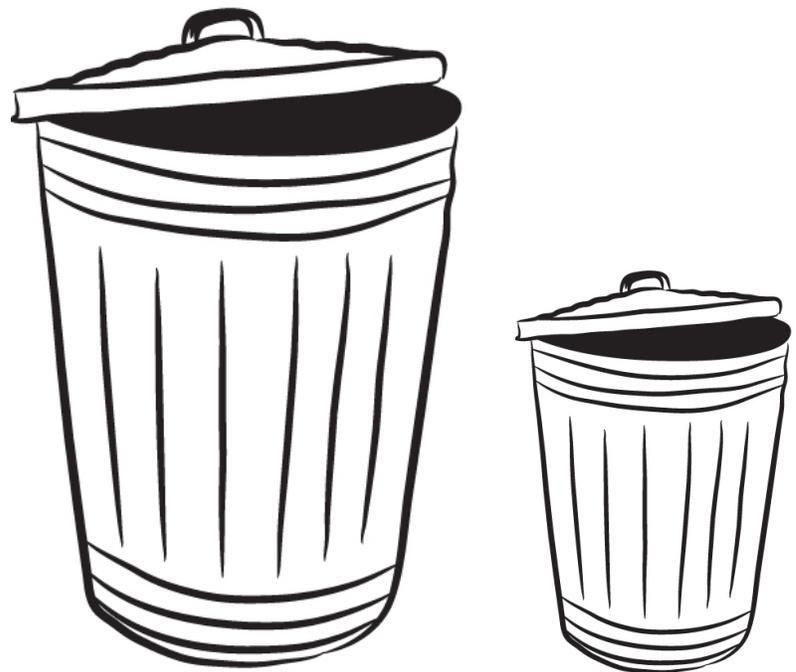


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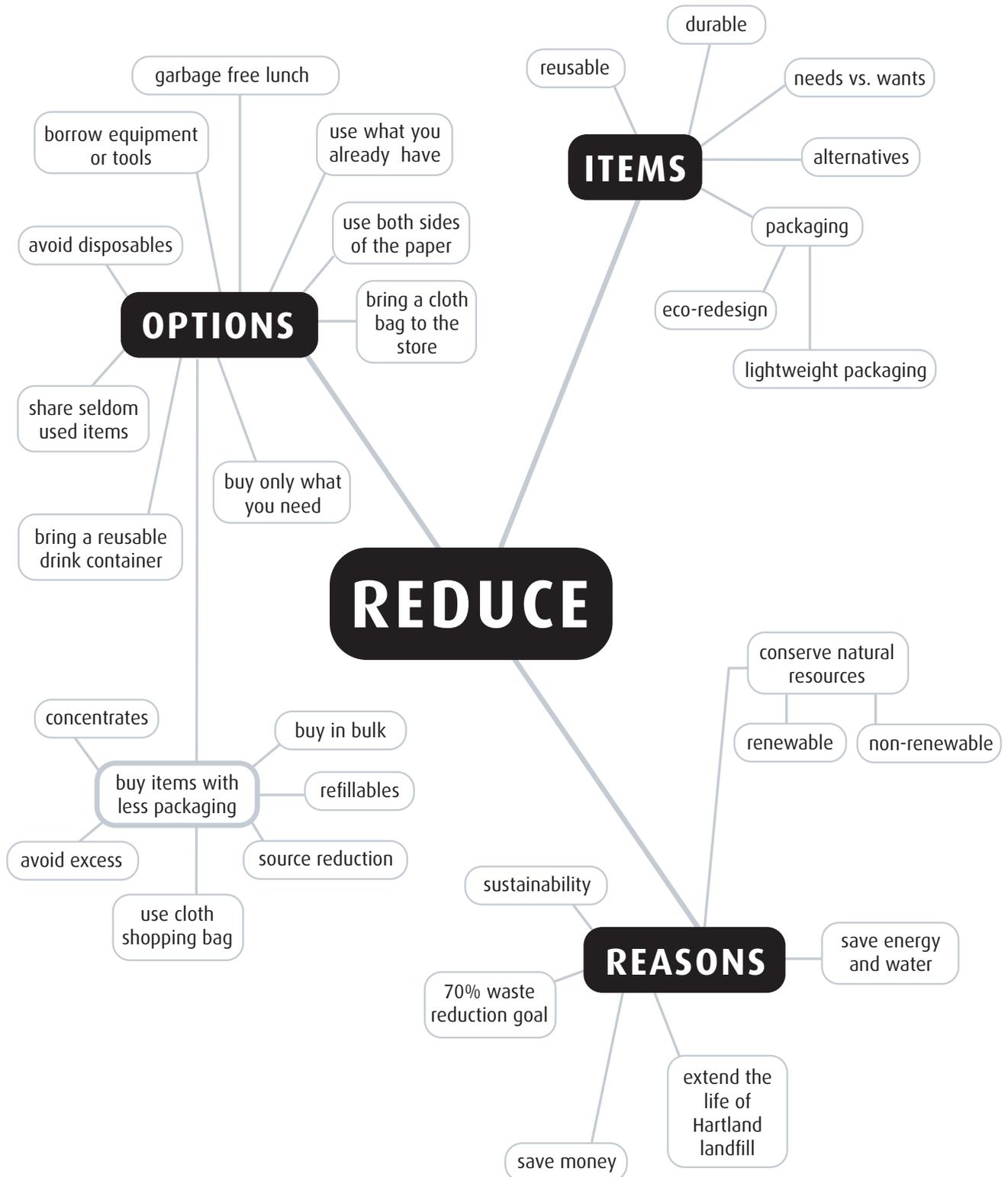
Making a difference...together

Reduce



Reduce. Reuse. Recycle.

Reduce Webbing



*"There are two ways to get enough: one is to accumulate more, the other is to desire less."
(C.K. Chesterton)*

Source reduction or waste prevention is often used to refer to "reduce", the first and most important R of the 3R hierarchy. In simple terms, any of these concepts refer to not producing garbage in the first place. Reduce means cutting down on unnecessary or shortlived purchases or packaging. Source reduction is a term used in manufacturing and it often starts before any products are produced. It includes the elimination of packaging or reducing the weight, volume or toxicity of the packaging. If garbage is not produced, less resources are used, and less money is spent, to recycle or dispose of the waste.

Reduce can refer to:

- Avoiding or not purchasing a product at all;
- Reducing the amount of material used to accomplish a task; or,
- Using repairable, durable or refillable products that have a longer life span.

Examples include:

- Asking yourself, "Do I really need this?" when shopping.
- Using both sides of the paper when printing or photocopying, instead of just one side.
- Calculating the exact amount of paint you need to paint your room. If half a gallon of paint will do the job, buy half a gallon instead of a gallon.
- Using the library, or downloading ebooks, instead of buying new books.
- Using reusable drink container instead of buying numerous disposable ones.

Individual actions can make a tremendous difference when it comes to the amount of garbage produced in the capital region. By asking key questions at critical times, we can reduce the waste we make.

Key questions include:

1. Do I need this?
2. Is the item overpackaged?
3. Can it be purchased in bulk?
4. Is it reusable?
5. Can I purchase this item second hand?
6. Can I share it with someone?
7. Can I borrow it from someone?
8. Can I give it away to someone?
9. Can a similar item I own be repaired?
10. What will I do with it when it is no longer useful to me?
11. Is there another option made from renewable resources?

- discuss the different kinds of bags used for shopping
- discuss the various uses for each type of bag
- understand the impact reusing shopping bags can have on our household waste
- become aware of local recycling opportunities for plastic bags

IRP outcomes

It is expected that students will:

[SS] Describe and demonstrate responsible behaviour to local environments (K-3)

[PP] Relate consequences to actions and decisions (K-1)

[SC] Describe ways to rethink, refuse, reduce, reuse and recycle (K)

Bag It! (K-3)

Intro: Each week Canadians take home 55 million plastic bags. Reusing plastic bags or taking your own cloth bag on shopping trips will not only reduce the number of plastic bags you have in your house, but will also save resources. You may even save money. Some grocery stores will subtract a few cents off your total bill if you use your own shopping bag instead of taking your groceries home in plastic or paper bags.

Reusable shopping bags can carry environmental messages or they can be as individual as the artists that create them.

Materials:

- fabric paints
- cloth bags
 - have students bring their own bag or reuse old T-shirts and/or pillowcases. For examples, search “DIY T-shirt bag” online e.g. <http://en.paperblog.com/diy-t-shirt-bag-266376/>

Did you know?



The CRD conducts Solid Waste Stream Composition Studies every five years.

Discover the estimated weight of plastic bags landfilled at Hartland:

<https://www.crd.bc.ca/service/waste-recycling/solid-waste-management>

Chris Jordan’s interactive art *Running the Numbers II: Venus 2009* depicts plastic bags used around the world every ten seconds.

www.chrisjordan.com/gallery/rtn2/#venus

Activity: Discuss all the possibilities for reusing a paper or plastic bag from the grocery store. How long do they usually last before they fall apart? What happens to them after they are reused a few times? What options exist for not using a plastic or paper bag (e.g. basket, cloth bag, backpack)?

Students will create and decorate their own shopping bag. They can use this bag when grocery shopping with their family. Students can think about appropriate pictures (e.g. food, earth, environmental logos) and/or create a slogan or environmental message.

Students can create their designs with fabric paints or markers. Start on one side of the bag. Ensure a piece of cardboard or some other strong, flat material is placed in the bag to prevent the paint from going through to the other side. Once dry, decorate the other side.

Conclusion/Discussion: How will this new bag help to create less waste? What are other ways for reusing the paper or plastic bags that you already have at home? E.g. use paper bags for empty toilet rolls and knit or crochet plastic grocery bags into a more durable bag.

Extension Activities: ■ Take the Plastic Bag Pledge at www.crd.bc.ca/recycle. ■ Participate in the Earth Day Groceries Project www.earthdaybags.org. ■ Take action and get involved in local Earth Day events. Visit the Earth Day Canada website at www.earthday.ca.

- discuss different kinds of packaging (paper, plastic, Styrofoam, etc.) and its various functions
- determine what 3R options are locally available for various packaging

All Wrapped Up! (2-3)

IRP outcomes

It is expected that students will:

[SS] Describe how technology affects individuals and schools as consumers (2)

[SS] Describe and demonstrate their responsibility to local and global environments (2-3)

[SS] Apply critical thinking skills- including predicting, imagining, comparing- to selected issues (3)

[SS] Select a solution to a problem (2)

[PP] Describe a problem-solving model (2-3)

[SC] Infer the probable outcome of a behaviour based on observations (2)

[SC] Measure objects (3)

[LA] Use speaking and listening to interact for the purpose of exchanging ideas making connections and completing tasks (2-3)

Intro: Of the 7,000 items in the grocery store, about 3,000 are wrapped in packaging that ends up in the garbage. Packaging makes up about twenty percent of our household waste. Not only is excessive packaging a problem for the landfill, it often affects the pocketbook. Individually wrapped portions of cheese and single serving juice containers are generally two to four times more expensive than the bulk options.

Materials:

- various packaging materials
- one product packaged three different ways

Activity: Bring in an assortment of clean, empty food packaging or other product packaging. Have students sort them in a variety of ways. Look at colour, texture, size, weight and durability.

Next, show the students the various types of packaging used for the same item. For example: cookies, drinks, sugar and popcorn can be packaged a variety of ways. Varieties include bulk, concentrate, box, glass, aluminum, tin, plastic and mixed materials. Ask the students which one they would buy? Why? Does the food need packaging? Why? How much packaging does it need? Do any of the examples demonstrate excessive packaging? Why do some companies package their item in more than one type of packaging or in packaging that is significantly bigger than the item it contains? Which type of packaging produces the most garbage? Which type of packaging minimizes waste? Which type of packaging enables consumers to reuse it? What is the price difference of the various types of packaging? Do you pay more for convenience? Why?

Conclusion/Discussion: So how do you know which one to buy? What do you need to think about before purchasing something at the store? Make a criteria list. For example: health, containment, safety, 3R hierarchy, amount of garbage produced and cost. Encourage the students to apply this criteria to products they consider purchasing on their next shopping trip.

Extension Activities: ■ Take a tour of a grocery store and compare items that are packaged in various ways. ■ Book a workshop and tour at Hartland landfill and/or download supplementary lessons at www.crd.bc.ca/teacher. ■ Determine what packaging can be recycled and where, visit www.myrecyclopedia.ca and www.crd.bc.ca/recycle or contact the CRD Hotline at 250.360.3030 or hotline@crd.bc.ca.

- develop an understanding of the waste reduction initiatives in place at your school
- consider additional reduce initiatives for your school

What's Happening Here? (2-3)

IRP outcomes

It is expected that students will:

[SS] Describe how technology affects individuals and schools as consumers (2)

[SS] Describe work done in the school (2)

[SC] Ask questions that foster investigations and explorations relevant to the content (3)

[SC] Infer probable outcome of an event or behaviour based on observation (2)

[SC] Measure objects and events (3)

[LA] Use speaking and listening to interact with others for the purposes of contributing to a class goal, sharing ideas and opinions, making connections, solving problems and completing tasks (2-3)

Intro: Understanding what currently takes place, either at school, at home or at work, is the first step to improving any waste reduction program. In addition, for any new initiatives to be successful, all potential program participants should be consulted. This feedback helps to identify any difficulties and it allows any possible solutions to be thought out prior to the full-scale implementation of any adopted initiatives.

Materials:

- copy of problem-solving model student worksheet (attached)

Activity: Ask the students what program, initiatives or activities are in place at your school to reduce garbage. How can your class do more to help? Seek the feedback from others and begin with a list of people that work in your school. Next, have the students choose a school person to interview. Partner the students. Each group will need to generate four interview questions. The questions must focus on finding out how garbage is reduced and what their opinions are on how garbage could be further reduced. Discuss what information they need to collect and decide if the questions they develop will get them the response they are looking for. Determine how they will record the information.

Conclusion/Discussion: After all interviews are complete, each group will share one idea from their interview with the class. Using a problem solving model, such as the one provided, chart the ideas. Look at the pros and cons of each idea to formulate the best possible solution based on the criteria.

Extension Activities: ■ Decide whether to implement the best possible solution or not. If so, determine how this solution will be implemented. ■ Coordinate a garbage-free lunch challenge for your school. For ideas see the educator resources at www.crd.bc.ca/teacher.



Did you know?

Kitchen Scraps were restricted from Hartland landfill January 01, 2015. www.crd.bc.ca/organics

What happens to the Kitchen Scraps at home and at school?

Interviewer Problem Solving Model

What is the problem? _____

What is already being done? _____

What are some possible solutions generated by interviews? List. As well, check the box that relates to each possible solution.

Possible solutions include:	Is it:		Does it:		Will it reduce our garbage?	
	safe	easy to do	cost money	save money	yes	no
1.						
2.						
3.						
4.						
5.						
6.						
7.						

Looking at the information, what would be the best solution? _____

Why? _____

What is the next best solution? _____

- discuss different kinds of packaging and its various functions
- determine what 3R options are locally available for various packaging
- introduce the concepts of sustainability, stewardship and renewable versus non-renewable natural resources

More Wrapped Up! (4-7)

IRP outcomes

It is expected that students will:

[SS] Formulate strategies to address problems or issues (4)

[SS] Explain why sustainability is important (5)

[SS] Analyse the relationship between economic development of communities and their available resources (5)

[SS] Implement a plan of action to address community/national/global problems (6)

[SS] Evaluate effects of technology on lifestyles and environments (6)

[SC] Analyse how BC's living and non-living resources are used and describe potential environmental impacts (5)

[SC] Determine how personal choices and actions have environmental consequences (4)

Intro: Of the 7,000 items in the grocery store, about 3,000 are wrapped in packaging that ends up in the garbage. Packaging makes up about twenty percent of our household waste. There's a growing realization that wasteful behaviours associated with throwaway packaging simply cannot go on (they are not sustainable). The resulting garbage fills our landfills, while the supply of some non-renewable natural resources is depleted. One strategy for reducing this burden is for manufacturers to show stewardship to take responsibility -- for the waste they create (see "Did you know?" box on next page).

Not only is excessive packaging a drain on natural resources and a problem for the landfill, it often affects our wallets. Individually wrapped portions of cheese and single serving juice containers are generally two to four times more expensive than bulk options.

Materials:

- various packaging materials (ask students to bring in packaging)
- a class set of department or grocery store flyers
- one product packaged three different ways

Activity:

1. At least one week prior to activity, ask students to bring in clean, empty packages. Store in the classroom. Include words such as "sustainability", "renewable resources" and "non-renewable resources" and "stewardship" on the week's spelling list (see 3R Terms)
2. Dump packaging on floor or table. Have individuals chose a package that interests them. Ask students, "Why do you think the manufacturer chose that particular package to contain that product?" (Reasons may include health, containment, safety, amount of garbage produced, cost, eye-catching design). Note reasons on blackboard. Ask, "What attracted you to that product?" Discuss the influence of marketing on why people chose different packages.

IRP outcomes cont.

[PP] Identify and apply the steps in the decision-making process (5)

[PP] Predict possible problems associated with particular situations or courses of action (6)

[PP] Practice responsible decision-making (7)

Did you know?



The Government of British Columbia amended the Recycling

Regulation. Starting May 19, 2014, businesses that supply packaging and printed paper to BC residents are responsible for collecting and managing these materials so they can be recycled. This is called extended producer responsibility, or EPR.

Learn what can be recycled and what happens to it at:

www.multimaterialbc.ca

3. Ask, "Who has a package that could be recycled? Reused? Reduced?" Talk about what "reducing" means (not making garbage in the first place).
4. Have students brainstorm different types of packaging material (glass, paper, etc.), then place their packaging under the appropriate title. Discuss the purpose and advantages of different materials. Determine which packages are made from renewable and non-renewable natural resources.
5. Ask students to define "overpackaging". Break class into groups and hand out flyers from a grocery or department store. Have students find examples of overpackaged goods. Discuss what they have found and what alternatives may be available.
6. Show students the different types of packaging used for the same items. For example, cookies, drinks, sugar and popcorn can be packaged in a variety of ways (bulk, concentrate, box, glass, aluminum, etc.) Ask, "Which packaging makes the most sense for the environment? For saving money?"

Conclusion/Discussion: Discuss ways to make environmentally-wise purchasing decisions by asking questions such as:

- Do I need this product? Can I repair, rent or borrow what I need?
- Can I buy the product with no packaging at all? If it has to be packaged, which product comes with the least packaging or packaging that can be reused or recycled?
- Is the package or product made from non-renewable natural resources?
- Is the package recyclable in my community?
- Use Myrecyclopedia online to find convenient recycling facility locations and get the environmental story behind the items we use in our homes and businesses. The tool was developed for residents in the capital region. www.myrecyclopedia.ca

Ask students, "So how do you know which package to buy?" "What do you need to think about before purchasing something at the store?" Encourage students to apply this criteria to products they consider purchasing on their next shopping trip.

Extension Activity: ■ Take a tour of a grocery store and note items that are packaged in various ways. Also, note the price difference between the different packages. Discuss the reasons for what you find. Have students write a letter to a manufacturer explaining why they are concerned about a particular product's overpackaging, and suggesting alternatives. ■ Book a workshop and tour of Hartland landfill and recycling facility and/or download additional lessons at www.crd.bc.ca/teacher.

- discuss the impact advertising has on the needs and wants of individuals
- determine what 3R messages are the most effective to motivate students to practice the 3R's
- identify specific 3R actions that primary students can take to have an impact on their local environment and tell them why these actions make a difference

Advertise, Advertise, Advertise!!! (4-7)

IRP outcomes

It is expected that students will:

[SS] Gather a body of information from primary and secondary sources (4-7)

[SS] Create a presentation on a selected topic (4-7)

[SS] Analyse the significance of communications technologies in Canada (6)

[PP] Apply problem-solving models to a variety of situations (4)

[PP] Describe the influence of media and the community on their attitudes and values regarding healthy living (4)

[LA] Select and use strategies before writing and representing including identifying an audience (4-7)

Intro: Our society is often described as a consumer society. Many point to advertising as the single, most powerful force behind the continued growth of consumerism. It is estimated that the average child sees between 20,000 – 40,000 commercials every year. Children spend 60% more time watching television each year than they spend in school. Although advertising can strongly influence our purchasing decisions and blur the line between our needs and wants, it can also be used to convey powerful messages. Powerful messages that make us think about our actions, their impacts and the local environment.

Materials:

- samples of advertising (e.g. magazines, newspapers, posters)
- video camera, if desired

Activity: Have students look through magazines and newspapers to observe various advertisements. Bring in a number of posters with specific messages and have them observe this form of advertising as well. Discuss different forms of advertising. What messages do they get from the ads? What elements make a good advertisement? What catches your eye? List the ideas.

Divide the class into groups. Each group will be asked to promote, reinforce or educate younger students about the need to reduce, reuse, recycle and compost using an advertising format of their choice. Students must determine what format would best catch the attention of their audience while effectively relaying their message. Will the format they select be a skit, play, poster, video advertisement or model?

Conclusion/Discussion: Was it hard to come up with a message or slogan or logo? What steps did your group take to come up with an agreement on what that message or slogan or logo would be? What information did you consider to make your decision? As a group, brainstorm what other pieces of information could be used to make such a decision? Why is advertising so important to businesses? What impact does advertising have on you? Why?

IRP outcomes cont.

[LA] Write for a range of audiences that demonstrates connections to personal experiences, ideas, opinions (4-7)

[LA] Use writing and representing to express personal responses and relevant opinions about experiences and texts (4-7)

Extension Activities: After presenting your advertisement to your audience, evaluate its effectiveness. Interview the younger students and ask them if they liked your advertisement. Ask them what they liked and disliked about it and find out what information or messages they thought the advertisement was trying to convey. Were their answers surprising? How important is evaluation to advertising? What would you do differently next time?

Useful Links:

Waste and Recycling Advertising

- Encorp Return-It Program
View sample marketing materials under “About Encorp” in their “Marketing Portfolio” www.return-it.ca
- Recyc-Quebec
French samples available under “Gérer les matières résiduelles” and “Compagnes et outils de sensibilisation”
www.recyc-quebec.gouv.qc.ca
Videos (French and English) <http://onenprendsoin.ca/>

Local Waste and Recycling Information

- CRD Solid Waste Stream Composition Studies
Identify what materials are disposed as garbage at Hartland landfill and recycling facility.
www.crd.bc.ca/service/waste-recycling/solid-waste-management
- CRD Solid Waste Annual Reports
Include information about CRD waste diversion programs and landfilled waste.
www.crd.bc.ca/service/waste-recycling/solid-waste-management
- CRD Kitchen Scraps Diversion
As of January 1, 2015 kitchen scraps are restricted from our garbage. Learn more about the Kitchen Scraps Strategy at www.crd.bc.ca/organics

Action Projects

- Wavemakers
Lists types of action projects, describes action types and tools to achieve them.
<http://wavemakers.cawst.org>