

## The NYC K-12 School RRResource Guide

# Why an RRResource Guide for NYC Schools

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Everyone creates waste. But there are many ways to reduce this amount of waste. Each one of us can make responsible and creative decisions that have a more positive impact on the environment. We can choose to buy products with less packaging, reuse products, and recycle them instead of throwing them away. We can **Reduce, Reuse, and Recycle**.

Reduce, Reuse, and Recycle (RRR) are the key elements of waste reduction and disposal. By using these tools, we can improve environmental sustainability.

While there may be other resources available to teach students about solid waste and how it impacts our lives, none are geared so specially to schools in New York City. This RRResource Guide is created **BY** New York City **FOR** New York City and we are making it widely available to all who can put it to good use.

Our original RRResource Guide, released in 2001, contained Activities geared to grades K-5. This updated version includes adaptations for Beginner, Intermediate, and Advanced levels and is designed to meet NYC's current K-12 Learning Standards.

Whether you are a teacher, a parent, a community leader, or a student mentor, you will find hands-on, project-based Activities in this Guide that connect real life decisions to NYC's curriculum requirements.

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## RRResource Guide Contents

The **NYC K-12 School RRResource Guide: RRR You Ready?** is a flexible kit designed to help you implement your own program.

In **Chapters One through Five**, you'll find background information to help you better understand each topic, followed by step-by-step Activities that support the chapter's topic. The chapters cover the following themes:

**Chapter One:** What Is Waste?

**Chapter Two:** What Happens to Waste?

**Chapter Three:** What Is Reduce, Reuse, and Recycle (RRR)?

**Chapter Four:** Be a TrashMaster!

**Chapter Five:** All About Composting

**Chapter Six: Supplemental Learning Opportunities** provides information on programs to help you take recycling, waste prevention, and composting to the next level. Also included are ideas for special school events, as well as various Home Sheets that help students involve their families in exploring why and how to Reduce, Reuse, and Recycle.

**Glossary** provides definitions of key vocabulary words identified in Chapters One through Five.

## Topic Summary

The **RRResource Guide** contains the following Activities and Supplemental Learning Opportunities:

### Chapter One: What Is Waste?

- Activity 1: Understanding What We Throw Away
- Activity 2: Discovering How Much Waste We Produce Each Day
- Activity 3: Understanding the Types of Materials We Throw Away
- Activity 4: Exploring Waste from Individual Lunches
- Activity 5: Safe and Smart Ways to Handle Harmful Household Waste
- Activity 6: Life Cycles of Products



### Chapter Two: What Happens to Waste?

- Activity 1: Knowing Where Garbage Goes After It's Thrown Away
- Activity 2: Making a Modern Sanitary Landfill
- Activity 3: Where Does School Trash Go?
- Activity 4: Exploring How Long It Takes for Basic Materials to Decompose
- Activity 5: Banana Breakdown
- Activity 6: Litter in a River Experiment
- Activity 7: Studying Litter in the School Community



### Chapter Three: What Is Reduce, Reuse, and Recycle (RRR)?

- Activity 1: Recycling in the Classroom
- Activity 2: Recycling Is Only Part of the Solution
- Activity 3: Aluminum Cans: Full Circle
- Activity 4: Understanding When to Reduce, Reuse, or Recycle
- Activity 5: Reading About the Environmental Effects of Our Everyday Decisions
- Activity 6: Taking a Closer Look at Packaging
- Activity 7: Design Your Own Package
- Activity 8: The Story of the Mystery Package
- Activity 9: Teach NYC How to RRR
- Activity 10: RRR Posters
- Activity 11: RRR Jeopardy
- Activity 12: Developing an RRR Presence



### Chapter Four: Be a TrashMaster!

- Activity 1: Translating Learning into Personal Commitment
- Activity 2: Getting Your School to Be a Super Recycler
- Activity 3: Reduce Paper Use

- Activity 4: Overcoming RRR Obstacles
- Activity 5: Options for Reuse
- Activity 6: Make Your Own Paper
- Activity 7: Litter Awareness Campaign
- Activity 8: TrashMaster Acrostic
- Activity 9: Trash or Treasure
- Activity 10: An RRR Map of Your Neighborhood



## Chapter Five: All About Composting

- Activity 1: What's in My Waste?
- Activity 2: Beginning to Understand that Nature Recycles
- Activity 3: Finding Evidence of Composting In Nature
- Activity 4: Learning How to Compost Outdoors
- Activity 5: Decomposer Hunt
- Activity 6: Worm Facts
- Activity 7: Worm Bin Check
- Activity 8: Planting with Compost
- Activity 9: Compost Balancing Act
- Activity 10: Tracking Decomposition in an Outdoor Pile



## Chapter Six: Supplemental Learning Opportunities

- Golden Apple Awards for Schools in NYC
- Materials for the Arts
- NYC Compost Project
- Creating a TrashMasters Museum
- Creating a TrashMasters Street Fair
- Home Sheet #1: Talking Trash at Home
- Home Sheet #2: Supermarket Shopping Scavenger Hunt
- Home Sheet #3: Keep On Unwrapping
- Home Sheet #4: From Trash to Cash
- Home Sheet #5: Toys Through the Generations
- Home Sheet #6: Trash and RRR at Home
- Home Sheet #7: Brainstorm and Bag It!
- Home Sheet #8: Fast Food Throwaways
- Home Sheet #9: Family RRR Contest
- Home Sheet #10: How I Can Be a TrashMaster at Home



# Handout Summary

The **RRResource Guide** contains the following Handouts and Worksheets:

<b>Chapter 1</b>	Understanding What We Throw Away Handout . . . . .	5
	Weight Recording Handout . . . . .	9
	Types of Materials Handout . . . . .	15
	Lunchroom Waste Worksheet . . . . .	19
	Safe and Smart Handout . . . . .	23
<b>Chapter 2</b>	Knowing Where Garbage Goes Handout . . . . .	5
	A Landfill Up Close Handout . . . . .	11
	Making a Modern Sanitary Landfill Handout . . . . .	13
	Decomposition Worksheet . . . . .	19
	Decomposition Flashcards . . . . .	21
	Decomposition Timeline . . . . .	23
	Banana Breakdown Handout . . . . .	29
	Litter in a River Handout . . . . .	33
Litter in the School Community Handout . . . . .	37	
<b>Chapter 3</b>	Recycling Handout . . . . .	5
	The Steps of Recycling Handout . . . . .	11
	Environmental Effects Handout . . . . .	19
	The Story of the Mystery Package Handout . . . . .	27
	RRR Jeopardy Handout . . . . .	35
<b>Chapter 4</b>	TrashMaster Contract . . . . .	5
	School Recycling Program Setup Handout . . . . .	9
	School Recycling Activities Handout . . . . .	11
	TrashMaster Acrostic Handout . . . . .	29
<b>Chapter 5</b>	What's in My Waste? Worksheet . . . . .	7
	<i>Nature Recycles</i> Poem . . . . .	11
	<i>Compost</i> Poem . . . . .	13
	<i>This Compost</i> Poem . . . . .	15
	New York City Outdoor Composting Guide . . . . .	27
	Decomposer Flashcards . . . . .	37
	Decomposers in a Compost Pile . . . . .	39
	<i>Eisenia fetida</i> : Red Wiggler Worm . . . . .	43
	Worm Bin Composting Questions . . . . .	47
	Indoor Composting with a Worm Bin . . . . .	49
	How to Use Compost Handout . . . . .	61
	Planting with Compost Progress Log . . . . .	63
	Composting Scenarios Handout . . . . .	67
	What's Rotting Away Compost Log . . . . .	73
What to Compost Handout . . . . .	75	

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# How to Incorporate Activities

**RRR You Ready?** is a modular program designed to suit your class and your other curricula:

## A Theme-Based, Month-Long Program

You can use all of the Activities in sequence during a one-month period. By implementing a theme-based program toward the beginning of the school year, your students' enthusiasm can inspire real change, such as recycling in the classroom and the school throughout the year.

## A Year-Long Exploration

You can also present the Chapters and Activities throughout the full school year, providing the opportunity for in-depth exploration of each topic.

## An Ongoing Effort with Real RRRewards

**RRR You Ready?** helps students understand their role in reducing, reusing, and recycling. Implementing the program and seeing their work in action in their own school can be one of the best ways for them to learn.

Having a successful recycling program in your school can help make it a cleaner and safer environment. You can prepare your students to do their part by helping them fully understand the importance of reducing, reusing, and recycling.

This RRRResource Guide is designed to help you do just that. In addition to completing the various Activities presented, make sure to take advantage of the programs offered by the NYC Compost Project and Materials for the Arts. And don't forget to enter our Golden Apple Awards so that we can reward you for your RRR efforts!

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# Learning Standards

The **NYC K-12 School RRRResource Guide** encompasses NYC's Learning Standards. At the end of Chapters One through Five, you will find a list of Learning Standards for each Activity described.

Every Activity includes the Learning Standards that are met in the areas of:

- English Language Arts & Literacy
- Applied Learning
- NYC Science Scope & Sequence

Some Activities also meet additional Learning Standards, including:

- Mathematics
- Social Studies

Depending on the specifics of your own class discussions and student projects, additional Learning Standards may be fulfilled as you lead each Activity.

# Learning Standards Table

		NYS Common Core Learning Standards for English Language Arts & Literacy				NYS Learning Standards for Mathematics	NYS Learning Standards for Social Studies	Applied Learning Performance Standards	New York City Science Scope & Sequence
		College and Career Readiness Anchor Standards for Reading	College and Career Readiness Anchor Standards for Writing	College and Career Readiness Anchor Standards for Speaking and Listening	College and Career Readiness Anchor Standards for Language				
<b>Chapter 1</b>	Activity 1	x	x	x	x			x	x
	Activity 2		x	x	x	x		x	x
	Activity 3	x	x	x	x			x	x
	Activity 4	x	x	x	x	x		x	x
	Activity 5	x	x	x	x			x	x
<b>Chapter 2</b>	Activity 1	x	x	x	x			x	x
	Activity 2		x	x	x			x	x
	Activity 3	x	x	x	x			x	x
	Activity 4	x	x	x	x			x	x
	Activity 5		x	x	x			x	x
	Activity 6	x	x	x	x			x	x
	Activity 7		x	x	x			x	x
<b>Chapter 3</b>	Activity 1	x		x	x			x	x
	Activity 2		x	x	x			x	x
	Activity 3		x	x	x			x	x
	Activity 4		x	x	x			x	x
	Activity 5	x	x	x	x			x	x
	Activity 6		x	x	x			x	x
	Activity 7		x	x	x			x	x
	Activity 8		x	x	x			x	x
	Activity 9		x	x	x			x	x
	Activity 10			x	x			x	x
	Activity 11		x	x	x			x	x
	Activity 12		x	x	x			x	x

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		NYS Common Core Learning Standards for English Language Arts & Literacy				NYS Learning Standards for Mathematics	NYS Learning Standards for Social Studies	Applied Learning Performance Standards	New York City Science Scope & Sequence
		College and Career Readiness Anchor Standards for Reading	College and Career Readiness Anchor Standards for Writing	College and Career Readiness Anchor Standards for Speaking and Listening	College and Career Readiness Anchor Standards for Language				
<b>Chapter 4</b>	Activity 1		X	X	X		X	X	X
	Activity 2	X	X	X	X			X	X
	Activity 3			X	X	X		X	X
	Activity 4	X	X	X	X			X	X
	Activity 5		X	X	X	X		X	X
	Activity 6		X	X	X			X	X
	Activity 7		X	X	X			X	X
	Activity 8		X	X	X			X	X
	Activity 9		X	X	X			X	X
	Activity 10		X	X	X			X	X
<b>Chapter 5</b>	Activity 1		X	X	X	X		X	X
	Activity 2	X	X	X	X			X	X
	Activity 3		X	X	X			X	X
	Activity 4	X	X	X				X	X
	Activity 5	X	X	X				X	X
	Activity 6	X	X	X				X	X
	Activity 7	X	X	X				X	X
	Activity 8	X	X	X	X			X	X
	Activity 9	X	X	X	X			X	X
	Activity 10		X	X	X	X		X	X

## Give Us Your Feedback

Help us improve this RRRResource Guide! We want to know how you are teaching our youngest citizens to reduce NYC's waste.

When you try the Activities in this Guide, let us know what works and what doesn't. What books, videos, and websites do you find useful? Tell us how YOU adapted these Activities for different levels, or suggest new Activities. Please be as specific and detailed as possible.

Use our online contact form at [nyc.gov/wasteless/contact](https://nyc.gov/wasteless/contact).

To share your own RRR and composting Activities, make sure to include the following info:

1. **Chapter** where Activity should go.
2. **Title** for Activity.
3. **Time** needed for the Activity.
4. **Subjects** covered by the Activity.
5. **Vocabulary** words used as part of the Activity. Note, if you are including new vocabulary words that are not already included in our Glossary, please provide definitions of these new words.
6. **Goals and objectives** of the Activity.
7. Any relevant **Teacher's notes**.
8. **Materials** needed.
9. Describe the warm up for the activity including **class discussion** and **suggested discussion** topics.
10. Specific **exploration steps** that explain how to conduct the activity.
11. Describe any **expanded exploration** topics.
12. List specific adaptations for **beginner, intermediate, and advanced levels**, which roughly correspond to elementary, intermediate, and high school.
13. If there are any associated **handouts**, please include a title and text for these.
14. As part of your submission, please provide **information about who you are and how you conceived of the activity** and why you think it should be included in this Guide.

*NOTE: While we are eager to add new Activities to the RRR Guide in future updates, please note that we will only consider Activities that have been submitted by original authors and closely match the existing tone and style of the Guide. By submitting Activities, authors must agree that the New York City Department of Sanitation (DSNY) may use the content of the Activity for whatever purposes it sees fit and may or may not credit the source of the Activity. Please also note DSNY is under no obligation to use or return submitted content. Individuals who submit offensive or harassing files not related to City business may be liable for violations of law.*

Don't forget to enter your applied learning projects in our **Golden Apple Awards** to win huge cash prizes: [nyc.gov/wasteless/goldenapple](https://nyc.gov/wasteless/goldenapple).

**We look forward to seeing your ideas. Thank you!**