

Beluga Whale

Trash Talk Inspiration

Beluga whales are an important part of the health, culture and economy of the NWT. Beluga meat and blubber (muktuk) is part of the traditional diet of the Inuvialuit. In the community of Tuktoyaktuk, there is a spring festival called the Beluga Jamboree! Like many whales in the ocean, the beluga is sensitive to trash and contaminants that enter our waterways. Keeping litter out of the environment will make your community look good and keep the beluga safe!

 SMART Board / Promixa Ready

 Northern Resources

Gr.7 Rethinking Waste

TRASH TALK

OBJECTIVE : Students will learn about different types of waste and how waste is being managed in the NWT and their community.

How much waste do you produce? What kind of waste? Is there a way to waste less? Trash has a big impact on the planet, but once you start paying attention to how much you throw away, you can make a big impact, too — for the better! There are many hands-on activities that can help students learn how to make a difference in their community and improve their knowledge of waste, including why waste needs to be properly managed.

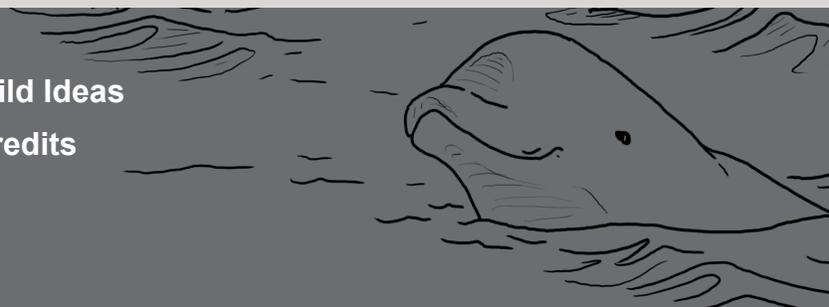
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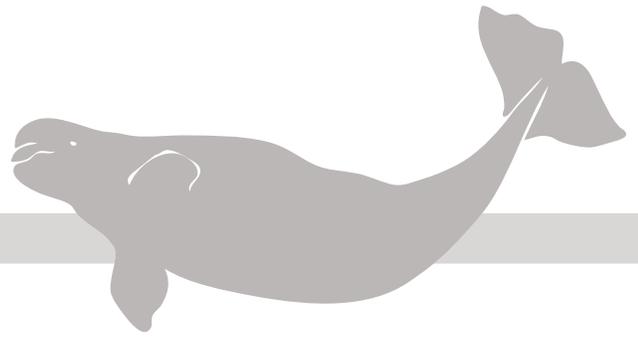
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CURRICULUM Links



Grade 7 Science

Part A: Interactions and Ecosystems: Outcomes 1,2,3,4

Part B: Plants for Food and Life: Outcomes 1,2,3,4

Grade 7 Social Studies

Attitudes (embedded throughout), Geography of the Circumpolar World, Changes in the Circumpolar World, Current Events

Grade 7 English Language Arts

General Outcome #1: Specific Outcomes: 2.2, 2.4

General Outcome #2: Specific Outcomes: 1.1, 1.2, 2.2

General Outcome #3: Specific Outcomes: 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3, 2.4

General Outcome #4: Specific Outcomes: 4.3

General Outcome #5: Specific Outcomes: 2.3

Dene Kede

Part 2: Fish Camp

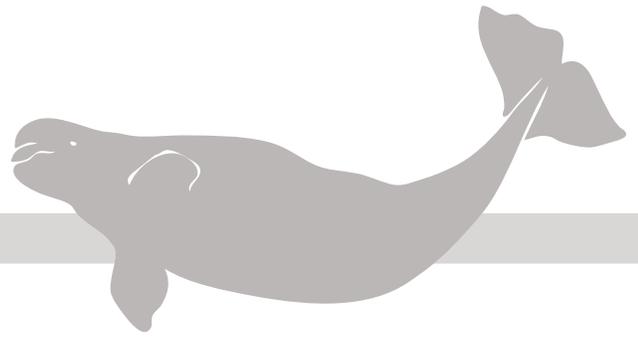
Part 4: My People, My Identity

Innuqatigiit

Relationship to the Environment Themes:

Land, Water, Whales

TEACHER'S Resources



Videos

Wake-up Call (6:00)

<http://www.gaiafoundation.org/wakeupcall/>

The Story of Stuff (21:30)

www.storyofstuff.org/movies/story-of-stuff

Loop Scoops - Garbage (2:00)

https://www.youtube.com/watch?v=5c5cnM_TdHw&list=PL477209BE4C0609E8&index=3

An Introduction to the Waste-Free Lunch Challenge (3:00)

<http://www.wastefreelunch.com/videos>

The Landfill Harmonic (3:30)

<http://vimeo.com/52711779>

So You Want to Start a Beverage Container Depot? (9:00)

<http://icarenwt.ca/beverage-container-program/interested-becoming-depot-operator/instructional-videos>

Change the World in 5 Minutes (4:30)

<https://www.youtube.com/watch?v=oROsbaxWH0M>

Handouts and Websites

Waste Quiz

http://www.ecokids.ca/pub/eco_info/topics/waste/quiz/play_wastequiz.cfm

Waste Busters

http://www.ecokids.ca/pub/games_activities/waste/wastebusters/quiz_1.cfm

Beverage Container Program Info Poster

<http://icarenwt.ca/beverage-container-program/promotional-materials>

Intro to Garbage

<http://www.naturebridge.org/garbology.php>

GNWT Website

<http://icarenwt.ca/>

Information about current programs and environmental resources.

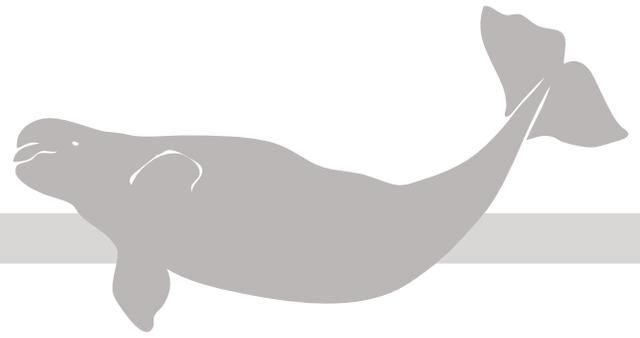
GNWT Hazardous Waste Info

<http://www.enr.gov.nt.ca/programs/hazardous-waste>

Waste Reduction Week Canada

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

LESSON Plans



Lesson 1: What is Waste?

45 minutes.

In their **Rethink Waste Journals** (see page 9), have students make a mind map detailing what waste is to them. Then ask, *what is waste to a bear?* In nature, there is no such thing as “waste” because materials that die decompose. In nature, waste = food. If there is no such thing as waste in nature, *why do humans have garbage collection, landfills and hazardous waste?* Garbage is something that humans have created by producing products that are made of components that are not reusable or do not biodegrade. Waste is also a cultural conception – what is waste or garbage to you may not be to someone else.

The Story of Stuff (21:30)

Today, a lot of waste is a result of consumerism. We are encouraged to buy a lot of stuff, throw it away and buy more stuff, so that companies can make more money.

In Canada, almost 35 million tonnes of waste is produced per year, which comes out to 835 kg per person per year (Stats Canada, 2006). In the NWT, we produce approximately 49,000 tonnes of waste per year, which is approximately 1,870 kg per person, per year (Arktis Solutions, 2010-11). Write these statistics on the board to help with the discussion.

Discussion Questions

- *Did the **Story of Stuff** video surprise anyone?*
- *What is wrong with waste?*
- *Why would we want to reduce how much we waste in our community?* Protect our environment, preserve resources so we can use them again, reduce energy use for producing new products...

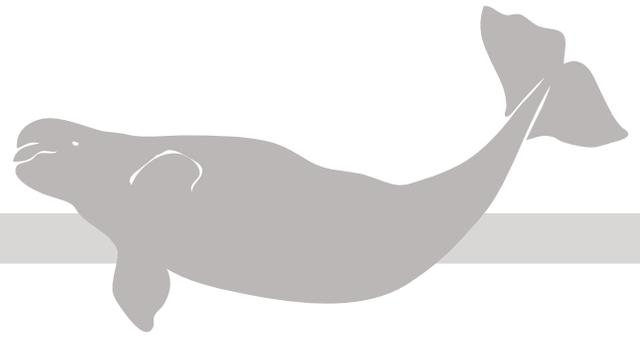
Do students remember The Three R's? Reduce, reuse and recycle! Waste is managed through the waste hierarchy, with the best thing to do at the top and the last resort at the bottom.

 Draw the waste hierarchy on the board or chart paper and have students call out examples for each category. Here are some examples they might come up with:

1. **Reduce:** bring a reusable bag to the store so you don't have to use a throw-away one, ask yourself if you really need something before buying it...
2. **Reuse:** wash out an old yogurt container and use it for leftovers, repurpose items in arts and crafts projects...
3. **Recycle:** bring your beverage containers to the depot...
4. **Recover:** pick up litter or clean up old garbage from your camp or a community dump, recover electronic waste and recycle it properly...
5. **Disposal:** plastic packaging usually has to be thrown in the garbage, but if you've followed Step 1, you should have less plastic to dispose of...



LESSON Plans



Lesson 2: Litter on our Land!

30 – 90 minutes, depending on where your litter location is. This activity is best done in the spring.

Before we can learn more about ways to reduce and divert our waste, we need to understand what our waste is composed of. Ask students what types of waste they think are the biggest parts of their garbage. Display the Waste Stream Composition pie chart on the following page, read the introduction text out loud and go over what categories make up the biggest part of our waste. Have students fill out question 6 in their Rethink Waste Journal. Did any of the categories on the Yellowknife Waste Stream Composition surprise them?. Do they think this will match the types of garbage the school produces? What about on a litter pick-up around the community?

 Do a waste composition study of the litter in your community and investigate what people are throwing away.

You'll need

- Garbage bags, recycling bags and a pair of gloves for every student, you can contact the municipality or band and see if they will help support a litter collection event and pay for the materials.
- Scale for weighing items
- **Litter on our Land** tracking sheet



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Steps

1. Choose a place you know needs some cleaning up. Tell students that we are conducting a composition study of the litter in our community, so they should try and pick up everything they can so long as it's safe to do so (no needles or sharp objects).
2. Distribute cleanup materials and spend a set amount of time (e.g., 30 minutes) picking up litter.
3. Back at school, count how many bags you filled and inspect one of the bags by dumping its contents out onto a tarp.
4. Have students sort the materials into categories (organics, paper products, plastics, recyclables, cigarettes, Styrofoam, other) and then record the weights for each category

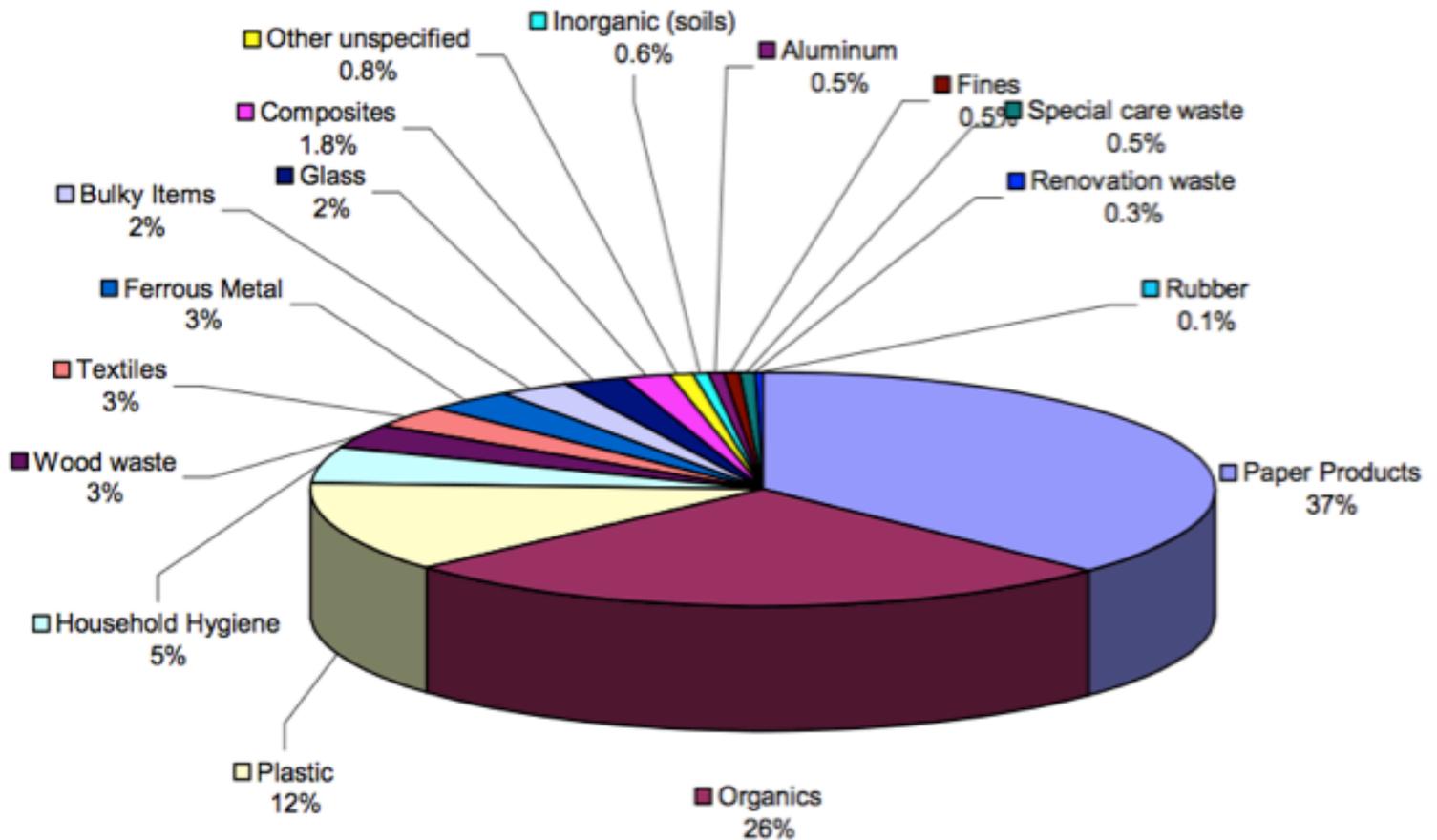
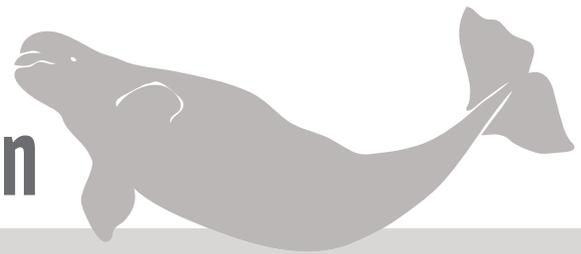
Communicate the Results

Have students make individual posters or a class mural that communicates the ratio of materials they picked up. They can take bits of waste from each category and paste it on their poster. Display in the school hallway or somewhere in the community.

What are some of the ways that the litter documented in your class posters or mural could have been avoided? Add informative labels to the posters or mural. For example, a pop can could have an arrow pointing to it saying "I could have been taken in for a refund" and a piece of paper could have a sign saying "I could have been used on both sides."

Before we can learn more about ways to reduce and divert our waste, we need to understand what our waste is composed of. Ask students what types of waste they think are the biggest parts of their garbage. Display the **Waste Composition** pie chart below and discuss the categories. *Does this match the types of garbage the school produces? What about on a litter pick-up around the community?*

WASTE Stream Composition



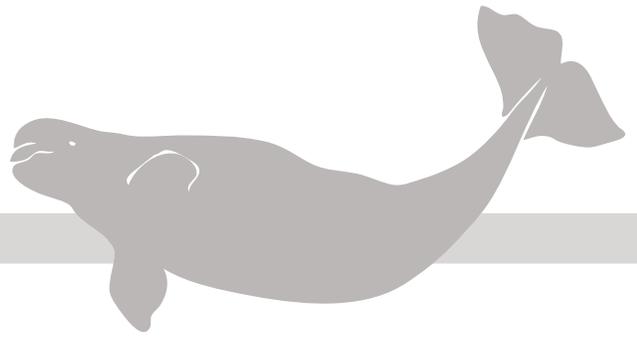
Composition of the Yellowknife Solid Waste Stream on a Mass Basis (Gartner Lee Ltd. 2007).



The City of Yellowknife conducted a Solid Waste Composition Study (by Gartner Lee Ltd.) in 2007, which found that the largest portion of waste in the Yellowknife landfill was paper products (37%) and organics (26%), followed by plastics (12%). Your community may have a slightly different **waste**

stream composition depending on the size of the community, demographics and diversion opportunities. Many northern communities have a lot of cardboard and plastic waste from packaging for materials that have to be shipped long distances.

RETHINKING our Waste!



One class period.

RETHINKING Waste Journal

Provide each student with a copy of this Journal.

Ask your class, *does anyone know what “waste diversion” means?* In Canada, 7.75 million tonnes of waste is diverted from landfills, a 22% diversion rate. The NWT doesn’t have a calculated diversion rate because we have fewer opportunities for recycling. But, together, we are changing this! Let’s learn more.

Investigating Waste Diversion online

In a computer lab, have students explore

Garbology

An interactive introduction to garbage and waste diversion opportunities

Waste Busters

Test your knowledge on waste

Waste Eco-Quiz

Test your knowledge on waste diversion

Wake up Call

Not all the waste diversion options that are available to people in the larger cities are available in the Northwest Territories. *Can students think of opportunities to divert waste in their community?* Write them on the board. The Government of the Northwest Territories has four programs dedicated to helping residents divert waste.

ICareNWT

Here you can learn about the Beverage Container Program, the Single-Use Retail Bag Program, the Electronics Recycling Pilot Project and the Waste Reduction and Recycling Initiative.

Explore NWT Waste Diversion Opportunities

This activity will require some teacher preparation - review the props on each Station Manager’s card and have them ready to hand out or set up at spots in the room. For this activity, nominate three students to be program managers. Assign each student a station with materials and information cards. While they are learning about their station, have the other students review question 8 in their Rethink Waste Journals; they will use this activity to complete it. Divide students into three groups. Once the program managers are ready, let the other students cycle through their stations to answer their questions.



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BEVERAGE Container Recycling in the NWT

Cut out the following cards and photos to give to your station managers:

Station 1. Beverage Container Program

You are the Beverage Container Program Manager in your community!

Props you should have at your station: Station Number 1 sign, Beverage Container poster or handouts (from icare.nwt.ca), “depot manager” hat, aluminum can, plastic flower pot, cardboard box, photo of fiberglass insulation

Tell this to classmates who visit your station:

“The Beverage Container Program started in 2005 and provides a refund for all ready-to-serve beverage containers. To date, over 202 million beverage containers have been returned, which represents a recovery rate of 82%. We have recycled enough aluminum to build 379 Twin Otters!”

Beverage Container Recycling in the NWT

“The Beverage Container Program started in 2005 and provides a refund for all ready-to-serve beverage containers. To date, over 202 million beverage containers have been returned, which represents a recovery rate of 82%. We have recycled enough aluminum to build 379 Twin Otters!”

Type of Container	Where it Goes	How it is Recycled
Aluminum can	US markets	Densified and sold for reuse
Plastic bottles	Merlin Plastics in Calgary	Baled and sold to be downcycled into plastic containers, etc.
Multi-material containers (ex. Tetrapaks)	Michigan along with Alberta containers	Recycled into other products, like cardboard boxes
Non-refillable glass	Airdrie	Recycled into fiberglass insulation
Bi-metal containers (tin cans)	Shipped to Alberta	Rebar and car parts

BEVERAGE Container Recycling in the NWT

Station 2. Single-Use Retail Bag Program Manager

You are the Single-Use Retail Bag Program Manager in your community!

“Start a Bag Habit” poster, plastic bags, Northern Store employee tag, reusable bags

Tell this to classmates who visit your station:

“The Single-Use Retail Bag Program began in 2010 and has prevented the use of almost 20 million plastic bags in the NWT! That is a 75% reduction in the use of single-use retail bags. If these were laid in a line, the line would stretch from Inuvik to South America! Did you know that plastic bags are the number one shoreline litter item?”

Station 3: Electronics Recycling Pilot Project

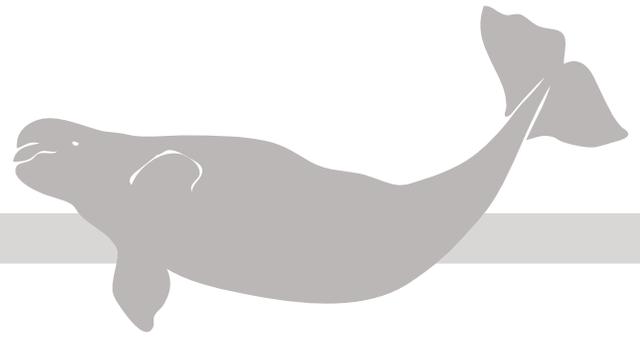
You are the Electronics Recycling Pilot Project Manager in your community!

Props you should have at your station: Photo of Fort Smith e-waste pile, lab coat, disassembled electronic device, photo from the Prince of Wales Northern Heritage Centre. Start a Bag Habit” poster, plastic bags, Northern Store employee tag, reusable bags

Tell this to classmates who visit your station:

“The Electronics Recycling Pilot Project began in 2013 in Fort McPherson, Norman Wells, Fort Smith and Fort Providence. Electronic waste (or e-waste) includes TVs, cell phones, computers and laptops; e-waste is the fastest growing waste stream in Canada. It is important to properly recycle e-waste because it contains hazardous chemicals, heavy metals and also precious metals (gold, silver and copper) that can be recovered. Many communities have begun to collect electronic waste. Once there is enough material, it will be shipped to Shanked Computer Recycling in Edmonton where the components will be shaken apart and properly disposed of— screens that contain lead will be safely discarded, gold and rare earth metals will be captured and reused in new electronics.”

WILD Ideas



Recycling Relay!

Divide the class into two teams. Arrange posters/sheets/bins with the category name on them along one wall. Collect two bags of mixed “garbage” and empty one bag in front of each team. Categories of garbage can include: paper, glass, cans, electronic waste, plastic, mixed paper and cardboard.

Rules: Every person on each team takes their turn as the “runner.” The “runners” can only take one item at a time and must run to the blue boxes/bins, put the garbage in the right spot, run back and slap the hand of the next player before the next player can go. The team that makes it through their pile first wins. Then, all players have to look through the bins and make sure all the recyclables have been sorted correctly.

Tour the Landfill

Take a field trip to your local dump or landfill. Before you go, contact the landfill operator to ask permission and organize a time for a tour. As a class, brainstorm some questions to ask the landfill staff. After your visit, discuss ways you can help reduce the amount of material going to the landfill.

Some questions to consider: *Does your community encourage backyard composting? Do you collect hazardous waste and e-waste? Is there a way you can encourage more participation in the GNWT diversion programs? What can be done within your school, home and community?*

Trash to Treasure

Hold a contest to see who can make the most creative piece of art from something recovered!

[Great Canadian Shoreline Cleanup](#)

Download lesson and activity ideas for Grade 7s.

The Great Canadian Shoreline Cleanup, presented by Loblaw Companies Limited and a joint conservation initiative of Vancouver Aquarium and WWF, promotes an understanding of shoreline litter issues by engaging Canadians to rehabilitate shoreline areas in their communities through cleanups. A national cleanup takes place every September, engaging tens of thousands Canadians in every province and territory. A schools cleanup takes place every May, providing the perfect opportunity for teachers and students of all ages to get their gloves dirty, their feet wet and make our aquatic ecosystems cleaner, healthier and safer for all living things.

Freecycle Event

[City of Yellowknife Curbside Giveaway Weekend](#)

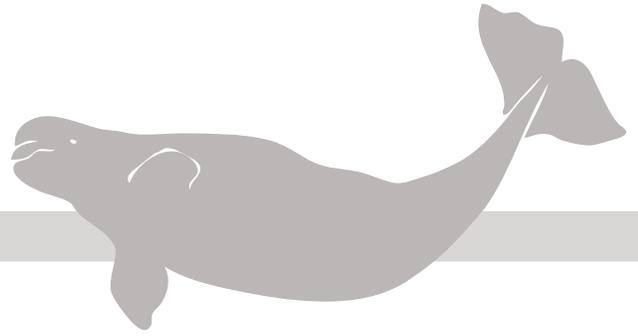
Organize a weekend-long event in your community (with the approval of your town or hamlet council), where the entire community is encouraged to put gently used items on the curb. One person’s trash is another person’s treasure!

Organize a community cleanup

[City of Yellowknife Spring Clean-Up](#)

As a class, organize a cleanup of your community. Check out the City of Yellowknife’s website for some “before and after” inspiration!

URLS



Some hyperlinks have been embedded throughout the **Rethinking Waste** resource. If a link appears to be broken, try visiting the homepage or keying in the URL as it's written below.

Dene Kede curriculum

<http://www.ece.gov.nt.ca/early-childhood-and-school-services/school-services/curriculum-k-12/aboriginal-languages#dene-kede-grade-7>

Innuqatigiit curriculum

<http://www.ece.gov.nt.ca/early-childhood-and-school-services/school-services/curriculum-k-12/aboriginal-languages#innuqatigiit>

The Story of Stuff

<http://storyofstuff.org/movies/story-of-stuff/>

Garbology quiz

<http://www.naturebridge.org/garbology.php>

Waste Busters test

http://www.ecokids.ca/pub/games_activities/waste/wastebusters/quiz_1.cfm

Waste eco-quiz

http://www.ecokids.ca/pub/eco_info/topics/waste/quiz/play_wastequiz.cfm

Wake-up Call video

<http://www.gaiafoundation.org/wakeupcall/>

Freecycle event example

http://www.yellowknife.ca/City_Hall/Departments/CommunityServices/Programs_Facilities/SpecialEventsCalendar/CurbsideGiveawayWeekend.html

Spring cleanup photos

http://www.yellowknife.ca/City_Hall/Departments/CommunityServices/Programs_Facilities/SpecialEventsCalendar/SpringCleanUp.html

Great Canadian Shoreline Cleanup

<http://schools.wwf.ca/Lessons/Grade7/97>



ECOLOGY NORTH



WWF is Canada's largest international conservation organization, working to build a future where people live in harmony with nature. The Schools for a Living Planet program empowers educators and students of all ages with the tools they need to lead us into a sustainable future. Schools for a Living Planet is grounded in the principles that make WWF a global success - including strong science and a focus on solutions.

Ecology North is a charitable, non-profit organization that has engaged Northerners in hands-on learning opportunities in the Northwest Territories since 1971.



This project was made possible with the financial support of CIBC. For more information, visit www.cibc.com.

WWF-Canada and Ecology North would like to thank the classroom teachers across the Northwest Territories who contributed many of the ideas presented here, especially Charla Martinuk, Shawn Mosey and Holly Norris. Guidance was also provided by Ecology North Education Committee member Tasha Stephenson. This resource is available as a free download from WWF Canada Schools for a Living Planet. Visit schools.wwf.ca. © 1986 Panda symbol WWF-World Wide Fund For Nature (also known as World Wildlife Fund). ® "WWF" is a WWF Registered Trademark.