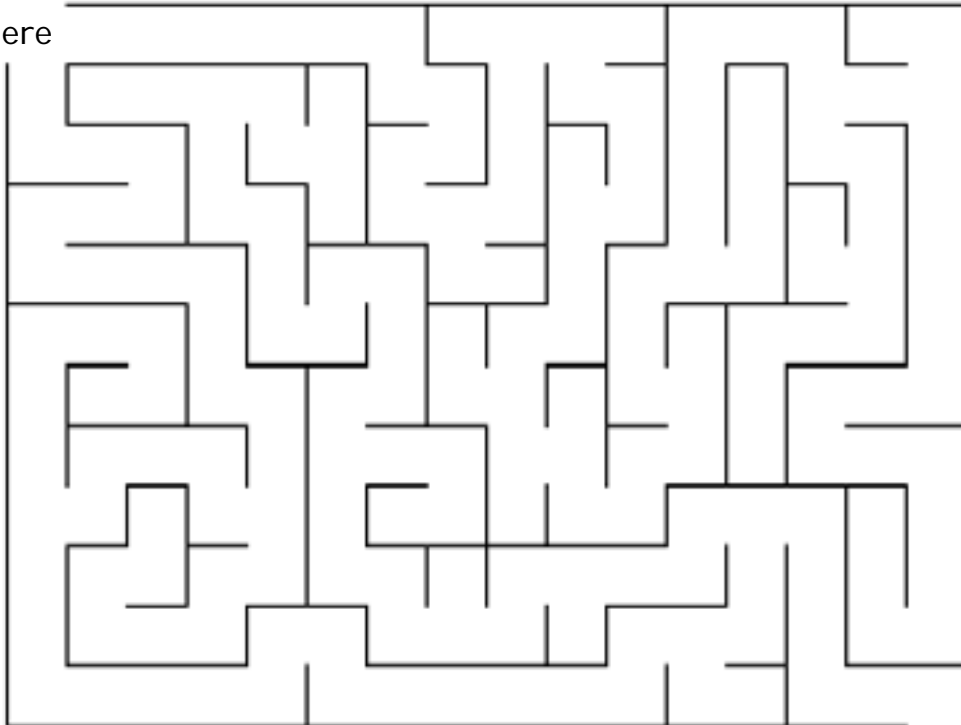


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Help the Recycling "Characters" get the their recycling bin!



Start Here

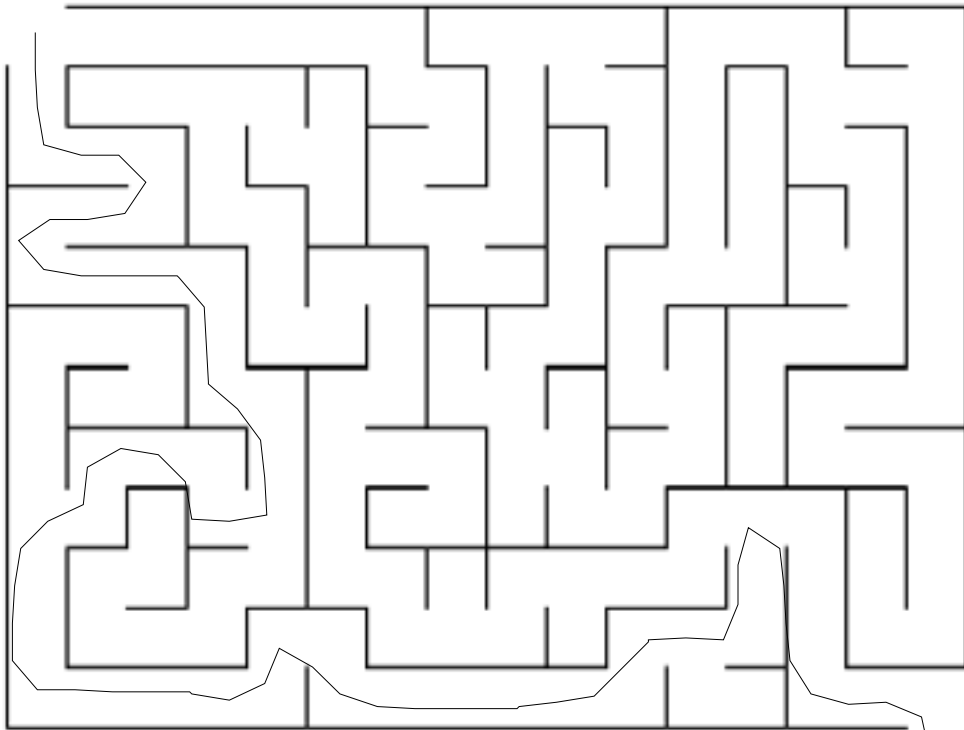




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ANSWER





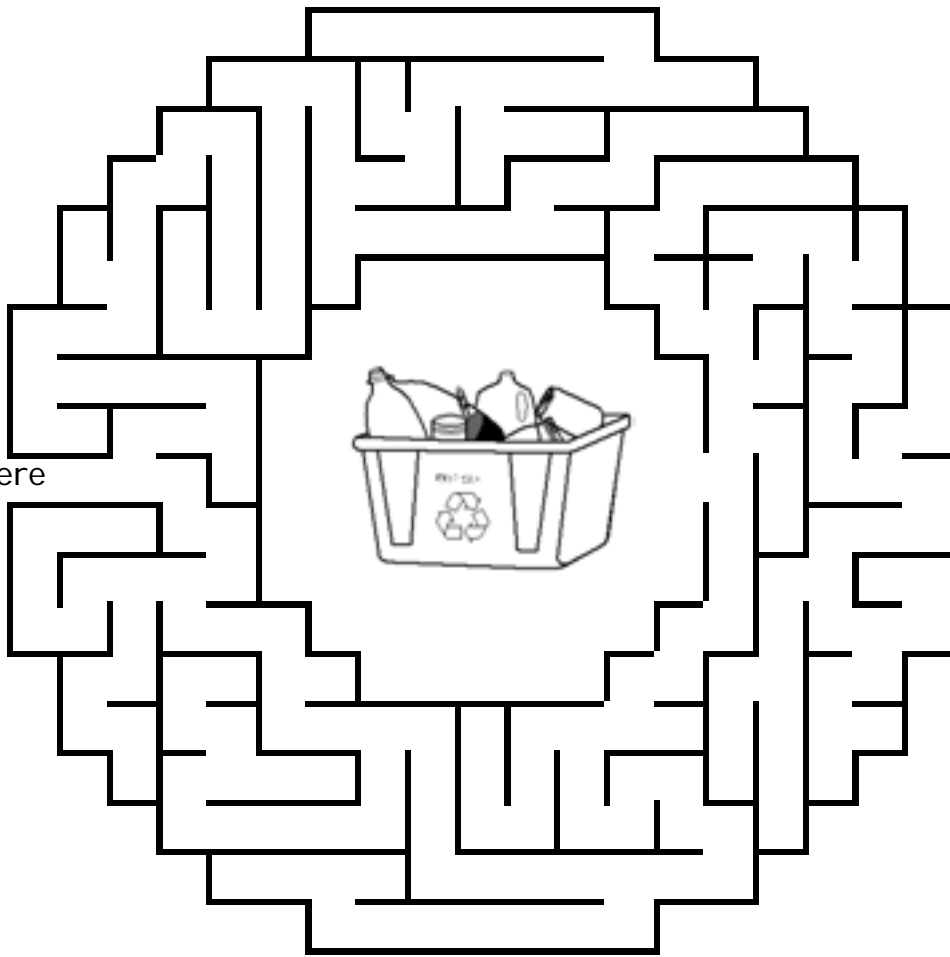
*New York Recycles!*

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Help the Recycling "Characters" get the their recycling bin!



Start Here



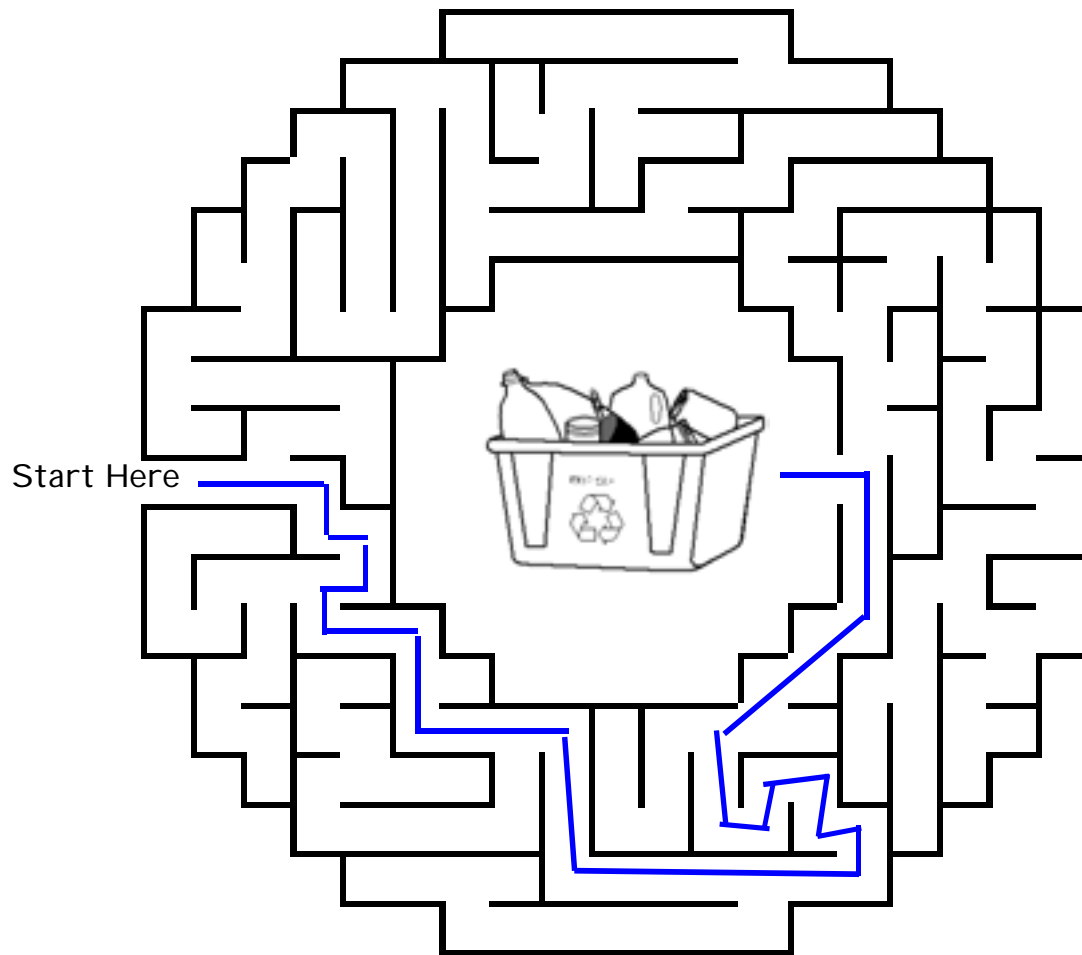


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ANSWER

Help the Recycling "Characters" get the their recycling bin!







## *New York Recycles!*

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### **Math - The Coded Message!**

Solve the problem, then find the letter in the key that matches the answer and solve the coded message.

$11 - 9 = \underline{\hspace{2cm}} \quad R$

$3 + 2 = \underline{\hspace{2cm}} \quad C$

$8 - 2 = \underline{\hspace{2cm}} \quad N$

$8 - 1 = \underline{\hspace{2cm}} \quad S$

$9 - 5 = \underline{\hspace{2cm}} \quad E$

$8 + 3 = \underline{\hspace{2cm}} \quad U$

$4 + 4 = \underline{\hspace{2cm}} \quad L$

$2 - 1 = \underline{\hspace{2cm}} \quad Y$

$3 + 0 = \underline{\hspace{2cm}} \quad I$

$7 + 2 = \underline{\hspace{2cm}} \quad G$

$9 + 1 = \underline{\hspace{2cm}} \quad F$

2

4

5

1

5

8

3

6

9

          
3

          
7

          
10

          
11

         !  
6



## *New York Recycles!*

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### Math - The Coded Message! Answers

$11 - 9 = \underline{\quad 2 \quad} \quad R$

$3 + 2 = \underline{\quad 5 \quad} \quad C$

$8 - 2 = \underline{\quad 6 \quad} \quad N$

$8 - 1 = \underline{\quad 7 \quad} \quad S$

$9 - 5 = \underline{\quad 4 \quad} \quad E$

$8 + 3 = \underline{\quad 11 \quad} \quad U$

$4 + 4 = \underline{\quad 8 \quad} \quad L$

$2 - 1 = \underline{\quad 1 \quad} \quad Y$

$3 + 0 = \underline{\quad 3 \quad} \quad I$

$7 + 2 = \underline{\quad 9 \quad} \quad G$

$9 + 1 = \underline{\quad 10 \quad} \quad F$

R E C Y C L I N G I S  
2 4 5 1 5 8 3 6 9 3 7

F U N !  
10 11 6



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**Math - The Coded Message!**

Solve the problem, then find the letter in the key that matches the answer and solve the coded message.

- 53 - 38 = \_\_\_\_\_ O
- 91 - 39 = \_\_\_\_\_ R
- 77 - 65 = \_\_\_\_\_ N
- 91 - 15 = \_\_\_\_\_ V
- 34 - 15 = \_\_\_\_\_ E
- 24 + 34 = \_\_\_\_\_ L
- 16 + 16 = \_\_\_\_\_ P
- 33 + 32 = \_\_\_\_\_ A
- 19 + 3 = \_\_\_\_\_ S

- 42 + 21 = \_\_\_\_\_ C
- 11 + 7 = \_\_\_\_\_ M
- 17 + 22 = \_\_\_\_\_ K
- 53 + 39 = \_\_\_\_\_ B
- 47 + 26 = \_\_\_\_\_ Y
- 88 - 41 = \_\_\_\_\_ T
- 52 - 25 = \_\_\_\_\_ D
- 72 - 31 = \_\_\_\_\_ W
- 63 - 47 = \_\_\_\_\_ F

\_\_\_\_\_  
63 19 58 19 92 52 65 47 19 12 19 41 73 15 52 39

\_\_\_\_\_  
52 19 63 73 63 58 19 22 27 65 73 15 12

\_\_\_\_\_  
12 15 76 19 18 92 19 52

**15 !**



## *New York Recycles!*

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### Math - The Coded Message! Answers

$53 - 38 =$	<u>15</u>	O	$42 + 21 =$	<u>63</u>	C
$91 - 39 =$	<u>52</u>	R	$11 + 7 =$	<u>18</u>	M
$77 - 65 =$	<u>12</u>	N	$17 + 22 =$	<u>39</u>	K
$91 - 15 =$	<u>76</u>	V	$53 + 39 =$	<u>92</u>	B
$34 - 15 =$	<u>19</u>	E	$47 + 26 =$	<u>73</u>	Y
$24 + 34 =$	<u>58</u>	L	$88 - 41 =$	<u>47</u>	T
$16 + 16 =$	<u>32</u>	P	$52 - 25 =$	<u>27</u>	D
$33 + 32 =$	<u>65</u>	A	$72 - 31 =$	<u>41</u>	W
$19 + 3 =$	<u>22</u>	S	$63 - 47 =$	<u>16</u>	F

C E L E B R A T E      N E W      Y O R K  
63 19 58 19 92 52 65 47 19      12 19 41      73 15 52 39

R E C Y C L E S      D A Y      O N  
52 19 63 73 63 58 19 22      27 65 73      15 12

N O V E M B E R      15!  
12 15 76 19 18 92 19 52



# *New York Recycles!*

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## Sort, Recycle, Save!

Color the item in each box.

Then circle the items that can be recycled in your recycling program.



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Sort, Recycle, Save!

ANSWERS

			
Compost Bin	Glass Recycling	Metal Recycling	Thrift Store
			
Metal Recycling	Paper Recycling	Plastic Recycling	Thrift Store
			
Paper Recycling	Plastic Recycling	Compost Bin	Paper Recycling
			
Compost Bin	Thrift Store	Compost Bin	Paper Recycling



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Draw a Line from the Raw Material to the Product.

Raw Material



Product



Metal Cans



Fiberglass Insulation



Plastic Bottles



Paper Towels



## *New York Recycles!*

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### Answers to the Matching Game



Paper comes from trees, but can also be made from recycled paper.  
Plastics come from oil, but can also be made from recycled plastic bottles.  
Metals come from ores, but can also come from recycled metal cans.  
Glass comes from sand, but can also be made from recycled glass bottles and jars.

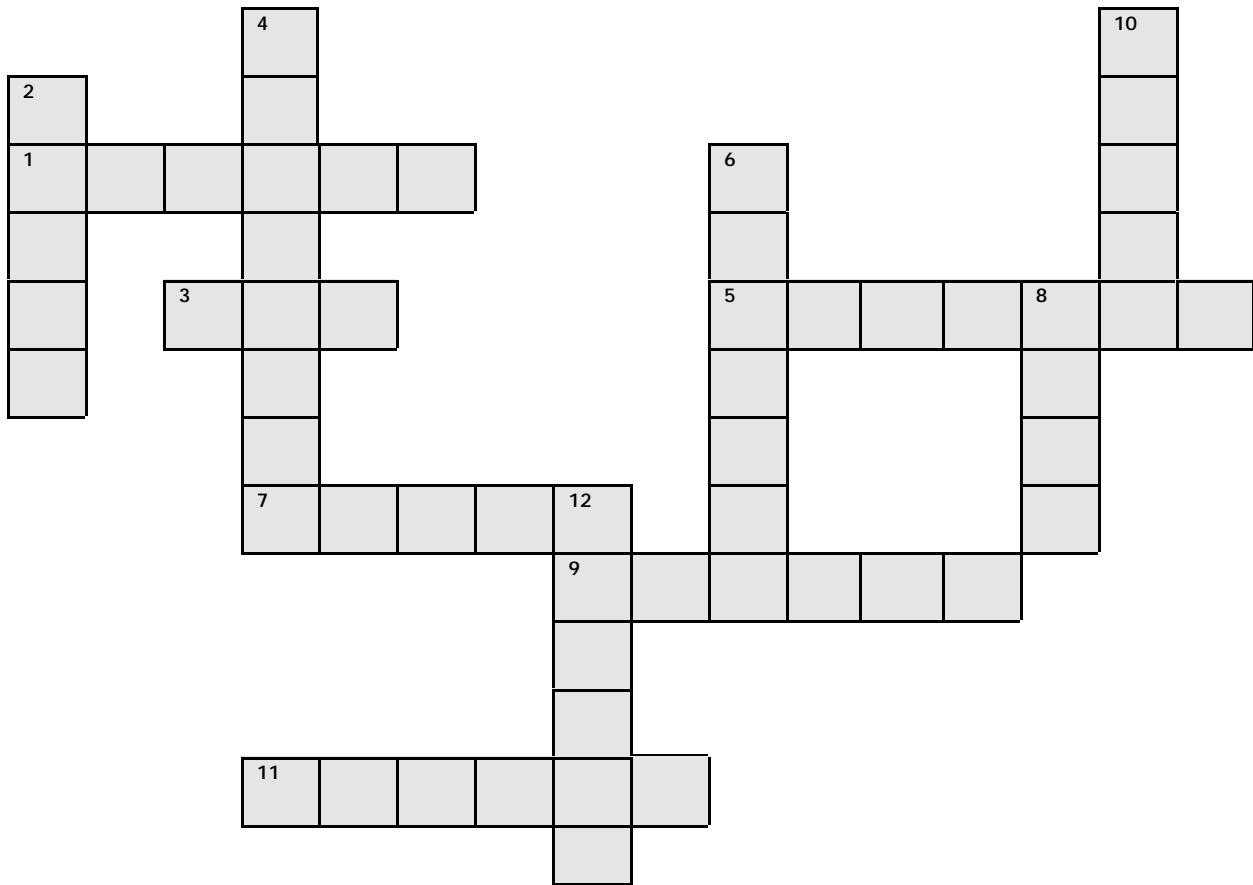




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### Crossword Puzzle



#### Across

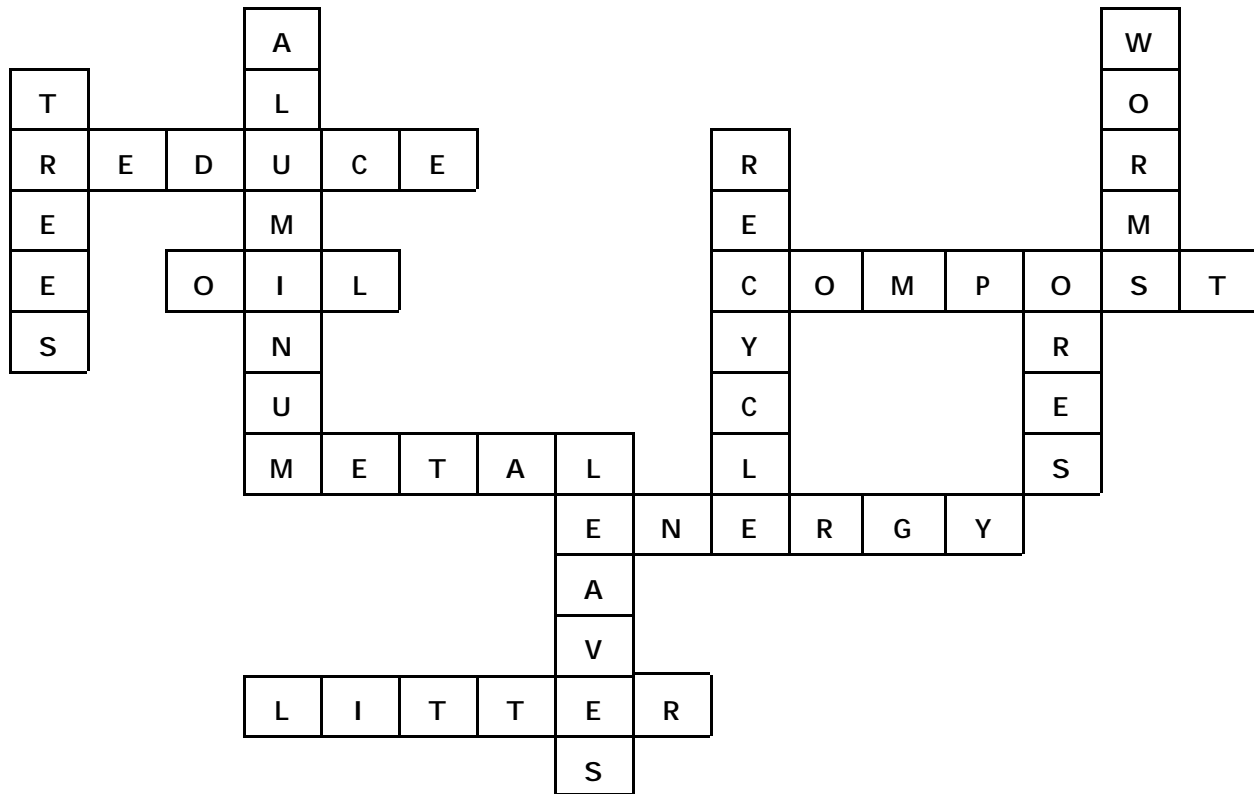
1. If we do not make garbage to begin with, we \_\_\_\_\_.
3. Plastic is made from \_\_\_\_\_.
5. When leaves, grass clippings, fruit and vegetable waste rots, we call it \_\_\_\_\_.
7. If we recycle one ton of \_\_\_\_\_, we save 2,500 pounds of iron ore, 1,000 pounds of coal and 40 pounds of limestone.
9. When we recycle we save natural resources, time, money, landfill space and \_\_\_\_\_ and we make less pollution.
11. Trash thrown along roads, shorelines and other places it doesn't belong is called \_\_\_\_\_.

#### Down

2. If we recycle one ton of paper, we save 17 \_\_\_\_\_.
4. If we recycle one \_\_\_\_\_ can, we save enough energy to run a TV for three hours.
6. If we take materials that would otherwise be waste and turn it into something new, we \_\_\_\_\_.
8. Metals come from \_\_\_\_\_.
10. \_\_\_\_\_ work to breakdown leaves, grass, fruit and vegetable wastes into compost.
12. \_\_\_\_\_ make great compost when mixed with grass clippings and certain food wastes.



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**Crossword Puzzle Answers**



Across

1. If we do not make garbage to begin with, we REDUCE.
3. Plastic is made from OIL.
5. When leaves, grass clippings, fruit and vegetable waste rots, we call it COMPOST.
7. If we recycle one ton of METAL, we save 2,500 pounds of iron ore, 1,000 pounds of coal and 40 pounds of limestone.
9. When we recycle we save natural resources, time, money, landfill space and ENERGY and we make less pollution.
11. Trash thrown along roads, shorelines and other places it doesn't belong is called LITTER.

Down

2. If we recycle one ton of paper, we save 17 TREES.
4. If we recycle one ALUMINUM can, we save enough energy to run a TV for three hours.
6. If we take materials that would otherwise be waste and turn it into something new, we RECYCLE.
8. Metals come from ORES.
10. WORMS work to breakdown leaves, grass, fruit and vegetable wastes into compost.
12. LEAVES make great compost when mixed with grass clippings and certain food wastes.



## *New York Recycles!*

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### Word Search

Find these words in this puzzle and circle them.

Look from right to left and down!

REDUCE  
REUSE  
RECYCLE

BIN  
TREE

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



## *New York Recycles!*

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### Word Search Answers

Find these words in this puzzle.

Look from right to left and down!

REDUCE

REUSE

RECYCLE

BIN

TREE

R		T		B		
E		R		I		
C		E		N		
Y	R	E	D	U	C	E
C						
L						
E		R	E	U	S	E



## *New York Recycles!*

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### Word Search

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

Find these words in this puzzle

Look from right to left, left to right, upside down, and diagonally!

Aluminum

Batteries

Compost

Environment

Glass

Leaves

Metal

Oil

Ores

Paper

Plastic

Recycle

Reduce

Reuse

Sand

Trees



## *New York Recycles!*

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### Word Search Answers

R				R	E	C	Y	C	L	E		S		S
E			S			P					E	A		S
D			A			L				E		L		A
U			N			A			R			U		L
C	O		D			S		T				M		G
E		R				Y						I		
		E	E	N	V	I	R	O	N	M	E	N	T	
		U		S		C	E					U		
R		S					C					M		
E		E			S		Y							
P				E			C	O	M	P	O	S	T	
A			V				L							
P		A				M	E	T	A	L				L
	E												I	
L	B	A	T	T	E	R	I	E	S			O		

Find these words in this puzzle

Aluminum  
Batteries  
Compost  
Environment  
Glass  
Leaves

Metal  
Oil  
Ores  
Paper  
Plastic

Recycle  
Reduce  
Reuse  
Sand  
Trees



## *New York Recycles!*

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### Word Jumbles

Unscramble the Words and Solve the Puzzle

DECUER

--	--	--	--	--	--	--	--

LMATE

--	--	--	--	--	--

LCYREEC

--	--	--	--	--	--	--	--

STOOMCP

--	--	--	--	--	--	--	--

TCPASLI

--	--	--	--	--	--	--	--

EUSRE

--	--	--	--	--	--	--

ULOTNI OPL

--	--	--	--	--	--	--	--	--	--

EPRPA

--	--	--	--	--	--	--

SAGLS

--	--	--	--	--	--

YBU DECCLEYR

--	--	--	--	--	--	--	--	--	--

If You \_\_\_\_\_,

You Use Less \_\_\_\_\_!



## *New York Recycles!*

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### Word Jumbles Answers

DECUER

R	E	D	U	C	E
---	---	---	---	---	---

LMATE

M	E	T	A	L
---	---	---	---	---

LCYREEC

R	E	C	Y	C	L	E
---	---	---	---	---	---	---

STOOMCP

C	O	M	P	O	S	T
---	---	---	---	---	---	---

TCPASLI

P	L	A	S	T	I	C
---	---	---	---	---	---	---

EUSRE

R	E	U	S	E
---	---	---	---	---

ULOTNIOPL

P	O	L	L	U	T	I	O	N
---	---	---	---	---	---	---	---	---

EPRPA

P	A	P	E	R
---	---	---	---	---

SAGLS

G	L	A	S	S
---	---	---	---	---

YBU DECCLEYR

B	U	Y	R	E	C	Y	C	L	E	D
---	---	---	---	---	---	---	---	---	---	---

If You RECYCLE,

You Use Less ENERGY!





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### How Long Will it Last????

Write Down How Long You Think The Item  
Will Last Before It Decomposes (rots) !!

Some answers are used more than once.

#### PICK FROM THE FOLLOWING

1 - 3 Months

1- 5 Years

10 - 20 Years

100 Years

200 - 400 years

More than 500 Years

ALUMINUM CAN



GLASS BOTTLE



METAL CAN



CIGARETTE BUTTS



PAPER CUP



BANANA PEEL



DISPOSABLE DIAPERS



WOOL SOCKS



6-PACK HOLDER





## *New York Recycles!*

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### How Long Will it Last????

#### ANSWERS

Roadside litter is more than unsightly. It can last anywhere from months to hundreds of years. Trash needs four main ingredients to decompose, moisture, oxygen, light and heat.

Buried in a landfill, trash lasts much longer because it is deprived of light and heat.

Roadside litter, exposed to all four elements, decomposes at a faster rate. These estimates are based on roadside litter.

200 - 400 Years

ALUMI NUM CAN



More than 500 Years

GLASS BOTTLE



100 Years

METAL CAN



2 - 5 Years

CIGARETTE BUTTS



2 - 5 Years

PAPER CUP



1 - 3 Months

BANANA PEEL



More the 500 Years

DISPOSABLE DIAPERS



1 - 5 Years

WOOL SOCKS



More than 500 Years

6-PACK HOLDER





## *New York Recycles!*

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### Reading List

There are many great books available for students to read on recycling. These are just a few and this list is not meant as an endorsement of one particular book over another.

#### Pre-school - 2<sup>nd</sup> Grade

*The Berenstain Bears Don't Pollute (Anymore)*, 1991, Stan and Jan Berenstain, Random House, New York.

When the Bear Country cubs learn about pollution, they set about teaching the grown-ups how to clean up their act.

*Brother Eagle, Sister Sky: A Message from Chief Seattle*, 1991, Susan Jeffers, Dial Books, New York.

An Abby Award-winning book that conveys the message of Chief Seattle that "this earth and every creature on it is sacred."

*Dinosaurs to the Rescue! A Guide to Protecting Our Planet*, Laurie Krasny Brown and Marc Brown, Little, Brown and Co., Boston, MA

Following basic environmental precepts - reduce, reuse, recycle - this book is packed with good advice on how to use less of the earth's precious resources, how to find new uses for old household items, and how to help recycle things that used to just get thrown away.

*The Giving Tree*, 1964, Shel Silverstein, Harper Collins, New York.

A young boy grows to manhood and old age experiencing the love and generosity of a tree that gives to him without thought of return.

*The Great Kapok Tree: A Tale of the Amazon Rain Forest*, 1990, Lynne Cherry, Harcourt Brace Jovanovich, New York.

Many different animals living in a great kapok tree in the Brazilian rain forest try to convince a man with an ax not to cut down their home.

*The Great Trash Bash*, 1991, Loreen Leedy, Holiday House, New York.

The animal residents of Beaston find ways to get rid of garbage and also change their habits so Beaston won't have a trash problem anymore.

*Just a Dream*, 1990, Chris Van Allsburg, Houghton Mifflin Company, Boston.

A child thinks that sorting trash is a waste of time until he has a dream about a future Earth devastated by pollution.

*The Lorax*, 1971, Dr. Seuss, Random House, New York.

Dr. Seuss tale shows how the greed of the "Once-ler" destroys the wilderness and drives the local creatures from their homes.

*The Wartville Wizard*, 1986, Don Madden, MacMillian Publishing, New York.

An old man fights a town of litterbugs by sending each piece of trash back to the one who dropped it.

*Where Does the Garbage Go?*, 1994, revised, Paul Showers, Harper Collins Publishers, New York.

Explains how people create too much waste and how waste is now recycled and landfilled.

## 2<sup>nd</sup> - 5<sup>th</sup> Grade

*50 Simple Things Kids Can Do to Save the Earth*, 1992, John Javna and the Earthworks Group, Andrews and McMeel, Kansas City.

Written for children, the book will provide facts and easy steps they can take to "save the earth."

*Diary of a Worm*, 2003, Doreen Cronin, HarperCollins Publishers, UK.

A young worm discovers, day by day, that there are some very good and some not so good things about being a worm in this great big world.

*Earth Day*, 1991, Linda Lowery, Carolrhoda Books, Inc., Minneapolis.

This book explains the history of Earth Day and gives young readers ideas for small tasks they can do to make every day Earth Day.

*Garbage Delight*, 1977, Dennis Lee, Houghton Mifflin Company, Boston.

Poems on different kinds of garbage from junk food to mud puddles and sewers. Filled with colorful drawings.

*Going Green: A Kid's Handbook to Saving the Planet*, 1990, John Elkington, et al., Puffin Books, New York.

A guide to saving the environment, including explanations of ecological issues and projects.

*Good Planets Are Hard to Find*, 1990, Roma Dehr and Ronald M. Bazar, Wisdom Way, Inc., Beverly Hills, Calif.

A resource book for students interested in protecting the environment.

*Keepers of the Earth: Native American Stories and Environmental Activities for Children*,

1989, Michael J. Caduto and Joseph Bruchac, Fulcrum, Golden, Colo.

A selection of traditional tales from various native Americans with instructions for related activities dealing with aspects of the environment.

*Recycle! A Handbook for Kids*, 1992, Gail Gibbons, Little, Brown and Company, Boston.

This lively and informative handbook explains recycling focusing on five materials: paper, glass, aluminum cans, plastic and polystyrene. The book shows how recycled materials are turned into new and about how kids can make recycling a regular practice.

*Trash!*, 1988, Charlotte Wilcox, Carolrhoda Books, Inc., Minneapolis.

Examines various methods of garbage disposal, with an emphasis on sanitary landfills. Also covers such alternatives as mass burning and recycling.

*Worms Eat My Garbage*, Mary Applehof, Flower Press, Kalamazoo, MI , [www.wormdigest.co](http://www.wormdigest.co)

Worm composting is described completely, from building a worm bin to end product (vermicompost) uses.

## 6<sup>th</sup> - 12<sup>th</sup> Grade

*Carton, Cans and Orange Peels: Where Does Your Garbage Go?*, 1991, Joanna Foster, Clarion Books, New York.

Outlines the composition of garbage and trash and discusses various methods of disposing of it with an emphasis on recycling.

*The Edge of the Sea*, 1998 (Reprint), Rachel Carson, Mariner Books.

A Rachel Carson classic that continues to be recommended for library and personal collections.

*The Kid's Guide to Social Action*, 1991, Barbara A. Lewis, Free Spirit Publishing, Inc., Minneapolis.

An excellent source book for strategies, which can be used to take action to address societal issues. Written in a format easily understood and used by youths.

*Silent Spring*, 2002 (Reprint), Rachel Carson, Mariner Books.

This is a book that made a truly significant impact on history, the environmental movement, and the role of government in protecting the environment.

*The Throwaway Society*, 1990, Sally Lee, Franklin Watts, New York.

Looks at the growing problem of what to do with garbage.



## *New York Recycles!*

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### Web Page Resource Information

Check out our website on becoming a Green School.

<http://www.dec.state.ny.us/website/dshm/redrecy/greenschools.html>

#### Here are some other sites of interest:

The inclusion of a link to a non-NYSDEC web site does not imply any official endorsement of products or information contained on that site. Since NYSDEC does not maintain those sites, please contact their authors with any comments.

AF&PA Clip Art	<a href="http://www.ciwmb.ca.gov/Gallery/WastePrev/default.asp">www.ciwmb.ca.gov/Gallery/WastePrev/default.asp</a>
America Recycles Day	<a href="http://www.americarecyclesday.org">www.americarecyclesday.org</a>
CA Integrated WM Clip Art	<a href="http://www.ciwmb.ca.gov/Gallery/WastePrev/default.asp">www.ciwmb.ca.gov/Gallery/WastePrev/default.asp</a>
Clean Your Files Day	<a href="http://www.usmayors.org">www.usmayors.org</a>
Cornell Waste Management	<a href="http://www.cfe.cornell.edu/wmi/">www.cfe.cornell.edu/wmi/</a>
Earth Day	<a href="http://www.seek.state.mn.us">www.seek.state.mn.us</a>
	<a href="http://www.pta.org/events/ew/99/">www.pta.org/events/ew/99/</a>
Env. Defense Fund	<a href="http://www.edf.org/Earth2Kids/">www.edf.org/Earth2Kids/</a>
Environmental Education	<a href="http://www.cancentral.com">www.cancentral.com</a>
Garbage	<a href="http://www.learner.org/exhibits/garbage/intro.html">www.learner.org/exhibits/garbage/intro.html</a>
Indiana	<a href="http://www.state.in.us/idem/studteac.html">www.state.in.us/idem/studteac.html</a>
Microbe Zoo	<a href="http://www.commtechlab.msu.edu/sites/dlc-me/zoo/">www.commtechlab.msu.edu/sites/dlc-me/zoo/</a>
Ontario Recycling Council	<a href="http://www.rco.on.ca/factsheet/teach.html">www.rco.on.ca/factsheet/teach.html</a>
New Jersey - worms	<a href="http://www.nj.com/yucky/worm/">www.nj.com/yucky/worm/</a>
New York Recycles!	<a href="http://www.dec.state.ny.us/website/dshm/redrecy/recyliday.htm">www.dec.state.ny.us/website/dshm/redrecy/recyliday.htm</a>
PBS	<a href="http://www.pbs.org/affluenza">www.pbs.org/affluenza</a>
Pennsylvania DNR	<a href="http://www.dep.state.pa.us/dep/deputate/enved/teachers.htm">www.dep.state.pa.us/dep/deputate/enved/teachers.htm</a>
Plastics	<a href="http://www.sourcebook.plasticsresource.com/mall/index.html">www.sourcebook.plasticsresource.com/mall/index.html</a>
USEPA	<a href="http://www.epa.gov/OMSWWW/links-ee.htm">www.epa.gov/OMSWWW/links-ee.htm</a>
	<a href="http://www.epa.gov/recyclecity/first.htm">www.epa.gov/recyclecity/first.htm</a>
	<a href="http://www.epa.gov/region5/teachers/curriculumwaste__recycling.htm">www.epa.gov/region5/teachers/curriculumwaste__recycling.htm</a>
	<a href="http://www.epa.gov/epaoswer/non-hw/reduce/food/food.htm">www.epa.gov/epaoswer/non-hw/reduce/food/food.htm</a>
Use Less Stuff	<a href="http://www.cygnus-group.com">www.cygnus-group.com</a>
USGS	<a href="http://www.usgs.gov/education/edulist.html">www.usgs.gov/education/edulist.html</a>
Virginia DNR	<a href="http://teach.virginia.edu/~ksh5x/portfolio/lessonintro.html">teach.virginia.edu/~ksh5x/portfolio/lessonintro.html</a>
Water Education	<a href="http://www.uwex.edu/erc/ywc/">www.uwex.edu/erc/ywc/</a>
Water Info	<a href="http://www.aqueous.com/">www.aqueous.com/</a>



## *New York Recycles!*

November 15

### **Vocabulary Words**

**Biodegradable** (adjective) - material that is able to be broken down naturally by microorganisms into simple, stable compounds.

**BTU** (British Thermal Unit) - A measurement of the amount of heat needed to raise the temperature of one pound of water by one degree Fahrenheit at or near 39.2 degrees F.

**Buy Recycled** (concept) - Purchasing products and packaging made from post-consumer materials.

**Compost** (noun) - Decayed organic materials which decompose into humus.

**Contamination** (noun)- process by which something is made impure.

**Decompose** (verb) - To break down, change form by the action of living things or microorganisms.

**Environment** (noun) - The natural world around us, including the air, water, land, animal, plants, etc.

**Landfill** (noun) - a secure site for the environmentally sound burial of solid waste.

**Litter** (noun, can also be a verb) - is unsightly, unsanitary, unappealing, can be hazardous and degrades the quality of our lives by degrading the environment.

Litter is generated by many sources including:

- Improper garbage collection - blowing garbage and spillage during collection.
- Uncovered or inadequately covered trucks and other vehicles transporting materials.
- Illegal disposal of solid waste.
- pedestrians discarding trash
- Motorists discarding trash.

**Microorganism** (noun) - Organisms that are too small to be seen with the naked eye.

**Natural Resources** (noun) - naturally occurring items such as plants, animals, minerals, water, air, etc. which can be used to help make things for people.

***New York Recycles!*** - (proper noun) a time to celebrate and learn about waste reduction, reuse, recycling, composting and buying recycled products and packaging. An earth day for recycling.

**Organic** (adjective) - derived from living organisms, or having a carbon base.

**Pre-Consumer** (adjective) - describing materials that are diverted from the waste stream that are generated during manufacturing.

**Pollution** (noun) - harmful substances deposited in the air, water or land which leads to impurity or unhealthfulness.

**Post-Consumer** (adjective) - describing materials that are collected for recycling after having been purchased by a consumer, that would have otherwise gone to a landfill or incinerator.

**Reduce** (verb) - preventing or not making waste.

**Reuse** (verb) - using something over and over again.

**Recycle** (verb) - to make new products or packaging from used materials.

**Returnable Container** (noun) - a beverage container able to be returned for a money deposit.

**Waste** (noun) - garbage or other material that is not used anymore.

**Waste Stream** (noun) - The entire process that solid waste goes through from generation to disposal or recycling.

**Yard Waste** (noun) - leaves, grass clippings and other organic materials that are collected from yards.





*New York Recycles!*  
November 15

## Look For Sure Bets!



45% Of An Aluminum Can Is Made From Recycled Aluminum!



40% Of Newspapers Are Made From Recycled Paper!



37% of Corrugated Boxes Are Made From Recycled Paper and Cardboard!

35% Of Most Cereal Boxes Are Made From Recycled Paper!  
(look for gray on the inside of the box)



25% Of A Glass Bottle Is Made From Recycled Glass!

25% Of A Metal Can Is Made From Recycled Metal!



Recycling helps preserve our environment. The best way to make recycling work is to buy recycled products and packaging. Look for recycled content information on the products and packaging you are buying.

**Post-Consumer** - is material, from any product that was bought by the consumer, used, collected in a recycling program and then recycled into another product. (This does not include manufacturing wastes).

For example, mail that you read and then recycle in made into recycled content paper towels, napkins, toilet paper or some other recycled product.

By looking for and buying the highest percentage post-consumer recycled content you can find, you help build demand for material collected in community recycling programs.

**Pre-Consumer** is factory trimmings, damaged or obsolete products and overruns generated from the manufacturing of a product.

For example, the ends or scraps of a paper roll, that are put back into the manufacturing process to make new paper.

### **School Recycled Content Product Examples:**

Writing Paper - Pencils - Pocket Folders - Index Cards - Computer Paper - Toilet Paper - Paper Towels - Napkins - Bulletin Boards -  
3 Ring Binders - Dividers - File Holders - Manila Folders - And More!



## *New York Recycles!* November 15



### **Gee Whiz Facts**

(NOTE: The savings are based on the use of recycled materials over raw, virgin materials)

#### **Recycling Steel Saves....**

All steel products are 100% recyclable.

Recycling one pound of steel saves enough energy to light a 60 watt light bulb for 26 hours.

Recycling one ton of steel saves 2500 pounds of iron ore, 1000 pounds of coal and 40 pounds of limestone.

Recycling steel saves 40% of water used to make steel from ores.

Recycling steel reduces air pollution by 86%.

Recycling steel reduces water pollution by 76%.

Steel cans take 80-100 years to decompose.



#### **Recycling Aluminum Saves....**

Recycling aluminum reduces energy use by 90%.

Energy saved from recycling one aluminum can will run a TV for three hours.

Recycling one aluminum can saves the energy equivalent of one cup of gasoline.

Recycling aluminum reduces air pollution by 95%.

An aluminum can takes 200-500 years to decompose.

Each pound of aluminum makes 32 cans.

We reduce carbon dioxide emissions by 13 tons!



#### **Recycling Paper Saves....**

Every ton of paper recycled saves 380 gallons of oil.

Recycling one ton of paper saves 17 trees.

Recycling paper reduces air pollution by 74%.

Recycling paper reduces water pollution by 35%

You use on average, 580 pounds of paper each year.

The typical office worker throws away 180 pounds of high grade recyclable paper every year.

Over 500,000 trees are used to supply Americans with their Sunday newspapers every week.

Paper takes about a month to decompose.

We reduce carbon dioxide emissions by 850 pounds per year!



### Recycling Glass Saves...

Glass is 100% recyclable.

Approximately 41 billion glass containers are produced in the United States each year.



For glass companies, recycling extends furnace life & reduces energy costs

Recycling one glass bottle saves enough energy to light a 100 watt bulb for four hours.

Recycling a ton of glass saves the equivalent of nine gallons of fuel oil.

Since glass does not degrade, a bottle thrown in a landfill today would still be around in the year 3000.

Each glass container produced in the US contains, on the average, 30% recycled glass.

Save 9 gallons of fuel oil.

Saves 25 percent of the energy necessary to make glass with virgin materials.

### Recycling Plastic Saves...

It takes 5 recycled two-liter PET bottles to make one square foot of carpet.

PET bottles and containers are actually a form of polyester, which is why it is so easy to recycle bottles into T-shirts, sweaters and socks.

It takes 35 two-liter recycled PET bottles to make the soft filling inside a sleeping bag, called "fiberfill."

About 1,200 soda bottles could carpet the average living room.

Plastic makes up eight percent of our trash by weight, but is 24% of the volume.



### Composting Saves....

Yard waste (leaves & grass) makes up approximately 20 percent of the waste stream or about 230 pounds per person per year.

Food waste makes up approximately nine percent of the waste stream or about 100 pounds per person per year.

Composting Improves The Soil.

Composting Prevents Fertilizer Runoff.

Composting Reduces Disposal Costs.

### Reducing, Reusing, Recycling and Composting Saves...

Energy

Landfill Space

Natural Resources

Time

Money

Makes Less Pollution (than if raw, virgin materials are used)

### Buying Recycled....

Close the "Loop" so that we actually use the products and packaging that are made from recycled materials.



## *New York Recycles!*

November 15

### To Make a Ton, You Would Need

Making a ton of something equalling 2,000 pounds takes a lot of materials. We can use either raw materials or recycled materials to make the same items. By looking at the difference between two ways of making the same thing, we can learn how our environment is helped or hurt by our decisions.

### To Make a Ton of Paper

#### We Use These Raw Materials

3,688 pounds of wood  
216 pounds of lime  
360 pounds of salt cake  
76 pounds of soda ash  
24,000 gallons of water  
28 million BTUs of energy

#### We Would Have to Treat and Dispose of

84 pounds of air pollutants  
36 pounds of water pollutants  
176 pounds of solid waste

#### Resources Saved by Recycling One Ton of Newspaper

- Is the equivalent of one ton of paper made from about 17 trees.
- Conserves two to three cubic yards of landfill space.



### To Make a Ton of Glass

#### We Use These Raw Materials

1,330 pounds of sand  
433 pounds of soda ash  
433 pounds of limestone  
151 pounds of feldspar  
15.2 million BTUs of energy

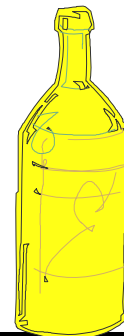
#### We Would Have to Treat and Dispose of

384 pounds of mining wastes  
8 pounds of air pollutants

#### Resources Saved by Recycling Glass:

If we use a mixture of 1/2 recycled glass and 1/2 raw materials, we reduce

- Water consumption by 50 percent.
- Mining wastes by 79 percent.
- Air pollutants by 14 percent.



## To Make One Ton of Aluminum

### We Would Use These Raw Materials

8,766 pounds of bauxite  
1,020 pounds of petroleum coke  
966 pounds of soda ash  
238 pounds of lime  
197 million BTUs of energy

### We Would Have To Treat & Dispose Of:

3,290 pounds of red mud  
2,900 pounds of carbon dioxide  
81 pounds of air pollution  
789 pounds of solid waste

### Resources Saved by Recycling Aluminum

Recycling Aluminum reduces:

- Water consumption by 95 percent.
- Energy use by 95 percent.
- Air pollution by 95 percent.



## To Make A Ton of Steel:

### We Use These Raw Materials:

1,970 pounds of iron ore  
791 pounds of petroleum coke  
454 pounds of lime  
29 million BTUs of energy

### We Would Have to Treat and Dispose of

538 pounds of solid wastes  
42 pounds of air pollutants

### Resources Saved by Recycling Steel

Recycling steel reduces:

- Energy consumption by 74 percent.
- Air pollutants by 86 percent.
- Water used by 40 percent.
- Water pollutants by 76 percent.
- Mining wastes by 97 percent.

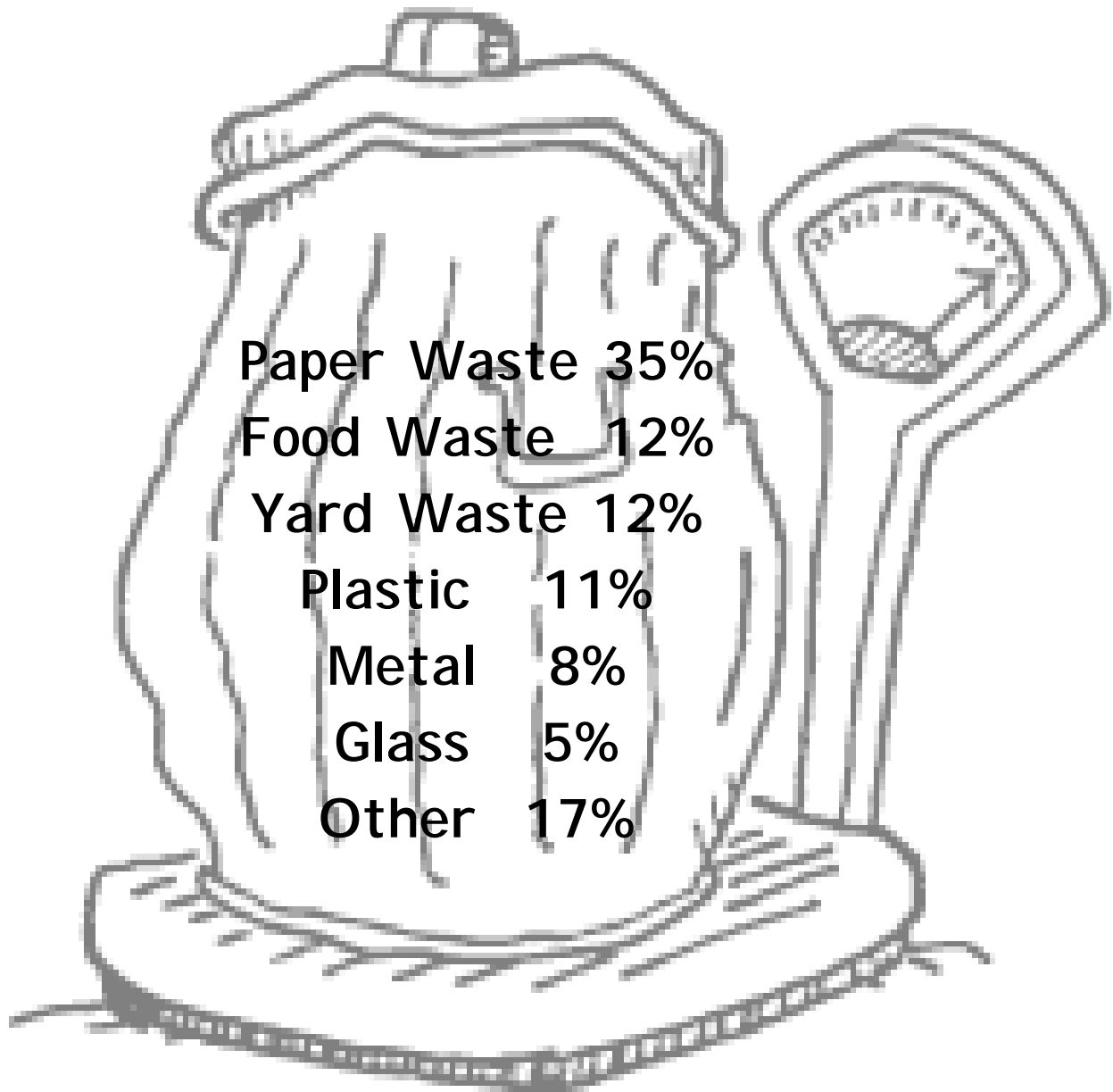




## *New York Recycles!*

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The Average Garbage Can, before recycling, has the following percentages of materials.



## US EPA Recycling Rates Are:

Paper	48%
Glass	18.8%
Metals	36.3%
Plastic	5.2%
Food	2.7%
Yard Waste	56.3%

Overall, National Recycling Rate approximately 30%.

**NO RECYCLING:** If you use the estimate that the average person generates five (5) pounds of garbage every day, and the average size family is four (4) people, the average family would generate 100 pounds of garbage every five (5) days. In one year, that would be **7,300 pounds** of garbage.

**30% RECYCLING:** In one year, with 30% recycling and composting, we can lower that number to **5,110 pounds**.

**70% RECYCLING:** Tompkins County has a recycling rate (the best in the State) of approximately 70%. In one year, in Tompkins County that 7,300 pounds of garbage would be lowered to **2,190 pounds**. Pretty impressive!!

If we reduce, reuse, recycle and compost more.... the total garbage that we throw away will go even lower!





## *New York Recycles!* Pledge Card and Entry Form



Here is how I am renewing my commitment to recycling in the coming year.  
(Check all appropriate boxes)

- I will recycle at home, work and/or school.
- I will buy recycled-content products and packaging.
- I will purchase environmentally friendly products.
- I will try composting at home.
- I will leave my grass clippings on the lawn.
- I will encourage others to reduce, reuse and recycle.

Please enter me in the NY State Drawing to promote recycling and buying recycled that will be held on or about December 1, and the National America Recycles Drawing on or about December 15  
One entry per person. No purchase necessary.  
Your name will be kept confidential, it will not be sold to a mailing list.

Name \_\_\_\_\_

Daytime Phone ( \_\_\_\_\_ ) \_\_\_\_\_  
Please include your Area Code

- Please check here if you are under the age of 18.
- For contest rules, write to the address below or check out our website [www.dec.state.ny.us](http://www.dec.state.ny.us)  
Return form by 11/20 to: NYSDEC, NY Recycles!, P.O. Box 10279, Albany, NY 12201-5279

### TEN GREAT WAYS TO CELEBRATE Our Family Pledges To:

Keep this end, mail or return  
to your teacher the top part.

1. **Commit** to "Recycle" at home, work and school and encourage the use of recycled-content products and packaging at your home, office and school.
2. **Organize** a display of what materials can be recycled in your local recycling program or display recycled content products and packaging at your local church, office, school, grocery store or retail shopping center.
3. **Ask** local retailers to stock more products made from recycled materials.
4. **Look** for "safe bets" that always have recycled content: steel, aluminum, glass, molded pulp containers.
5. **Purchase** remanufactured products and equipment such as toner cartridges, office furniture, auto parts, re-refined oil or retreaded tires.
6. **Teach** children why "If you are buying recycled, then you really are recycling!" Organize a tour of a local facility that manufactures recycled-content products or packaging.
7. **Purchase** products you know can be recycled in your community.
8. **Call or write** the manufacturer if one of your favorite products does not have recycled content, and ask them to change it.
9. **Read** product labels and look for recycled content, especially post-consumer content.
10. **Remember**, waste reduction is important, too. Look for ways to not make garbage. Composting is a great way to start.

## 2006 State Steering Committee Members

ABC, Inc  
Consolidated Edison Company  
Erie County Environment & Planning  
Eastman Kodak Company  
Federation of NY Solid Waste Associations  
Institute of Scrap Recycling Industries  
Lockheed Martin  
NYS Association of Environmental  
Management Councils  
NYS Department of Environmental Conservation  
Onondaga County Resource Recovery Agency  
Verizon

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It takes more energy to make a new product like a can or bottle from virgin materials than it does to make a product by recycling.

Recycling saves energy, natural resources, money, time, landfill space, makes less pollution including less greenhouse gases and creates jobs!

For example:

**Recycling Paper...** For every ton of paper recycled, we

Save 463 gallons of oil.

Save 7,000 gallons of water.

Make 60 pounds less of air pollution.

Save 3 cubic yards of landfill space.

Save 4,100 kilowatt hours of energy.

Save 17 trees.

Reduce carbon dioxide emissions by 850 pounds per year!

**Recycling Aluminum...** For every ton of aluminum recycled, we...

Reduce energy use by 90 percent.

Save enough energy recycling just one can to run a TV for 3 hours.

Reduce air pollution by 95 percent.

Reduce carbon dioxide emissions by

13 tons!

Save 237 Btu's of energy.

For more information visit:

the National Website at

[www.americarecyclesday.org](http://www.americarecyclesday.org)

or the State Website at

[www.dec.state.ny.us/website/dshm/](http://www.dec.state.ny.us/website/dshm/)

[redrecy/recylday.htm](http://redrecy/recylday.htm)

or call (518) 402-8705

# Certificate of Appreciation

Your Teacher and the  
New York State Department of Environmental Conservation  
awards this certificate to



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for learning about and participating in *New York Recycles!*

Cut Here-----

Thank you for participating in New York Recycles!

If you have any comments on these materials or other  
suggestions, please contact us at:

New York State Department of Environmental Conservation  
Bureau of Solid Waste Reduction & Recycling  
625 Broadway  
Albany, NY 12233-7253  
Phone: (518) 402-8705  
Email: [dshmwrr@gw.dec.state.ny.us](mailto:dshmwrr@gw.dec.state.ny.us)