

Talkin' Trash

Grades K-3 RETHINK GARBAGE

Introduction

This package explores the issues surrounding our garbage and what we do with it. The following activities give students the opportunity to challenge what we are currently doing with our waste and adopt new recycling and composting behaviours. This package includes in-class activities, take-it-home activities, and additional resources. This package may be used in its entirety or you may select activities based on your timeline or classroom needs.



Enjoy exploring garbage!

Activities included in the K-3 package:

- A. Garbage Dictionary: This activity introduces students to the key terms and concepts of waste management, including the 4 Rs. It also provides descriptions of the different components in the City of Ottawa's recycling program including the blue, black and green bins.
- B. Sorting Game: This activity encourages students to think about how much waste can be diverted from landfill by using the blue, black and green bins to recycle and compost.
- C. Graphing Garbage: Students will examine how their classes are reusing, recycling, and composting. They will collect garbage for one day and use tally systems track the results.

Please adapt the activities as necessary. Rethinking garbage is a task for all of us. These activities are only a beginning. Allowing students to 'rethink' the way they dispose of items now will impact the waste disposal decisions they make in the future.

Questions and Answers

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A. GARBAGE DICTIONARY

Teacher Notes:

This activity will introduce students to the key terms and concepts of waste management, including the 4 Rs: reduce, reuse, recycle and rethink.

Suggested Time Line: ~45 minutes

Activity:

This activity can be done as a group discussion in question and answer format. Use the black/white board to illustrate various concepts or write down answers.

Questions to ask students might include:

1. What do you do with things you do not want anymore?
2. What is garbage?
3. What is a landfill?
4. What is "hazardous waste"?
5. What are the 4 Rs?
 - a. What does it mean to "reduce"?
 - b. What does it mean to "reuse" something?
 - c. What is "recycling"?
 - i. What types of things are recyclable?
 - ii. What types of things are NOT recyclable?
6. What is composting?
 - a. What types of things are compostable? (Note: explore the differences between green bin composting and garden composting.)
 - b. What types of things are NOT compostable?
7. What does "Rethink Garbage" mean to you?

Talking Points:

Garbage

Garbage is the stuff we don't need any more. It comes from our homes, businesses, government agencies, and institutions like schools and hospitals.

Example: Talk about what was in your lunch bag today and have examples of tetra packs, zip lock bags, cellophane/cookie wrappers. Discuss how to dispose of them properly. Talk about food packaging and how to have a litter-less lunch.

Landfills

A landfill is a place where garbage trucks drop off all the bags they have collected on garbage day.

The problem with landfills:

- They contaminate soil, surface water, and water that is underground
- No one wants to live next a landfill
- Air pollution
- They destroy habitats and cost money
- The number of landfills is growing so the problems are increasing.

Hazardous Waste

Hazardous waste is anything that can easily catch fire, make you sick if you smell or eat it, or burn your skin. Examples include:

- barbecue starters
- camping propane cylinders
- disinfectants
- energy efficient light bulbs
- fluorescent light bulbs
- fire extinguishers
- furniture stripper
- fungicides
- herbicides
- insecticides
- pesticides
- mercury thermometers
- needles and syringes
- oil-based paints
- oven cleaner
- pool chemicals
- stains
- turpentine
- window cleaner
- wood preservatives

NOTE: You can also talk about E-waste (electronic waste) in this section. E-waste includes things such as iPods, computers, TVs, and cell phones.

These products are harsh and can cause a lot of damage to people and the environment. They pose a risk to garbage collectors when they pick them up. They **CANNOT** go into the garbage or recycling. These products have to be treated in a different way in order to dispose of them. The *City's Take it Back Program* lists lots of places where you can bring items that cannot go into the garbage.

Green Bin:

The green bin is part of our City's recycling program. It is used to collect your organic waste (food leftovers, leaves, banana peels, apple cores). When the organic waste from your green bin is picked up at the end of your driveway, it is sent to a big building where it is turned into compost. Composting can be thought of as recycling food. Compost is a soil that is used to grow fruits, vegetables and flowers.

If all the organic matter were put in the landfill rather than a green bin, the rich, nutritious soil would become contaminated with the chemicals that leach out of the plastics and other toxic things (like battery liquid) that some people irresponsibly throw away.

Talk about what **can** go in the green bin, for example:

- All leftover food scraps
- Candies, gum, peanut shells, cereals, egg shells
- Pet food and kitty litter
- Yard waste (leaves, sticks)
- Microwave popcorn bags

Talk about what **can't** go in the green bin:

- Plastics of any kind (not even 'compostable' plastic bags)
- Diapers

NOTE: for a full list of items that can go in the green bin see <http://www.greenbinottawa.ca/GreenBin101/What.aspx>

Blue Box:

The blue box is part of our City's recycling program. It is used to collect plastics, metals and glass. When these materials are picked up on your street, they are sent to a recycling facility and used for making new glass bottles, pop cans, plastic containers and more.

Talk about what **is** recyclable, for example:

- Bottles (e.g. shampoo, salad dressing)
- Jugs (e.g. empty windshield washer jugs, laundry detergent)
- Jars (e.g. peanut butter, mayonnaise)
- Tubs & lids (e.g. yogurt, margarine, sour cream)
- Tetra Paks (e.g. juice boxes)

NOTE: All items should be empty and rinsed.

Talk about what **is not** recyclable, for example:

- Clamshell containers (often used as packaging for products from the bakery)
- Plastic bags
- Small yogurt containers
- Clear/plastic egg cartons
- Styrofoam

NOTE: Plastic bags can be recycled – you can drop them off at your local *Metro* store

Black Box:

The black box is part of our City's recycling program. It is used to collect paper and cardboard. When these materials are picked up on your street, they are sent to a recycling facility and used for making newspapers and other recycled paper products.

Talk about what **is** recyclable, for example:

- Newspaper
- Fine paper (greeting cards, glossy paper, computer paper)
- Telephone books, magazines
- Cardboard (cereal box, shoe box)
- Construction paper

Talk about what **is not** recyclable, for example:

- Cereal and cracker box liners
- Chocolate bar and candy wrappings
- Plastic of any kind

Alternatives:

Talk about the alternatives, for example:

- Recycle plastic bags at stores that either collect or can use them (e.g. *Metro*)
- Choose products with less packaging
- Reusable bags and bins
- "Take it Back" program

Black, Blue or Green?

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B. SORTING GAME

Teacher Notes:

This activity will make students think about how much waste can be diverted from landfill by using the blue, black and green bins to recycle and compost.

Suggested Time Line: ~45 minutes

Materials:

- Black box, Blue box, Green bin, Garbage
- Various recyclables and compostables (chicken bones, aluminum can, plastic container, leaves, glass bottle, egg shells, banana peel, newspaper, cardboard and “trick” items, such as pizza box, plastic bags, other unrecyclable plastics, Styrofoam)
 - NOTE: Cards with pictures of recyclables and compostables can be used if preferred

Activity:

Adapt this game to different age groups. For example, you might:

Do this activity outside or in a gymnasium. Use the class as a whole or break the class into groups.

Hold up one item/card at a time and ask students/groups to assign it to the correct area by standing/sending a representative to stand next to the appropriate bin. Be sure to have some of the more “tricky” items to really get students thinking. (Students/groups who answer incorrectly will have to run from X to X.)

Talk about everyday waste produced at home and at school and what students can do to divert more waste from the landfill.

Follow-up Discussions:

1. Who is responsible for how much garbage goes to the landfill sites?
2. Are there ways you can reduce how much garbage we create?
3. What did you learn from completing the Sorting Game?

Classroom Extensions:

1. Encourage students to recycle and compost at home. Students can challenge their parents to play the sorting game.
2. Students can make signs to put up around the school near garbage cans and recycling bins. They can also take their signs home to help their parents sort garbage, recycling and composting properly.

Additional Resources:

1. www.ottawa.ca/greenbin
2. www.ottawa.ca/recycling

In Your Own Backyard - Classroom Audit

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C. GRAPHING GARBAGE

Teacher Notes:

Students will have a chance to examine how their class is reusing, recycling, and composting. They will collect garbage for one day and use a tally system to keep track of it. Depending on the grade level, they can graph what they collect and/or calculate the percentage of the items that were garbage and those that could be reduced, reused, recycled, or composted.

Suggested Time Line: 1 day for collection of data and 30-45 minutes (for discussion)

Materials:

- 1 black box for paper
- 1 blue box for glass/plastic/metal
- 1 bin for items that can be reused
- 1 bin for compost (green bin, if available)
- 1 garbage can
- Chart paper, coloured pencils, markers, etc.

Activity:

1. To prepare for the garbage collection you will need some recycling bins and some boxes with labels on them to make it easier for students to divide their garbage. If these are set up at the beginning of the day, students can start to follow the system first thing in the morning. Containers should be labelled for:
 - Paper
 - Cans/plastic
 - Compost
 - Items that can be reused
 - Garbage (can't be recycled, composted, or reused)
2. Put a tally sheet on each box so every time students throw something out, they can put a tally on the sheet that is attached to the appropriate box. This keeps track as you go and means that the students don't have to sift through garbage at the end of the day.
3. At the end of the day the class can:
 - a. Take the information they collected from the tally sheets to mathematically or graphically represent how many items were in each box (adapt to suit your students and your teaching plan).
 - b. Examine the class results and discuss the implications of not recycling.
 - c. Talk about the "life cycle" of various recyclables (i.e., where will the paper/metal/plastic go and what will become of it?)
4. Students could share their results with other classes participating in this exercise.

Follow-up Questions:

1. Could our class do better?
2. How are you doing in each of the 4 Rs (reduce, reuse, recycle, rethink)?
3. Were there any items in the wrong bin?
4. What do you think about separating garbage this way?
5. Was it difficult? How could you make it easier?
6. Did you have to think about it?
7. Were there any bins that were overflowing?
8. What happens when the landfill overflows?
9. Did the garbage smell?
10. How did the people sitting close to it feel?
11. What would it be like to live near a landfill? For humans? For animals?
12. Are there any items that you recycle at home that can't be recycled at school?
13. List three to five items that you could reduce or eliminate so that there is less waste.

Classroom Extensions:

1. The class could follow this system for a week and chart their progress each day on a graph.
2. The school could have a garbage graphing week where each class participates in garbage separation and graphing. The classes could post and compare the statistics.
3. Apply this tally system in conjunction with a school yard/public park clean up. Discuss the results and ways to eliminate litter.