Chapter 3
What Is Reduce, Reuse, and Recycle (RRR)?

Chapter Focus:

The Activities in this chapter help students conduct in-depth explorations about what it actually means to reduce, reuse, and recycle with specific examples of how to do this at school and at home.

Reduce First, Then Reuse, Then Recycle

Although it is impossible to eliminate waste completely, we can easily make big reductions in the amount of waste we produce. Here are three simple steps that each of us can take to make a difference:

1. **Reduce:** stop waste before it happens.
2. **Reuse:** use things more than once.
3. **Recycle:** separate materials so that they can be made into other products.

Reduce

Stopping waste before it happens may sound simple, but it's something that most people don't often think about or practice. Reducing waste means saying "no" to unneeded shopping bags, napkins, excessive packaging, and other items that are offered to us when we shop. It also means buying only the things we really need so that we throw out less.

Say "no bag, thanks" whenever you can. If you're buying only a few small items, just put them in your purse, tote, or briefcase. Or bring your own reusable bag.

Use your own drink container for your coffee, tea, water, soup, and other drinks instead of using disposable cups or bowls. Replacing disposable cups with your own reusable mug or thermos might seem like an insignificant act, but consider the amount of waste that could be eliminated if thousands or millions of fellow New Yorkers did the same. A good reusable mug can also help you from spilling your drink. Many coffee shops also provide a discount to those who bring their own mug.

Unsubscribe from unwanted mail and catalogs. NYC has partnered with Catalog Choice to offer New Yorkers a free, easy way to opt out of unwanted mailings. This service allows you to search by company to opt out of your unwanted mail. In addition, it helps match you with many other opt out services available. See **nyc.gov/wasteless/junkmail** for more info.

Reuse

We can reuse many everyday items that we frequently toss out. For example, we can reuse plastic bags as garbage bags, and can return hangers to the dry cleaners so they can be used again. Instead of using paper towels, we can wash out sponges or cloths so that they can be used many times.

Another form of reuse is donation to charity. We can give away items that we no longer want in order to make them available to others. When we reuse, we cut down on pollution while saving resources, energy, and money.

Visit **nyc.gov/stuffexchange** or download the iPhone app to learn where in NYC to donate, buy, or sell antiques, artifacts, collectibles, and gently used goods (including high-end and designer items).

Request a re-fashioNYC clothing donation bin for your building. re-fashioNYC is a partnership between NYC and Housing Works to make clothing donation easy with in-building drop-off for buildings with 10 or more units. See **nyc.gov/refashion** for more info.

Recycle

Recycling is breaking down products into raw materials and using those materials to make something new. It's also important to think about the recycling loop when we shop. Using products made from recycled materials maximizes resources and the benefits of recycling itself.

Principals, custodians, food service staff, teachers, and students all have responsibilities to make sure that materials designated for recycling are kept separate from garbage and properly placed out for Department of Sanitation collection.

To set up a successful school recycling program, start by talking with your Principal about your current program, NYC's requirements, and goals for improvement.

- The Department of Sanitation does not provide recycling or garbage containers. Your custodian or Principal can purchase recycling bins through their standard DOE procurement process.
- Any type of container can be used for recycling indoors — you can even use labeled cardboard boxes or empty buckets from the cafeteria kitchen that would otherwise be discarded.
- Label recycling containers with free Department of Sanitation decals (or use paint or permanent marker). Post signs explaining what to recycle near every container.

Visit **nyc.gov/recycle** to learn more about what and how to recycle in New York City.

RRR Can Make a Difference!

We can cut down on the amount of waste that we discard by taking steps to reduce how much garbage each of us generates, reusing products whenever possible, and recycling as much of the rest as we can.

chapter 3 | activity 1

What Is Reduce, Reuse, and Recycle (RRR)?

Recycling in the Classroom

Time:
20 minutes

Subjects:
English Language Arts, Science, Art

Vocabulary:
cullet, recycle, reduce, reuse, slurry, smelt

Goals and Objectives:
Students will engage in an Activity that helps them understand the recycling process and what types of items are recyclable. They will read and complete ***Recycling Handout*** and use this knowledge to either create or enhance a recycling area.

Teacher's Note:
This Activity can be done in conjunction with these other Activities: ***Chapter 2, Activity 3: Where Does School Trash Go?*** *and* ***Chapter 4, Activity 2: Getting Your School to Be a Super Recycler.***

Materials:
- Copies of ***Recycling Handout***
- **Recyclable items***:* plastic bottles, metal cans, glass jars, aluminum foil, newspapers, magazines, junk mail
- **Recycling bin** for paper & cardboard
- **Recycling bin** for metal, glass, plastic & cartons

Activity
Following this Activity are adaptations for Beginner, Intermediate, and Advanced.

Teacher Prep:
If this is your first Activity from this chapter, please read the **Chapter 3 Introduction**. Refer to the **Glossary** for definitions of vocabulary words.

Warm Up:
Class Discussion: Determine students' prior knowledge and understanding of the school's recycling system.

Suggested Discussion: Ask the class where they discard recyclable items. What do the bins look like?

Exploration:

1. Distribute copies of ***Recycling Handout*** and display the recyclable items from the list.
2. Read ***Recycling Handout*** with the class.
3. Show each recyclable item to the class and ask them to identify the appropriate recycling bin to dispose of the item.
4. Have them complete ***Recycling Handout***, drawing or writing examples of recyclable items that should be placed in each bin.
5. Discuss your classroom's recycling system with the class, or create one together. If you do not want to have more than a paper recycling bin in your classroom, remind the class of where they can find the nearest blue recycling bin.

Expanded Exploration:

Engage students in a discussion about the importance of recycling. Ask them if they understand that recycling is only part of the solution. What are some other ways they can reduce the amount of waste they produce?

Adaptations for Different Grades

Choose level most appropriate for your class.

Beginner:

Include a ***read aloud*** component in the warm-up with the **Chapter 3 Introduction**. Follow the Activity instructions.

Have the class cut out and attach their illustrations on or near the recycling bins to help remind students which types of items should be placed in each bin. They can work together to decide on placement and presentation.

Intermediate:

Follow the Activity instructions.

Have the class work together in small groups to either set up or enhance a set of recycling bins in the school. They can create posters and collages to serve as a visual aid to help students remember which recyclable items go in each bin.

Advanced:

Follow the Activity instructions and have the students work together on a follow-up project. Give them the option of using photography and drawings to create visual aids with recycling instructions to be placed above bins, or make a short video or audio recordings about recycling to be shared with the school community.

What Is Reduce, Reuse, Recycle (RRR)?

Recycling Handout

Name _____ Date _____

In New York City we sort our trash and place recyclable items in two different streams.
Visit **nyc.gov/recycle** for detailed recycling info.

Paper & Cardboard	Metal, Glass, Plastic & Cartons
newspapers, magazines, catalogs	metal cans
white & colored paper	aluminum foil wrap & trays
mail & envelopes	metal caps & lids
paper bags	household metal
wrapping paper	glass bottles and jars
soft-cover books	plastic bottles, jugs & jars
cardboard egg cartons & trays	rigid plastic caps & lids
smooth cardboard	rigid plastic containers, housewares & packaging
corrugated cardboard boxes	food & beverage cartons & drink boxes

What Happens to Recyclables After They Are Collected?

Paper

Paper is collected and sorted by type, baled, and then sent to a paper mill. There, it's mixed with warm water to form what's called **slurry**. Staples, glue, and coating are removed and the mixture is bleached and de-inked. Finally, the slurry is spread on large screens, rolled, and formed into finished sheets of recycled paper.

Aluminum

Aluminum is shredded, decontaminated, and then melted down or **smelted**. Then it's poured into blocks and shipped to manufacturers who melt it again and make it into new products.

Making cans from recycled aluminum uses 90 – 97% less energy than making them from the raw material, bauxite, which is mined overseas and shipped to the US for processing.

Aluminum cans and foil are the most valuable materials we can collect for recycling. They are sold, melted down, and back on the shelves as new cans and products within six weeks.

Steel

Steel is 100% recyclable and can be reprocessed almost indefinitely. New York City sells steel cans and other metal items to scrap metal dealers and steel mills, which smelt the scrap metal to make a variety of steel products, such as new cans, bicycles, bridges, and cars.

Steel cans are generally made with 25% recycled content. They are used in packaging many products, like food, paints, shoe polish, and motor oil.

Glass

Most glass is broken while it's transported from the curb to a Material Recovery Facility and all of it is then crushed and made into tiny glass particles called cullet. This can be used as a substitute for stone in cement and asphalt.

Plastic

Plastic is sorted by hand, sold by type, cleaned, and made into pellets. Manufacturers use these pellets to make new products such as plastic lumber, fiberfill stuffing for jackets, and carpeting.

Clear plastic is the most useful for recycling. It can be used to make clear products, but can also be used to make colored plastics. Colored plastics cannot be de-colored or re-colored, so they have a limited use.

Cartons

Food and beverage cartons are separated into distinct bales which are then sent to special processors who can separate the layers of paper fiber and inner foil to reclaim these commodities.

Please write or draw recyclable items in the appropriate categories below:

Paper & Cardboard	Metal, Glass, Plastic & Cartons

chapter 3 | activity 2

What Is Reduce, Reuse, and Recycle (RRR)?

Recycling Is Only Part of the Solution

Time:
30 minutes

Vocabulary:
reduce, reusable, reuse

Subjects:
English Language Arts, Science

Goals and Objectives:
Students will discuss different waste reduction strategies and complete a writing assignment that addresses specific ways they can reuse and reduce waste.

Materials:

- Examples of **overpackaged items**, including a prepackaged lunch
- A **reusable lunch container**

Activity

Following this Activity are adaptations for Beginner, Intermediate, and Advanced.

Warm Up:

Class Discussion: Determine students' prior knowledge and understanding of recycling and how it is only part of the solution.

Suggested Discussion: What are some ways that we can take responsibility for our environmental impact? In addition to recycling waste, what else can we do?

Exploration:

1. Review the definitions of reduce, reuse, and reusable.
   - **Reduce:** to use less of; to decrease in extent, amount, number, or other quantity
   - **Reuse:** to extend the life of an item by using it more than once, repairing or modifying it, or by creating new uses for it.
   - **Reusable:** Able to be used again, either as it is or by repairing or altering it.
2. Discuss these terms and encourage the class to brainstorm strategies in which they can reduce and reuse items each day.

3. Show examples of overpackaged items and explain what makes them overpackaged.
4. Next, share the reusable lunch container with the class. Explain why reusing a lunch container reduces waste and is better for the environment. Remind the class that most Americans produce at least four pounds of waste each day and this could be one option for reducing that amount.

Expanded Exploration:

Engage the students in a discussion about other strategies for reducing and reusing waste. How can we reuse what we would otherwise throw away? How can we reduce the amount of items we consume?

Adaptations for Different Grades

Choose level most appropriate for your class.

Beginner:

Follow the Activity instructions.

Have the students write a brief description of how they can reduce the amount of waste they produce and reusable alternatives they can try, like lunch containers. Have the students present their descriptions to the class.

Intermediate:

Follow the Activity instructions.

Ask the students to write about ways they already reduce the amount of items they use and ways that they would like to continue reducing waste. They should include examples of reusing items, like lunch containers. Encourage the students to share their ideas with the class.

Advanced:

Follow the Activity instructions.

Have each student write an article about how to reduce waste. It should include strategies they currently practice and strategies they would like to start implementing to reduce waste and reuse items even more. Have the students present their articles to the class.

chapter 3 | activity 3

What Is Reduce, Reuse, and Recycle (RRR)?

Aluminum Cans: Full Circle

Time:
20 minutes

Subjects:
English Language Arts, Science, Math

Vocabulary:
aluminum, coiled sheets, melted, refund, shredded, transported

Goals and Objectives:
Students will discover what happens to aluminum cans and how they are recycled and then resold. They will create a narrative illustration of the full circle process of recycled aluminum.

Materials:
- **Aluminum cans** (optional visual aid)
- **Poster paper**
- **Markers**, pencils, and/or crayons
- Copies of ***The Steps of Recycling Handout***

Activity
Following this Activity are adaptations for Beginner, Intermediate, and Advanced.

Warm Up:
Class Discussion: Determine students' prior knowledge and understanding of the steps involved in recycling aluminum cans

Suggested Discussion: Where does aluminum come from? Where does it go after it is placed in a recycling bin? Have you ever noticed people collecting cans from garbage and recycling bins? Why do you think they were doing that?

Exploration:
1. Distribute ***The Steps of Recycling Handout*** and discuss the 13 steps associated with recycling an aluminum can.
2. Discuss the value of cans. Present a few hypothetical math questions that explore how many cans someone would have to sell in order to make various amounts of money.
3. Have the students complete ***The Steps of Recycling Handout*** in small groups.

4. If time allows, assign each group 1 – 3 of the 13 steps and have them work together to create a narrative illustration.

5. After they are finished, have the groups present their work to the class and ask them to display the collection of posters in the order of the 13 steps.

Adaptations for Different Grades

Choose level most appropriate for your class.

Beginner:

Include a ***read aloud*** component in the warm-up by reading ***The Steps of Recycling Handout*** to the class. Have the students work in small groups to complete narrative illustrations of each step. They should work together to put the illustrations in the order of the 13 steps.

Ask the class if they can figure out how many cans a person would have to collect to earn a refund of one dollar.

Intermediate:

Follow the Activity instructions and complete ***The Steps of Recycling Handout***. Have the class work in small groups to create narrative illustrations about the 13 steps. Each group should address all 13 steps and present their work to the class.

Ask the class to work together to figure out how many cans they would have to sell in order to make $100.

Advanced:

Follow the Activity instructions and complete ***The Steps of Recycling Handout***. Give the students the option of narrating the journey of one aluminum can, or the story of someone involved in the recycling process (for example, someone who collects cans and sells them or someone who works at the can plant). Invite them to share their narratives with the class. Search **nyc.gov/wasteless** for "scavenging" to get more info and see a video on the impact of scavenging on NYC's recycling program.

What Is Reduce, Reuse, Recycle (RRR)?

The Steps of Recycling Handout

Name_____ Date_____

Please read the 13 steps of recycling aluminum.

1. Buy a can of seltzer.
2. Drink it.
3. If possible, return the empty can to the store for a five-cent refund.
4. The can is transported to a can-crushing factory.
5. Collected cans are shredded.
6. The shredded cans are melted.
7. The melted cans are formed into long, coiled sheets of aluminum.
8. Aluminum coils are transported to a can manufacturing plant.
9. Aluminum coils are turned into cans and lids.
10. Aluminum cans and lids are transported to drink companies.
11. Cans are filled with drinks and lids are attached.
12. Filled cans are delivered to the store.
13. Buy a can of seltzer at the store.

Now that you have learned about the 13 steps associated with recycling an aluminum can, write a short story or illustrate a comic book describing all of the steps.

chapter 3 | activity 4

What Is Reduce, Reuse, and Recycle (RRR)?

Understanding When to Reduce, Reuse, or Recycle

Time:
30 minutes

Subjects:
English Language Arts, Science, Art

Vocabulary:
disposable, recycle, reduce, reusable, reuse

Goals and Objectives:
Students will study ways to reduce, reuse, and recycle. They will also complete hands-on art and writing projects that incorporate real-life application of RRR.

Materials:
- **Disposable items:** paper plate, paper napkin
- **Reusable items:** ceramic plate, cloth napkin, sponge
- **Recyclable items:** plastic jug, aluminum can
- **Magazines** to cut up for collage
- **Paper** to make 3 posters
- **Markers** or colored pencils
- **Glue** or tape

Activity

Following this Activity are adaptations for Beginner, Intermediate, and Advanced.

Warm Up:

Class Discussion: Determine students' prior knowledge and understanding of when to reduce, reuse, and recycle.

Suggested Discussion: Ask the class how they know when to recycle something. What ways have they been able to reduce the amount of waste they produce? Are there waste items that they reuse?

Exploration:

1. Display the items and review the vocabulary terms. Refer to the **Glossary** for definitions.
2. Ask the class to identify the disposable items. Remind them that one of the ways to cut down on waste production is by reducing the amount of disposable items they use.

3. Explain that reusing items is another way to reduce waste.
4. Ask the class to identify the reusable items.
5. Compare the disposable and reusable items. For example, suggest using a cloth napkin instead of a paper one.
6. Ask the class to identify the recyclable items.
7. Divide the class into three groups.
8. Distribute the art supplies and assign each group a different category: disposable, reusable, or recyclable.
9. Each group will make a poster representing the types of items in their category. They can cut pictures from magazines and draw images.
10. Each group will present their poster to the class. The posters can be displayed along with the actual items from each category.

Expanded Exploration:

Engage students in a discussion about how they can reduce the amount of disposable items they use and ways to reuse and recycle more. Ask them if they have read any articles or books about the human impact on the environment.

Adaptations for Different Grades

Choose level most appropriate for your class.

Beginner:

Follow the Activity instructions.

Have the students complete a follow-up project. Ask them to think of several items they use and at least three ways they can reduce, reuse, and recycle them. They can create a brochure that illustrates these examples and share it with the class.

Intermediate:

Follow the Activity instructions.

Students should write follow-up responses to the Activity. The response papers should describe what they consume and throw away on a typical day and how they could reduce, reuse, and recycle more. Encourage the students to share their responses with the class.

Advanced:

Follow the Activity instructions.

Students should think of at least five ways in which they could reduce, reuse, and recycle more. They can write public service announcements or short documentary videos inspired by their real life examples. They should present their documentary projects (script or video) with the class.

chapter 3 | activity 5

What Is Reduce, Reuse, and Recycle (RRR)?

Reading About the Environmental Effects of Our Everyday Decisions

Time:
30 minutes

Subjects:
English Language Arts, Science

Vocabulary:
ecosystem, environment, recycle, reduce, reuse, sustainability

Goals and Objectives:
Students will conduct research on the Internet to select books on the environmental effects of our everyday decisions. Students will read a book, present their progress to the class, and complete a summary report that connects the information to their own consumption and waste production decisions.

Teacher's Note:
Depending on your preference and on the reading levels of your class, you may want to select one book and read it together as a class. Please see the Adaptations section for more information.

Materials:

- **Internet access**
- Access to **library books**
- Copies of ***Environmental Effects Handout***

Activity

Following this activity are adaptations for Beginner, Intermediate, and Advanced.

Warm Up:

Class Discussion: Determine students' prior knowledge and understanding of how their everyday decisions affect the environment.

Suggested Discussion: Ask the class what kinds of decisions they make each day that impact the environment. Have they read any books on this subject?

Exploration:

1. Explain to the class that they will read about the environmental effects of their everyday decisions.
2. Help them research and select a book to read on this subject, using the Internet.
3. Visit the library together to check out the books they selected, or assign a date by which they must have acquired the book on their own.
4. Distribute copies of ***Environmental Effects Handout***.

5. Schedule and assign presentation days for students to share their reading progress with the class. If your whole class is reading the same book, you can have the students take turns sharing their impressions of what has happened so far in the book.

6. Assign a deadline for students to finish reading the book and hand in their summary reports. Their summary reports should apply the ideas in the book to their own consumption and waste decisions.

Expanded Exploration:

Engage students in a discussion about what they learned from the books. Ask the class to share how they plan to make better decisions about consumption and waste disposal.

Adaptations for Different Grades

Choose level most appropriate for your class.

Beginner:

Follow the Activity instructions.

Include a ***read aloud*** component by selecting a book for the entire class to read together. You can read it to them and also encourage the students to read in pairs. Each student should respond to the book with a summary that includes drawing and new vocabulary words. Encourage them to share their projects with the class.

There are a number of books published on this topic. Here are a few suggestions, but you should conduct your own search to be sure to find one that is current and on the appropriate reading level:

- ***The Lorax*** *by Dr. Seuss*
- ***Just A Dream*** *by Chris Van Allsburg*
- ***The Berenstain Bears Don't Pollute (Anymore)*** *by Stan & Jan Berenstain*
- ***The Polar Bears' Home: A Story About Global Warming*** *by Lara Bergen*
- ***I Can Save The Earth!*** *by Alison Inches*
- ***The Adventures of A Plastic Bottle*** *by Alison Inches*
- ***What Happens To Our Trash*** *by D.J. Ward*
- ***Where Does The Garbage Go?*** *by Paul Showers*
- ***What's So Bad About Gasoline?: Fossil Fuels And What They Do*** *by Anne Rockwell*
- ***The Wump World*** *by Bill Peet*
- ***The Wartville Wizard*** *by Don Madden*
- ***The Everything Kids' Environment Book: Learn how you can help the environment-by getting involved at school, at home, or at play*** *by Sheri Amsel*
- ***E Is for Environment: Stories to Help Children Care for Their World — at Home, at School, and at Play*** *by Ian James Corlett*
- ***West Side Kids: The Big Idea – Book #1*** *by Ellen Schecter*

Intermediate:

Follow the Activity instructions.

You can also divide the class into groups and have each group read and report on a different book.

Students can pick any book related to the topic of environmental effects of everyday choices. Here are a few suggestions, but students should conduct their own search to be sure to find one that is current and on the appropriate reading level:

- ***Harvest For Hope*** *by Jane Goodal*
- ***Silent Spring*** *by Rachel Carson*
- ***Global Warming (Life and Environmental Science)*** *by Ron Fridell*
- ***Climate Change (DK Eyewitness Books)*** *by John Woodward and DK Publishing*
- ***The Down-to-Earth Guide To Global Warming*** *by Laurie David & Cambria Gordon*
- ***Chomp*** *by Carl Hiaasen*
- ***Hoot*** *by Carl Hiaasen*
- ***Flush*** *by Carl Hiaasen*
- ***Scat*** *by Carl Hiaasen*

Advanced:

Follow the Activity instructions.

Give students the option of writing research papers instead of book reports. The papers should incorporate other related information and apply the information to their everyday decisions. If the student selects a book that is slightly above his or her reading level, encourage the student to write a report on a chapter or two instead of the entire book. Students should present what they learned to the class.

Students can pick any book related to the topic of environmental effects of everyday choices. Here are a few suggestions, but students should conduct their own search to be sure to find one that is current and on the appropriate reading level:

- ***Silent Spring*** *by Rachel Carson*
- ***Harvest For Hope*** *by Jane Goodall*
- ***Hot, Flat, and Crowded: Why We Need a Green Revolution - and How It Can Renew America*** *by Thomas Friedman*
- ***What's the Worst That Could Happen?: A Rational Response to the Climate Change Debate*** *by Greg Craven*
- ***Climate Change: Picturing the Science*** *by Gavin Schmidt & Joshua Wolfe*
- ***Collapse*** *by Jared Diamond*
- ***The Future*** *by Al Gore*
- ***Eaarth*** *by Bill McKibben*
- ***The Omnivore's Dilemma*** *by Michael Pollan*

notes

What Is Reduce, Reuse, Recycle (RRR)?

Environmental Effects Handout

Name_____ Date_____

Please answer the following questions.

Part 1: Before you read the book

1. What is the title of the book you selected?

2. What is the name and background of the book's author?

3. Why did you select this book?

4. What do you hope to discover?

Part 2: After you read the book

5. What were some surprising facts that you learned from this book?

6. How would you summarize this book?

7. How does the information revealed in this book relate to decisions you make each day?

8. Would you recommend this book to others? Why or why not?

9. What environmental issues or facts would you like to read more about?

10. What books do you plan to read next?

notes

chapter 3 | activity 6

What Is Reduce, Reuse, and Recycle (RRR)?

Taking a Closer Look at Packaging

Time:
20 minutes

Subjects:
English Language Arts, Science

Vocabulary:
biodegradable, overpackaging, packaging, pollution, waste

Goals and Objectives:
Students will examine examples of overpackaging and appropriate packaging and learn about their impact on the environment. They will complete writing projects that connect their observations to strategies for reducing the consumption of overpackaged products.

Materials:
- Examples of **overpackaged lunches** or meals (produce wrapped in plastic)
- Examples of **appropriately packaged** items (reusable container, loose produce)

Activity
Following this Activity are adaptations for Beginner, Intermediate, and Advanced.

Warm Up:
Class Discussion: Determine students' prior knowledge and understanding of packaging and its impact on the environment.

Suggested Discussion: What is packaging? Why do we use it? How do we know if something is overpackaged? Why does this matter?

Exploration:
1. Introduce each item to the class.
2. Ask the class to determine whether the item is an example of overpackaging or appropriate packaging.
3. Encourage the students to think of other examples of both overpackaged and appropriately packaged items.

4. Ask them if they know what happens to packaging when they throw it away. How does this impact the environment?

5. Assign a follow-up project from the Adaptations section.

Expanded Exploration:

Engage the students in a discussion about why they think many products are overpackaged. Ask them to imagine inventing a product with appropriate packaging.

Adaptations for Different Grades

Choose level most appropriate for your class.

Elementary:

Follow the Activity instructions.

Ask the class to draw and describe examples of appropriately packaged and overpackaged products and to share their work with the class.

Intermediate:

Follow the Activity instructions.

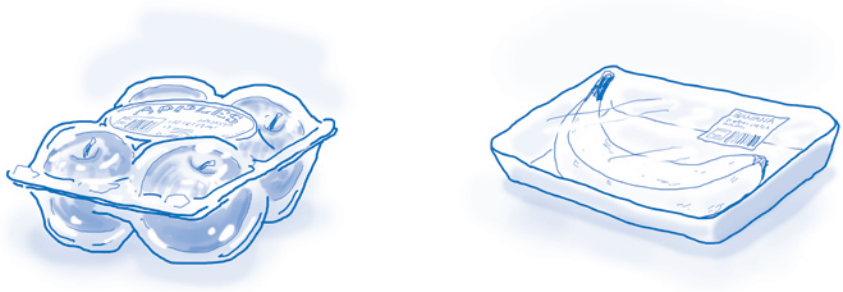
Have the class work in groups to brainstorm at least five items they use regularly that are examples of overpackaged products.

Next, ask each student to write down every piece of packaging that comes with each of the items that they listed. Ask them to evaluate all of the pieces of packaging and decide what can be eliminated or replaced with materials that use fewer resources.

Advanced:

Follow the Activity instructions.

Encourage the class to think about products they consume and whether they will start to consider packaging before purchasing a product. Ask them to choose an example of an overpackaged product and to draft a letter to the manufacturer or distributor asking for environmentally friendlier packaging. They should present their letters to the class.



chapter 3 | activity 7

What Is Reduce, Reuse, and Recycle (RRR)?

Design Your Own Package

Time:
20 minutes

Subjects:
English Language Arts, Science, Problem Solving, Art

Vocabulary:
biodegradable, overpackaging, packaging, recyclable, reusable, sustainability, waste

Goals and Objectives:
Students will apply what they have learned about the problem of overpackaging to design their own packaging that uses the fewest resources possible and is also reusable and/or recyclable.

Materials:
- **Pens**, markers, colored pencils
- **Paper** or poster board

Activity

Following this Activity are adaptations for Beginner, Intermediate, and Advanced.

Warm Up:

Class Discussion: Determine students' prior knowledge and understanding of packaging and its impact on the environment.

Suggested Discussion: Why is it a good idea to pay attention to the packaging of products before we buy them? How does packaging impact the environment? Ask the class to give examples of when they have reused or recycled packaging.

Exploration:

1. Review examples of overpackaging and appropriate packaging.
2. Ask the class to design packaging for a real product or one that they invent. The packaging should use the fewest resources possible and also be reusable and/or recyclable.
3. Have the students illustrate and write detailed descriptions of the packaging: what it's made from and how it can be reused and/or recycled.
4. Students should share their projects with the class.

Expanded Exploration:

Encourage class discussion about the importance of packaging and how this waste impacts the environment. Ask them to think about other overpackaged products. Ask the class if they think they could identify a product if they were only given clues about the product's packaging.

Adaptations for Different Grades

Choose level most appropriate for your class.

Beginner:

Follow the Activity instructions.

Students can invent their own products and packaging, trying to make sure the packaging uses as few resources as possible and can be reused and/or recycled. Have the students draw their ideas and share them with the class.

Intermediate:

Follow the Activity instructions.

Students should write descriptions of their invented packaging that explain how it can be reused and/or recycled. They may also include drawings and descriptions of how the packaging can be reused. Encourage them to think of ways to reuse and recycle packaging, and ways to buy alternative products that use less packaging. They should present their projects to the class.

Advanced:

Follow the Activity instructions.

Encourage the students to write letters to manufacturers, or to government or industry representatives, suggesting ways to reduce packaging and use fewer resources to manufacture packaging material. Have them share their projects and letters with the class.

chapter 3 | activity 8

What Is Reduce, Reuse, and Recycle (RRR)?

The Story of the Mystery Package

Time:
20 minutes

Subjects:
English Language Arts, Science, Problem Solving

Vocabulary:
biodegradable, natural resources, nonrenewable, overpackaging, packaging, renewable, sustainability, waste

Goals and Objectives:
Students will complete ***The Story of the Mystery Package Handout*** and explore the resources used to make products and packaging. They will apply problem solving skills to come up with more sustainable alternatives to packaging.

Materials:

- Copies of ***The Story of the Mystery Package Handout***

Activity

Following this Activity are adaptations for Beginner, Intermediate, and Advanced.

Warm Up:

Class Discussion: Determine students' prior knowledge and understanding of packaging and what resources are used for packaging and how packaging may be reused and recycled.

Suggested Discussion: What are some examples of overpackaging? What are some examples of appropriate packaging? What are the materials made from? Can the packaging be reused and/or recycled?

Exploration:

1. Distribute ***The Story of the Mystery Package Handout***.
2. Invite each student to think of a container or package that protects a food item.
3. Offer examples, like an oatmeal box, aluminum can, soda bottle, or even a banana peel.

4. Each student will keep the food item they selected a secret, and answer questions 1 – 8 to offer clues about the item they have selected.

5. Then, they will exchange papers with a partner. They will read each others' clues and try to identify the mystery food item.

Expanded Exploration:

Encourage class discussion about packaging and the decisions they make each day about what they consume and how much waste they produce. Ask them to think of more sustainable alternatives for overpackaged products and to think of ways to reuse and recycle packaging. Ask them if they can think of an effective way to get more people to reduce, reuse, and recycle.

Adaptations for Different Grades

Choose level most appropriate for your class.

Beginner:

Follow the Activity instructions.

Encourage the students to illustrate their answers to the last question and to share their illustrations with the class.

Intermediate:

Follow the Activity instructions.

Encourage the students to play the game a second time on the back of the handout, and to think of more ways to reduce the amount of waste they produce. Each pair of students should present their mysteries to the class.

Advanced:

Follow the Activity instructions.

Ask the class to make a list of items they used during the past week and to write down how many of those items included overpackaging. Have them approximate how much of their waste is from packaging and to come up with a few ways to reduce this waste.

Ask them to list sustainable alternatives to products with packaging, and ways to reuse and recycle packaging. Encourage the students to share their lists and reduction plans with the class.

What Is Reduce, Reuse, Recycle (RRR)?

The Story of the Mystery Package Handout

Name_____ Date_____

Think of a container or package that protects a food item (but don't share what it is) and then answer questions 1 – 8. Save question 9 for your partner. Use the bottom of this page to illustrate your answer. If there's time, use the back of this page to play again.

1. What am I used for?

2. What am I made from?

3. What natural resources do I come from?

4. Am I thrown away after I'm used?

5. If I can be recycled, what else can I become?

6. Am I biodegradable?

7. Can I be used again? If so, how?

8. As a container, can I be improved? If so, draw or write about a better design.

9. What am I?

What Is Reduce, Reuse, Recycle (RRR)?

The Story of the Mystery Package Handout

Name_____ Date_____

Think of a container or package that protects a food item (but don't share what it is) and then answer questions 1 – 8. Save question 9 for your partner. Use the bottom of this page to illustrate your answer.

1. What am I used for?

2. What am I made from?

3. What natural resources do I come from?

4. Am I thrown away after I'm used?

5. If I can be recycled, what else can I become?

6. Am I biodegradable?

7. Can I be used again? If so, how?

8. As a container, can I be improved? If so, draw or write about a better design.

9. What am I?

chapter 3 | activity 9

What Is Reduce, Reuse, and Recycle (RRR)?

Teach NYC How to RRR

Time:
30 minutes for Part 1 and
30 minutes for Part 2

Subjects:
English Language Arts, Science, Problem Solving

Vocabulary:
recycle, reduce, reuse

Goals and Objectives:
Students will create public service announcement (PSA) scripts or short videos that encourage New Yorkers to reduce, reuse, and recycle.

Teacher's Note:
Students can read the scripts of their public service announcements in front of an audience, or ask the Principal to broadcast them as the school's daily announcements.

Materials:
- **Internet access** to research public service announcements
- **Video camera** (optional)
- **Internet access** to publish video (optional)

Activity
Following this Activity are adaptations for Beginner, Intermediate, and Advanced.

Warm Up:
Class Discussion: Determine students' prior knowledge and understanding of how to reduce, reuse, and recycle.

Suggested Discussion: What have they learned about reducing, reusing, and recycling? What are some effective ways to encourage others to reduce, reuse, and recycle?

Exploration:
Part 1:
1. Ask the class to find a public service announcement that they like. Or, if your class does not have Internet access, you may want to discuss examples of well-known public service announcements.
2. Ask them to pay attention to the writing styles, humor, narrative devices, music, animation, and messaging in different public service announcements. They should identify the target audiences for each public service announcement.

3. Have the class work in small groups to brainstorm ideas on reducing, reusing, and recycling.
4. Either individually or as a group, the students will write scripts for the public service announcements to encourage New Yorkers to reduce, reuse, and recycle.

Part 2:

5. If you and your students have access to video cameras, have the class create short videos based upon the prepared scripts.
6. Show the completed videos to a live audience, or have students do a live reading of the scripts in front of an audience. Or ask the Principal's permission to have students read their PSAs (public service announcements) over the school loudspeakers as Daily Announcements.

Expanded Exploration:

Encourage class discussion about other ways to promote RRR. Ask them if they can think of examples when other forms of art, such as music, were used to promote an idea or product.

Adaptations for Different Grades

Choose level most appropriate for your class.

Beginner:

Follow the Activity instructions in Part 1 only.

Encourage the students to include original illustrations as part of their script. Students should present their illustrated scripts to the class.

Intermediate:

Follow the Activity instructions for Part 1 and Part 2.

Encourage the students to incorporate research in their public service announcements.

Students should present their completed scripts to the class, either reading from the script or as a filmed production. Have students write summaries of the announcements or videos and address how they think they might influence others to reduce, reuse, and recycle.

Advanced:

Follow the Activity instructions for Part 1 and Part 2.

Each student should work individually to write the script and then work in small groups to decide on which announcement to present. They should present their finished works to the class, either as a live reading or a video production, depending on equipment availability. The videos could also be uploaded to YouTube and/or published on your school's website.

chapter 3 | activity 10

What Is Reduce, Reuse, and Recycle (RRR)?

RRR Posters

Time:
20 minutes

Subjects:
English Language Arts, Science, Art

Vocabulary:
recycle, reduce, reuse

Goals and Objectives:
Students will review what they have learned about reducing, reusing, and recycling and they will create posters that promote an RRR concept.

Teacher's Note:
Students can perform their announcements live instead of filming them.

Materials:
- Recycled and/or r**eused paper**
- **Old magazines** and newspapers
- **Markers** or colored pencils
- **Glue** and/or tape
- **Discarded materials** (optional)

Activity

Following this activity are adaptations for Beginner, Intermediate, and Advanced.

Warm Up:

Class Discussion: Determine students' prior knowledge and understanding of the importance of reducing, reusing, and recycling.

Suggested Discussion: What is the most interesting RRR fact you have learned so far? What information do you think is most critical for others to know? How might you be able to share this information with others?

Exploration:

1. Explain to the class that they will be making posters to get the school community excited about reducing, reusing, and recycling.
2. Each student will create a poster that addresses at least one RRR concept.
3. Be sure to point out how the class is reusing recycled paper and scraps from magazines, newspapers, and other discarded materials, which will eventually be recycled with the entire poster.

Expanded Exploration:

Encourage class discussion about what they have learned so far. Are there other RRR facts they would like to learn? Can they think of RRR facts that many other people may not know?

Adaptations for Different Grades

Choose level most appropriate for your class.

Beginner:

Follow the Activity instructions.

Students should share their posters with the class before they are displayed around the school.

Intermediate:

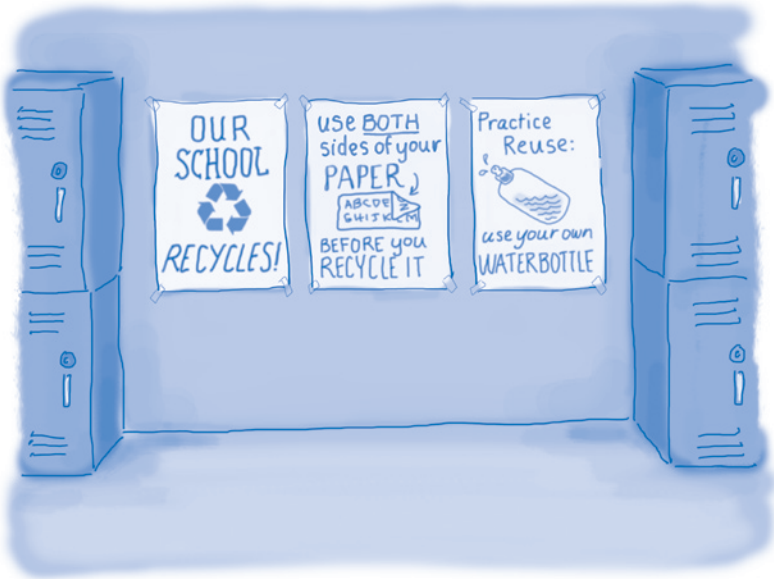
Follow the Activity instructions.

Students can work in groups to coordinate the themes of their projects so that more RRR concepts are covered. Students can submit their posters to a state or national contest promoting sustainability.

Advanced:

Follow the Activity instructions.

If your class has access to computers, they can incorporate images from the Internet and even publish their posters on your school's website. Students can submit their posters to a state or national contest promoting sustainability.



chapter 3 | activity 11

What Is Reduce, Reuse, and Recycle (RRR)?

RRR Jeopardy

Time:
45 minutes

Subjects:
English Language Arts, Science

Vocabulary:
recycle, reduce, reuse, and everything else in the **Glossary**

Goals and Objectives:
Students will work in teams to create their own questions and answers to quiz their classmates on facts about reducing, reusing, and recycling.

Teacher's Note:
This Activity can be broken down into two shorter lessons.
Part 1: The groups are assigned and each group comes up with the questions and answers for the game.
Part 2: The class plays the game.

Materials:

- Copies of ***RRR Jeopardy Handout***

Activity

Following this Activity are adaptations for Beginner, Intermediate, and Advanced.

Warm Up:

Class Discussion: Determine students' prior knowledge and understanding of why we reduce, reuse, and recycle.

Suggested Discussion: Why is it important to reduce, reuse, and recycle? Can you think of some interesting RRR questions that might stump your classmates?

Exploration:

1. Divide the class into four or five groups.
2. Distribute copies of ***RRR Jeopardy Handout***.
3. Review the basic rules of Jeopardy, which are described on ***RRR Jeopardy Handout***.
4. Allow the teams the option of creating their own categories or selecting one from ***RRR Jeopardy Handout***.
5. Explain to the class that they will be creating and playing their own version of *Jeopardy*.
6. Each team should come up with at least 10 questions and answers on the back of ***RRR Jeopardy Handout*** and give the completed set to you.

7. Inform the class that they will respond to all of the other answers and questions, except for the answers and questions that their team composed.
8. Assign a number of points that each question is worth and list each team/category on the board to help the class keep track of their scores.
9. Read each answer and call on the team that raises their hand first.

Expanded Exploration:

Encourage class discussion about facts or questions that they found surprising during the game. Ask them what they would like to learn more about. Ask the class for their ideas on how they might be able to turn what they have learned into a commitment to make better RRR decisions.

Adaptations for Different Grades

Choose level most appropriate for your class.

Beginner:

Follow the Activity instructions.

Each team can come up with five answer and question sets instead of ten. You may want to give time to the teams to write and draw a response to share with the class, instead of calling on whoever gets the answer first.

Intermediate:

Follow the Activity instructions.

Encourage students to incorporate outside research into their answer and question sets, and have the class work together to come up with a revised answer and question set to be used with future classes.

Advanced:

Follow the Activity instructions.

Have the class use the Internet and other outside resources to compose their answers and questions. They could compose 15 – 20 sets per category. Have them compile all of the sets together to make a trivia book.

What Is Reduce, Reuse, Recycle (RRR)?

RRR Jeopardy Handout

Name_____ Date_____

What is Jeopardy!?

Jeopardy! is the name of a television quiz show created by Merv Griffin in 1964. It presents a range of trivia answer clues to contestants who must respond by giving the correct question.

RRR Jeopardy Instructions

With your team, create your own RRR category or select an RRR category from those listed below. Then, on the back of this paper, compose 10 trivia answers and questions that relate to your category. Hand in one completed ***RRR Jeopardy Handout*** to your teacher. Your team will not respond to the category answers and questions you created, but you will compete with the other classmates when answers from the other categories are presented.

Examples

Category: Define It!

RRR Jeopardy Host: This substance is formed when paper collected for recycling is mixed with warm water before it is further processed to make recycled paper.

Contestant: **What is slurry?**

Category: Key Recyclers

RRR Jeopardy Host: This New York agency collects your garbage and recyclables.

Contestant: **What is the Department of Sanitation?**

Category: Use It – Or Lose It!

RRR Jeopardy Host: After they are melted down, these can be used to make a bicycle or a bridge.

Contestant: **What are steel cans?**

Category: Green Numbers

RRR Jeopardy Host: This is the number of waste bins that should be used in every apartment or house in New York City.

Contestant: **What are three?**

Category: RRR Hypothetical Situations

RRR Jeopardy Host: Instead of disposing of food scraps in the garbage cans, you could do this.

Contestant: **What is compost?**

What Is Reduce, Reuse, Recycle (RRR)?

RRR Jeopardy Handout

Create your own RRR category or select an RRR category from the list on the other side. Compose 10 trivia answers and questions that relate to your category.

Category Name: _____

1. Question: _____

Answer: _____

2. Question: _____

Answer: _____

3. Question: _____

Answer: _____

4. Question: _____

Answer: _____

5. Question: _____

Answer: _____

6. Question: _____

Answer: _____

7. Question: _____

Answer: _____

8. Question: _____

Answer: _____

9. Question: _____

Answer: _____

10. Question: _____

Answer: _____

chapter 3 | activity 12

What Is Reduce, Reuse, and Recycle (RRR)?

Developing An RRR Presence

Time:
20 – 30 minutes

Subjects:
English Language Arts, Science

Vocabulary:
compost, recycle, reduce, reuse, sustainability

Goals and Objectives:
Students will gain hands-on experience with researching and writing about reducing, reusing, and recycling, and will publish their work on a website.

Teacher's Note:
This project requires Internet access . Students should first complete a series of writing assignments and then post their revised versions on a free blog site or school-hosted website.

Materials:

- **Internet access**

Activity

Following this Activity are adaptations for Beginner, Intermediate, and Advanced.

Warm Up:

Class Discussion: Determine students' prior knowledge and understanding of reducing, reusing, and recycling and how to "***develop an RRR presence.***"

Suggested Discussion: What have you learned so far about reducing, reusing, and recycling? What surprised you the most? What information do you think is most important to share with others?

Exploration:

1. Depending on your preferences, students may work on this project in small teams or as a class. There are a number of free blog websites that students may use, such as **Blogspot.com** and **Wordpress.com**. Ask the students to brainstorm a name for their blog or website.
2. Secure the blog on their behalf or, for older students, walk them through setting up the blog or website.
3. Explain that each student will write about their experiences with reducing, reusing, and recycling through a series of essays that will be revised before being posted to the class or team website.

4. Give the students a choice of writing prompts:
   - What are "The Three R's of the Environment" and why are they important?
   - What is waste?
   - Describe how you have been able to reduce the amount of items you consume.
   - Describe how you have been able to reuse items instead of discarding them.
   - What kinds of things can be recycled?
   - Is composting a form of recycling? How does it work?
   - What does it mean to be environmentally responsible and why is it important?
   - What does sustainability mean to you? What do you predict will be the future of New York City's waste management practices?
   - Research how other cities address the importance of reducing, reusing, and recycling. How are these waste management practices similar and different to New York City's?
   - Illustrate and narrate a story in which someone learned about his or her waste management practices and changed them for the better.
5. Help the students revise their essays.
6. Publish the essays on the class website or assist each team in posting the essays on their blogs.

Expanded Exploration:

Encourage the class to think of their own topics and experiments relating to reducing, reusing, and recycling to write about and have them continue writing articles or blog posts.

Adaptations for Different Grades

Choose level most appropriate for your class.

Beginner:

Encourage the students to support their responses to the writing prompts with illustrations. Post the content on one class website. To build reading and presentation skills, the class can also share their responses with the class.

Intermediate:

Follow the Activity instructions.

Have the students work in pairs or small teams to help each other revise their responses before they are posted. Encourage the class to incorporate research into their posts and to respond to each other's blog posts. Ask the teams to come up with their own topics relating to waste reduction, and to explore and publish these articles.

Advanced:

Follow the Activity instructions and include a ***research*** component in each response. Give students the option of creating their own websites and other social media accounts relating to this topic. Have them present their articles to the class each time one is posted. Encourage them to incorporate video and photography, and to comment on each other's blog posts. Students should share their published articles with family and friends.

What Is Reduce, Reuse, and Recycle (RRR)?

Learning Standards

Activity 1: Recycling in the Classroom

New York State Common Core Learning Standards for English Language Arts & Literacy

College and Career Readiness Anchor Standards for Reading

Subsections 1, 2	Key Ideas and Details
Subsection 4	Craft and Structure
Subsection 10	Range of Reading

College and Career Readiness Anchor Standards for Speaking and Listening

Subsection 2	Comprehension and Collaboration
Subsection 4	Presentation of Knowledge and Ideas

College and Career Readiness Anchor Standards for Language

Subsection 1	Conventions of Standard English
Subsections 4, 6	Vocabulary Acquisition and Use

The Applied Learning Performance Standards

A2	Communication Tools and Techniques
A5	Tools and Techniques for Working With Others

New York City Science Scope & Sequence

7.1 a, 7.1b

Human influences on the environment: positive influences.

7.1c, 7.2a, 7.2b, 7.2c

Human influences on the environment: negative influences.

7.3a, 7.3b

Human influences on the environment: decision making (risk/benefit).

ICT 5.2, IPS 1.1-1.4, IPS 2.1

Packaging and solid waste.

LE 3.2b, LE 7.1e, LE 7.2c,d, ICT 1.2, 1.4, 2.1-2.3, 4.1, 4.2, 5.1, 5.2, 6.1, 6.2, IPS 1.1-1.4, IPS 2.1

Environmental concerns: acquisition and depletion of resources; waste disposal; land use and urban growth; overpopulation; global warming; ozone depletion; acid rain; air pollution; water pollution; impact on other organisms.

LE 6.1c, ICT 5.1, 5.2

Renewable and nonrenewable sources of materials.

LE 7.1a,b

Describe the way that humans: depend on their natural and constructed environment; have changed their environment over time.

LE 7.1b,c

Identify examples where human activity has had a beneficial or harmful effect on other organisms (e.g., deforestation).

LE 7.2b,c LE 7.2d

Describe the way humans: depend on their natural and constructed environment; have changed their environment over time.

LE 7.2b,c LE 7.2d

Identify examples where human activity has had a beneficial or harmful effect on other organisms (e.g., deforestation).

LE 7.2c,d, ICT 5.2, IPS 1.1-1.4, IPS 2.1

Water issues: depletion; pollution.

LE 7.2c,d, ICT 6.1, IPS 1.1-1.4, IPS 2.1

Environmental toxins: pesticides and herbicides; fertilizers; organic waste.

PS 3.1b,c

Observe and describe physical properties of objects using all of the appropriate senses: size, shape, texture, weight, color, etc. Determine whether objects are alike or different.

What Is Reduce, Reuse, and Recycle (RRR)?

Learning Standards

Activity 2: Recycling Is Only Part of the Solution

New York State Common Core Learning Standards for English Language Arts & Literacy

College and Career Readiness Anchor Standards for Writing

Subsections 2, 3	Text Types and Purposes
Subsection 4	Production and Distribution of Writing

College and Career Readiness Anchor Standards for Speaking and Listening

Subsections 1, 2	Comprehension and Collaboration
Subsection 4	Presentation of Knowledge and Ideas

College and Career Readiness Anchor Standards for Language

Subsections 1, 2	Conventions of Standard English
Subsection 3	Knowledge of Language
Subsection 6	Vocabulary Acquisition and Use

The Applied Learning Performance Standards

A2	Communication Tools and Techniques
A5	Tools and Techniques for Working With Others

New York City Science Scope & Sequence

7.1a, 7.1b

Human influences on the environment: positive influences.

7.1c, 7.2a, 7.2b, 7.2c

Human influences on the environment: negative influences.

7.3a, 7.3b

Human influences on the environment: decision making (risk/benefit).

ICT 5.2, IPS 1.1-1.4, IPS 2.1

Packaging and solid waste.

LE 3.2b, LE 7.1e, LE 7.2c,d, ICT 1.2, 1.4, 2.1-2.3, 4.1, 4.2, 5.1, 5.2, 6.1, 6.2, IPS 1.1-1.4, IPS 2.1

Environmental concerns: acquisition and depletion of resources; waste disposal; land use and urban growth; overpopulation; global warming; ozone depletion; acid rain; air pollution; water pollution; impact on other organisms.

LE 5.1d,e, LE 6.1a,b

Classify populations of organisms as producers, consumers, or decomposers by the role they serve in the ecosystem (food chains and food web).

LE 6.1c, ICT 5.1, 5.2

Renewable and nonrenewable sources of materials.

LE 7.2b,c LE 7.2d

Describe the way humans: depend on their natural and constructed environment; have changed their environment over time.

LE 7.2b,c LE 7.2d

Identify examples where human activity has had a beneficial or harmful effect on other organisms (e.g., deforestation).

What Is Reduce, Reuse, and Recycle (RRR)?

Learning Standards

Activity 3: Aluminum Cans: Full Circle

New York State Common Core Learning Standards for English Language Arts & Literacy

College and Career Readiness Anchor Standards for Writing

Subsections 2, 3	Text Types and Purposes

College and Career Readiness Anchor Standards for Speaking and Listening

Subsection 2	Comprehension and Collaboration
Subsections 4, 5, 6	Presentation of Knowledge and Ideas

College and Career Readiness Anchor Standards for Language

Subsection 1	Conventions of Standard English
Subsection 6	Vocabulary Acquisition and Use

New York State Common Core Learning Standards for Mathematics

Subsections 1, 2	Counting and Cardinality
Subsection 1	Operations & Algebraic Thinking

The Applied Learning Performance Standards

A2	Communication Tools and Techniques
A5	Tools and Techniques for Working With Others

New York City Science Scope & Sequence

7.1a, 7.1b

Human influences on the environment: positive influences.

7.1c, 7.2a, 7.2b, 7.2c

Human influences on the environment: negative influences.

7.3a, 7.3b

Human influences on the environment: decision making (risk/benefit).

ICT 5.2, IPS 1.1-1.4, IPS 2.1

Packaging and solid waste.

LE 3.2b, LE 7.1e, LE 7.2c,d, ICT 1.2, 1.4, 2.1-2.3, 4.1, 4.2, 5.1, 5.2, 6.1, 6.2, IPS 1.1-1.4, IPS 2.1

Environmental concerns: acquisition and depletion of resources; waste disposal; land use and urban growth; overpopulation; global warming; ozone depletion; acid rain; air pollution; water pollution; impact on other organisms.

LE 5.1d,e, LE 6.1 a,b

Classify populations of organisms as producers, consumers, or decomposers by the role they serve in the ecosystem (food chains and food web).

LE 6.1c, ICT 5.1, 5.2

Renewable and nonrenewable sources of materials.

LE 7.2b,c, LE 7.2d

Describe the way humans: depend on their natural and constructed environment; have changed their environment over time.

LE 7.2b,c, LE 7.2d

Identify examples where human activity has had a beneficial or harmful effect on other organisms (e.g., deforestation).

What Is Reduce, Reuse, and Recycle (RRR)?

Learning Standards

Activity 4: Understanding When to Reduce, Reuse, or Recycle

New York State Common Core Learning Standards for English Language Arts & Literacy

College and Career Readiness Anchor Standards for Writing

Subsections 2, 3	Text Types and Purposes
Subsection 4	Production and Distribution of Writing

College and Career Readiness Anchor Standards for Speaking and Listening

Subsections 1, 2	Comprehension and Collaboration
Subsection 3	Knowledge of Language

College and Career Readiness Anchor Standards for Language

Subsections 1, 2	Conventions of Standard English
Subsection 3	Knowledge of Language
Subsections 4, 5, 6	Vocabulary Acquisition and Use

The Applied Learning Performance Standards

A2	Communication Tools and Techniques
A5	Tools and Techniques for Working With Others

New York City Science Scope & Sequence

7.1 a, 7.1b

Human influences on the environment: positive influences.

7.1c, 7.2a, 7.2b, 7.2c

Human influences on the environment: negative influences.

7.3a, 7.3b

Human influences on the environment: decision making (risk/benefit).

ICT 5.2, IPS 1.1-1.4, IPS 2.1

Packaging and solid waste.

LE 3.2b, LE 7.1e, LE 7.2c,d, ICT 1.2, 1.4, 2.1-2.3, 4.1, 4.2, 5.1, 5.2, 6.1, 6.2, IPS 1.1-1.4, IPS 2.1

Environmental concerns: acquisition and depletion of resources; waste disposal; land use and urban growth; overpopulation; global warming; ozone depletion; acid rain; air pollution; water pollution; impact on other organisms.

LE 5.1d,e, LE 6.1 a,b

Classify populations of organisms as producers, consumers, or decomposers by the role they serve in the ecosystem (food chains and food web).

LE 6.1c, ICT 5.1, 5.2

Renewable and nonrenewable sources of materials.

LE 7.1a,b

Describe the way that humans: depend on their natural and constructed environment; have changed their environment over time.

LE 7.1b,c

Identify examples where human activity has had a beneficial or harmful effect on other organisms (e.g., deforestation).

LE 7.2c,d, ICT 5.2, IPS 1.1-1.4, IPS 2.1

Water issues: depletion; pollution.

LE 7.2c,d, ICT 6.1, IPS 1.1-1.4, IPS 2.1

Environmental toxins: pesticides and herbicides; fertilizers; organic waste.

LE 7.2b,c, LE 7.2d

Describe the way humans: depend on their natural and constructed environment; have changed their environment over time.

LE 7.2b,c, LE 7.2d

Identify examples where human activity has had a beneficial or harmful effect on other organisms (e.g., deforestation).

PS 3.1b,c

Observe and describe physical properties of objects using all of the appropriate senses: size, shape, texture, weight, color, etc. Determine whether objects are alike or different.

What Is Reduce, Reuse, and Recycle (RRR)?

Learning Standards

Activity 5: Reading About the Environmental Effects of Our Everyday Decisions

New York State Common Core Learning Standards for English Language Arts & Literacy

College and Career Readiness Anchor Standards for Reading

Subsections 1, 2, 3	Key Ideas and Details
Subsections 4, 5, 6	Craft and Structure
Subsection 8	Integration of Knowledge and Ideas
Subsection 9	Range of Reading and Level of Text Complexity

College and Career Readiness Anchor Standards for Writing

Subsections 1, 2	Text Types and Purposes
Subsections 4, 5	Production and Distribution of Writing
Subsections 7, 9	Research to Build and Present Knowledge

College and Career Readiness Anchor Standards for Speaking and Listening

Subsection 1	Comprehension and Collaboration
Subsections 4, 6	Presentation of Knowledge and Ideas

College and Career Readiness Anchor Standards for Language

Subsections 1, 2	Conventions of Standard English
Subsection 3	Knowledge of Language
Subsections 4, 5, 6	Vocabulary Acquisition and Use

The Applied Learning Performance Standards

A2	Communication Tools and Techniques
A5	Tools and Techniques for Working With Others

New York City Science Scope & Sequence

7.1a, 7.1b

Human influences on the environment: positive influences.

7.1c, 7.2a, 7.2b, 7.2c

Human influences on the environment: negative influences.

7.3a, 7.3b

Human influences on the environment: decision making (risk/benefit).

ICT 5.2, IPS 1.1-1.4, IPS 2.1

Packaging and solid waste.

LE 3.2b, LE 7.1e, LE 7.2c,d, ICT 1.2, 1.4, 2.1-2.3, 4.1, 4.2, 5.1, 5.2, 6.1, 6.2, IPS 1.1-1.4, IPS 2.1

Environmental concerns: acquisition and depletion of resources; waste disposal; land use and urban growth; overpopulation; global warming; ozone depletion; acid rain; air pollution; water pollution; impact on other organisms.

LE 5.1d,e, LE 6.1 a,b

Classify populations of organisms as producers, consumers, or decomposers by the role they serve in the ecosystem (food chains and food web).

LE 6.1c, ICT 5.1, 5.2

Renewable and nonrenewable sources of materials.

LE 7.1a,b

Describe the way that humans: depend on their natural and constructed environment; have changed their environment over time.

LE 7.1b,c

Identify examples where human activity has had a beneficial or harmful effect on other organisms (e.g., deforestation).

LE 7.2b,c, LE 7.2d

Describe the way humans: depend on their natural and constructed environment; have changed their environment over time.

LE 7.2b,c, LE 7.2d

Identify examples where human activity has had a beneficial or harmful effect on other organisms (e.g., deforestation).

LE 7.2c,d, ICT 5.2, IPS 1.1-1.4, IPS 2.1

Water issues: depletion; pollution.

LE 7.2c,d, ICT 6.1, IPS 1.1-1.4, IPS 2.1

Environmental toxins: pesticides and herbicides; fertilizers; organic waste.

S1.1a,b,c

Formulate questions of scientific inquiry with the aid of references appropriate for guiding the search for explanations of everyday observations.

What Is Reduce, Reuse, and Recycle (RRR)?

Learning Standards

Activity 6: Taking a Closer Look at Packaging

New York State Common Core Learning Standards for English Language Arts & Literacy

College and Career Readiness Anchor Standards for Writing

Subsections 2, 3	Text Types and Purposes
Subsection 4	Production and Distribution of Writing

College and Career Readiness Anchor Standards for Speaking and Listening

Subsections 1, 2	Comprehension and Collaboration
Subsections 4, 6	Presentation of Knowledge and Ideas

College and Career Readiness Anchor Standards for Language

Subsections 1, 2	Conventions of Standard English
Subsection 3	Knowledge of Language

The Applied Learning Performance Standards

A2	Communication Tools and Techniques
A5	Tools and Techniques for Working With Others

New York City Science Scope & Sequence

7.1a, 7.1b

Human influences on the environment: positive influences.

7.1c, 7.2a, 7.2b, 7.2c

Human influences on the environment: negative influences.

7.3a, 7.3b

Human influences on the environment: decision making (risk/benefit).

ICT 5.2, IPS 1.1-1.4, IPS 2.1

Packaging and solid waste.

LE 3.2b, LE 7.1e, LE 7.2c,d, ICT 1.2, 1.4, 2.1-2.3, 4.1, 4.2, 5.1, 5.2, 6.1, 6.2, IPS 1.1-1.4, IPS 2.1

Environmental concerns: acquisition and depletion of resources; waste disposal; land use and urban growth; overpopulation; global warming; ozone depletion; acid rain; air pollution; water pollution; impact on other organisms.

LE 5.1d,e, LE 6.1 a,b

Classify populations of organisms as producers, consumers, or decomposers by the role they serve in the ecosystem (food chains and food web).

LE 7.1a,b

Describe the way that humans: depend on their natural and constructed environment; have changed their environment over time.

LE 7.1b,c

Identify examples where human activity has had a beneficial or harmful effect on other organisms (e.g., deforestation).

LE 7.2b,c, LE 7.2d

Describe the way humans: depend on their natural and constructed environment; have changed their environment over time.

LE 7.2b,c, LE 7.2d

Identify examples where human activity has had a beneficial or harmful effect on other organisms (e.g., deforestation).

PS 3.1b,c

Observe and describe physical properties of objects using all of the appropriate senses: size, shape, texture, weight, color, etc. Determine whether objects are alike or different.

What Is Reduce, Reuse, and Recycle (RRR)?

Learning Standards

Activity 7: Design Your Own Package

New York State Common Core Learning Standards for English Language Arts & Literacy

College and Career Readiness Anchor Standards for Writing

Subsections 2, 3	Text Types and Purposes
Subsection 4	Production and Distribution of Writing

College and Career Readiness Anchor Standards for Speaking and Listening

Subsections 1, 2	Comprehension and Collaboration
Subsections 4, 6	Presentation of Knowledge and Ideas

College and Career Readiness Anchor Standards for Language

Subsections 1, 2	Conventions of Standard English
Subsection 3	Knowledge of Language

The Applied Learning Performance Standards

A1	Problem Solving
A2	Communication Tools and Techniques
A5	Tools and Techniques for Working With Others

New York City Science Scope & Sequence

7.1a, 7.1b

Human influences on the environment: positive influences.

7.1c, 7.2a, 7.2b, 7.2c

Human influences on the environment: negative influences.

7.3a, 7.3b

Human influences on the environment: decision making (risk/benefit).

ICT 5.2, IPS 1.1-1.4, IPS 2.1

Packaging and solid waste.

LE 3.2b, LE 7.1e, LE 7.2c,d, ICT 1.2, 1.4, 2.1-2.3, 4.1, 4.2, 5.1, 5.2, 6.1, 6.2, IPS 1.1-1.4, IPS 2.1

Environmental concerns: acquisition and depletion of resources; waste disposal; land use and urban growth; overpopulation; global warming; ozone depletion; acid rain; air pollution; water pollution; impact on other organisms.

LE 6.1c, ICT 5.1, 5.2

Renewable and nonrenewable sources of materials.

LE 7.1a,b

Describe the way that humans: depend on their natural and constructed environment; have changed their environment over time.

LE 7.1b,c

Identify examples where human activity has had a beneficial or harmful effect on other organisms (e.g., deforestation).

LE 7.2c,d, ICT 5.2, IPS 1.1-1.4, IPS 2.1

Water issues: depletion; pollution.

LE 7.2b,c, LE 7.2d

Identify examples where human activity has had a beneficial or harmful effect on other organisms (e.g., deforestation).

PS 3.1b,c

Observe and describe physical properties of objects using all of the appropriate senses: size, shape, texture, weight, color, etc. Determine whether objects are alike or different.

What Is Reduce, Reuse, and Recycle (RRR)?

Learning Standards

Activity 8: The Story Of The Mystery Package

New York State Common Core Learning Standards for English Language Arts & Literacy

College and Career Readiness Anchor Standards for Writing

Subsection 3	Text Types and Purposes
Subsection 4	Production and Distribution of Writing

College and Career Readiness Anchor Standards for Speaking and Listening

Subsections 4, 6	Presentation of Knowledge and Ideas

College and Career Readiness Anchor Standards for Language

Subsections 1, 2	Conventions of Standard English
Subsection 3	Knowledge of Language

The Applied Learning Performance Standards

A1	Problem Solving
A2	Communication Tools and Techniques
A5	Tools and Techniques for Working With Others

New York City Science Scope & Sequence

7.1a, 7.1b

Human influences on the environment: positive influences.

7.1c, 7.2a, 7.2b, 7.2c

Human influences on the environment: negative influences.

7.3a, 7.3b

Human influences on the environment: decision making (risk/benefit).

ICT 5.2, IPS 1.1-1.4, IPS 2.1

Packaging and solid waste.

LE 3.2b, LE 7.1e, LE 7.2c,d, ICT 1.2, 1.4, 2.1-2.3, 4.1, 4.2, 5.1, 5.2, 6.1, 6.2, IPS 1.1-1.4, IPS 2.1

Environmental concerns: acquisition and depletion of resources; waste disposal; land use and urban growth; overpopulation; global warming; ozone depletion; acid rain; air pollution; water pollution; impact on other organisms.

LE 5.1d,e, LE 6.1 a,b

Classify populations of organisms as producers, consumers, or decomposers by the role they serve in the ecosystem (food chains and food web).

LE 6.1c, ICT 5.1, 5.2

Renewable and nonrenewable sources of materials.

LE 7.1a,b

Describe the way that humans: depend on their natural and constructed environment; have changed their environment over time.

LE 7.1b,c

Identify examples where human activity has had a beneficial or harmful effect on other organisms (e.g., deforestation).

LE 7.2b,c, LE 7.2d

Describe the way humans: depend on their natural and constructed environment; have changed their environment over time.

LE 7.2b,c, LE 7.2d

Identify examples where human activity has had a beneficial or harmful effect on other organisms (e.g., deforestation).

PS 3.1b,c

Observe and describe physical properties of objects using all of the appropriate senses: size, shape, texture, weight, color, etc. Determine whether objects are alike or different.

What Is Reduce, Reuse, and Recycle (RRR)?

Learning Standards

Activity 9: Teach NYC How to RRR

New York State Common Core Learning Standards for English Language Arts & Literacy

College and Career Readiness Anchor Standards for Writing

Subsections 1, 3	Text Types and Purposes
Subsections 4, 6	Production and Distribution of Writing
Subsection 10	Range of Writing
Subsection 11	Responding to Literature

College and Career Readiness Anchor Standards for Speaking and Listening

Subsections 1, 2, 3	Comprehension and Collaboration
Subsections 4, 5, 6	Presentation of Knowledge and Ideas

College and Career Readiness Anchor Standards for Language

Subsections 1, 2	Conventions of Standard English
Subsection 3	Knowledge of Language
Subsections 5, 6	Vocabulary Acquisition and Use

The Applied Learning Performance Standards

A1	Problem Solving
A2	Communication Tools and Techniques
A3	Information Tools and Techniques
A4	Learning and Self-management Tools and Techniques
A5	Tools and Techniques for Working With Others

New York City Science Scope & Sequence

7.1a, 7.1b

Human influences on the environment: positive influences.

7.1c, 7.2a, 7.2b, 7.2c

Human influences on the environment: negative influences.

7.3a, 7.3b

Human influences on the environment: decision making (risk/benefit).

ICT 5.2, IPS 1.1-1.4, IPS 2.1

Packaging and solid waste.

LE 3.2b, LE 7.1e, LE 7.2c,d, ICT 1.2, 1.4, 2.1-2.3, 4.1, 4.2, 5.1, 5.2, 6.1, 6.2, IPS 1.1-1.4, IPS 2.1

Environmental concerns: acquisition and depletion of resources; waste disposal; land use and urban growth; overpopulation; global warming; ozone depletion; acid rain; air pollution; water pollution; impact on other organisms.

LE 5.1d,e, LE 6.1 a,b

Classify populations of organisms as producers, consumers, or decomposers by the role they serve in the ecosystem (food chains and food web).

LE 6.1c, ICT 5.1, 5.2

Renewable and nonrenewable sources of materials.

LE 7.1a,b

Describe the way that humans: depend on their natural and constructed environment; have changed their environment over time.

LE 7.1b,c

Identify examples where human activity has had a beneficial or harmful effect on other organisms (e.g., deforestation).

LE 7.2b,c, LE 7.2d

Describe the way humans: depend on their natural and constructed environment; have changed their environment over time.

LE 7.2b,c, LE 7.2d

Identify examples where human activity has had a beneficial or harmful effect on other organisms (e.g., deforestation).

LE 7.2c,d, ICT 5.2, IPS 1.1-1.4, IPS 2.1

Water issues: depletion; pollution.

LE 7.2c,d, ICT 6.1, IPS 1.1-1.4, IPS 2.1

Environmental toxins: pesticides and herbicides; fertilizers; organic waste.

PS 3.1b,c

Observe and describe physical properties of objects using all of the appropriate senses: size, shape, texture, weight, color, etc. Determine whether objects are alike or different.

S1.1a,b,c

Formulate questions of scientific inquiry with the aid of references appropriate for guiding the search for explanations of everyday observations.

What Is Reduce, Reuse, and Recycle (RRR)?

Learning Standards

Activity 10: RRR Posters

New York State Common Core Learning Standards for English Language Arts & Literacy

College and Career Readiness Anchor Standards for Speaking and Listening

Subsection 2	Comprehension and Collaboration
Subsections 4, 5, 6	Presentation of Knowledge and Ideas

College and Career Readiness Anchor Standards for Language

Subsection 1	Conventions of Standard English
Subsection 5	Vocabulary Acquisition and Use

The Applied Learning Performance Standards

A2	Communication Tools and Techniques
A5	Tools and Techniques for Working With Others

New York City Science Scope & Sequence

7.1a, 7.1b

Human influences on the environment: positive influences.

7.1c, 7.2a, 7.2b, 7.2c

Human influences on the environment: negative influences.

7.3a, 7.3b

Human influences on the environment: decision making (risk/benefit).

ICT 5.2, IPS 1.1-1.4, IPS 2.1

Packaging and solid waste.

LE 3.2b, LE 7.1e, LE 7.2c,d, ICT 1.2, 1.4, 2.1-2.3, 4.1, 4.2, 5.1, 5.2, 6.1, 6.2, IPS 1.1-1.4, IPS 2.1

Environmental concerns: acquisition and depletion of resources; waste disposal; land use and urban growth; overpopulation; global warming; ozone depletion; acid rain; air pollution; water pollution; impact on other organisms.

LE 5.1d,e, LE 6.1 a,b

Classify populations of organisms as producers, consumers, or decomposers by the role they serve in the ecosystem (food chains and food web).

LE 6.1c, ICT 5.1, 5.2

Renewable and nonrenewable sources of materials.

LE 7.1a,b

Describe the way that humans: depend on their natural and constructed environment; have changed their environment over time.

LE 7.1b,c

Identify examples where human activity has had a beneficial or harmful effect on other organisms (e.g., deforestation).

LE 7.2b,c, LE 7.2d

Describe the way humans: depend on their natural and constructed environment; have changed their environment over time.

LE 7.2b,c, LE 7.2d

Identify examples where human activity has had a beneficial or harmful effect on other organisms (e.g., deforestation).

LE 7.2c,d, ICT 5.2, IPS 1.1-1.4, IPS 2.1

Water issues: depletion; pollution.

LE 7.2c,d, ICT 6.1, IPS 1.1-1.4, IPS 2.1

Environmental toxins: pesticides and herbicides; fertilizers; organic waste.

What Is Reduce, Reuse, and Recycle (RRR)?

Learning Standards

Activity 11: RRR Jeopardy

New York State Common Core Learning Standards for English Language Arts & Literacy

College and Career Readiness Anchor Standards for Writing

Subsection 2	Text Types and Purposes
Subsection 4,	Production and Distribution of Writing
Subsections 7, 9	Research to Build and Present Knowledge

College and Career Readiness Anchor Standards for Speaking and Listening

Subsections 1, 2	Comprehension and Collaboration
Subsection 6	Presentation of Knowledge and Ideas

College and Career Readiness Anchor Standards for Language

Subsections 1, 2	Conventions of Standard English
Subsection 3	Knowledge of Language
Subsection 6	Vocabulary Acquisition and Use

The Applied Learning Performance Standards

A1	Problem Solving
A2	Communication Tools and Techniques
A5	Tools and Techniques for Working With Others

New York City Science Scope & Sequence

ICT 5.2, IPS 1.1-1.4, IPS 2.1

Packaging and solid waste.

LE 3.2b, LE 7.1e, LE 7.2c,d, ICT 1.2, 1.4, 2.1-2.3, 4.1, 4.2, 5.1, 5.2, 6.1, 6.2, IPS 1.1-1.4, IPS 2.1

Environmental concerns: acquisition and depletion of resources; waste disposal; land use and urban growth; overpopulation; global warming; ozone depletion; acid rain; air pollution; water pollution; impact on other organisms.

LE 5.1d,e, LE 6.1 a,b

Classify populations of organisms as producers, consumers, or decomposers by the role they serve in the ecosystem (food chains and food web).

LE 6.1c, ICT 5.1, 5.2

Renewable and nonrenewable sources of materials.

LE 7.1a,b

Describe the way that humans: depend on their natural and constructed environment; have changed their environment over time.

LE 7.1b,c

Identify examples where human activity has had a beneficial or harmful effect on other organisms (e.g., deforestation).

LE 7.2b,c, LE 7.2d

Describe the way humans: depend on their natural and constructed environment; have changed their environment over time.

LE 7.2b,c, LE 7.2d

Identify examples where human activity has had a beneficial or harmful effect on other organisms (e.g., deforestation).

LE 7.2c,d, ICT 5.2, IPS 1.1-1.4, IPS 2.1

Water issues: depletion; pollution.

LE 7.2c,d, ICT 6.1, IPS 1.1-1.4, IPS 2.1

Environmental toxins: pesticides and herbicides; fertilizers; organic waste.

What Is Reduce, Reuse, and Recycle (RRR)?

Learning Standards

Activity 12: Developing an RRR Presence

New York State Common Core Learning Standards for English Language Arts & Literacy

College and Career Readiness Anchor Standards for Writing

Subsections 1, 2, 3	Text Types and Purposes
Subsections 4, 5, 6	Production and Distribution of Writing
Subsections 7, 8, 9	Research to Build and Present Knowledge
Subsection 10	Range of Writing
Subsection 11	Responding to Literature

College and Career Readiness Anchor Standards for Speaking and Listening

Subsections 1, 2, 3	Comprehension and Collaboration
Subsections 4, 5, 6	Presentation of Knowledge and Ideas

College and Career Readiness Anchor Standards for Language

Subsections 1, 2	Conventions of Standard English
Subsection 3	Knowledge of Language
Subsections 4, 5, 6	Vocabulary Acquisition and Use

The Applied Learning Performance Standards

A1	Problem Solving
A2	Communication Tools and Techniques
A3	Information Tools and Techniques
A4	Learning and Self-management Tools and Techniques
A5	Tools and Techniques for Working With Others

New York City Science Scope & Sequence

7.1a, 7.1b

Human influences on the environment: positive influences.

7.1c, 7.2a, 7.2b, 7.2c

Human influences on the environment: negative influences.

7.3a, 7.3b

Human influences on the environment: decision making (risk/benefit).

ICT 5.2, IPS 1.1-1.4, IPS 2.1

Packaging and solid waste.

LE 3.2b, LE 7.1e, LE 7.2c,d, ICT 1.2, 1.4, 2.1-2.3, 4.1, 4.2, 5.1, 5.2, 6.1, 6.2, IPS 1.1-1.4, IPS 2.1

Environmental concerns: acquisition and depletion of resources; waste disposal; land use and urban growth; overpopulation; global warming; ozone depletion; acid rain; air pollution; water pollution; impact on other organisms.

LE 5.1d,e, LE 6.1 a,b

Classify populations of organisms as producers, consumers, or decomposers by the role they serve in the ecosystem (food chains and food web).

LE 6.1c, ICT 5.1, 5.2

Renewable and nonrenewable sources of materials.

LE 7.1b,c

Identify examples where human activity has had a beneficial or harmful effect on other organisms (e.g., deforestation).

LE 7.2b,c, LE 7.2d

Describe the way humans: depend on their natural and constructed environment; have changed their environment over time.

LE 7.2b,c, LE 7.2d

Identify examples where human activity has had a beneficial or harmful effect on other organisms (e.g., deforestation).

LE 7.2c,d, ICT 6.1, IPS 1.1-1.4, IPS 2.1

Environmental toxins: pesticides and herbicides; fertilizers; organic waste.