



## teacher's guide

# introductions & table of contents

## Alberta Dairy Council

Since 1999, The Alberta Dairy Council (ADC) has committed itself to environmental stewardship by promoting and supporting milk container recycling in numerous ways. The ADC is the trade association for the province's dairy processors – the companies that convert raw milk into finished dairy products. Collectively, these companies process and market more than 95% of the raw milk produced in the Province of Alberta.

It began in 1999 with our 'Milk Jug Recycling Program' – one of the first and most comprehensive programs of its kind in North America. Since then the Council has worked closely with municipalities and Alberta Environment to expand milk container recycling throughout the province. In January 2002 it added used milk cartons to the program.

Alberta's milk container recycling program now is widely recognized as the best program of its kind in Canada. In June 2002, it was honoured with an Emerald Award by the Alberta Emerald Foundation for Environmental Excellence. Since inception, the program has helped Albertans achieve continuous increases in the volume of used milk containers collected and recycled. Now, almost 90% of communities have access to milk container recycling facilities.

Following the creation of a pilot project in 2000, a grade 4 'Milk Container Recycling Teacher Resource Kit' in 2001 (available at <http://www.milkcontainerrecycling.com/AB/documents/booklet.pdf>) and the 'Show everyone you have a crush on Alberta' public education campaign in 2002, we now proudly present this exciting new grade 4 classroom resource booklet and accompanying DVD, entitled Swish 'n Squish Teacher Resource Kit. These resources are intended to help teachers and students take milk container recycling in Alberta to even greater heights. As teachers, you have the capacity to strongly influence and motivate our youth to become outstanding stewards of our precious environment. We offer you our best wishes in that endeavor.

Roberta Windrum, Alberta Dairy Council

## Inside Education

Inside Education, Canada's largest non-government environment and natural resources education society developed this teacher's resource kit in partnership with the Alberta Dairy Council. For further information and to peruse other education programs and services, visit [www.insideeducation.ca](http://www.insideeducation.ca)

Teaching Resource written by: Treena Hein

Inside Education Program Director: Jason Toner, Inside Education

## Table of Contents

Page 2	Milk Container Recycling – It Matters!
Page 3	About This Resource
Page 3	DVD synopsis
Page 4	Activity 1 - DVD presentation and follow-up
Page 8	Activity 2 - The Great Package 'Smack-Down'
Page 12	Activity 3 - How Many Fit?
Page 15	Activity 4 - Making the Connections
Page 19	Activity 5 - What's The Plan?

# about this resource

## Using This Resource

Each activity in this Kit includes an outline, curriculum connections, resources required, time required, procedure, answers and extension ideas. You will also find attention-grabbing 'hooks' to start each lesson. The lessons can be used in any order, but it is recommended that students view the DVD (Activity 1) before doing Activity 3 and 4.

## Curriculum Connections

These resources are intended to assist teachers in delivering the Grade 4 science unit entitled "Topic A: Waste and Our World". The General Learner Expectation for this unit is as follows: Recognize that human activity can lead to the production of wastes, and identify alternatives for the responsible use and disposal of materials.

The 'Specific Learner Expectations' for this unit addressed by activities in this booklet are described at the beginning of each activity.

By using the DVD and related activities in this booklet, you will help ensure Alberta students understand that each and every time they recycle milk containers throughout their lifetimes, they make an impact on preserving our province's natural beauty.

## Swish 'n Squish DVD synopsis

Duration: 7:34 minutes

Characters: Custodian and four students

Summary: Students learn from a school Custodian about why it's important to recycle milk containers and how to do it properly, as well as background details on milk container packaging materials and the recycling process. Interspersed with these scenes from the school setting, images are presented to illustrate the concepts and vocabulary. These include milk jugs and cartons, raw materials used to make milk containers, milk container production, recycling and related statistics.

## Milk Container Recycling – It Matters!

Recycling milk containers is a simple yet very significant action every Albertan can take to both reduce our collective impact on the natural environment and derive maximum benefit from the wise use of resources. The recycling of milk containers prevents valuable materials from being sent to our provincial landfill sites, and can therefore significantly extend landfill lifespan. We all win when we recycle milk jugs and cartons.

Valuable paper and plastic resources recovered during the recycling process are used in the manufacture of many new products. Plastic milk jugs are chipped, cleaned, melted into pellets and used to replace some of the new plastic that goes into many products, such as plastic pipe, drainage tile, flower pots, non-food containers (e.g. plastic detergent bottles and lubricating oil pails), and plastic dimensional lumber used to build a myriad of items like picnic tables, patio furniture and decks.

The recycling of milk cartons is known as 'hydrapulping,' a process by which valuable paper fibre is recovered. Hydrapulping involves soaking, heating, and agitating the used cartons in a giant blender (pulper), and the resulting fibre is used in making paper products like cardboard boxes and fine tissue paper.

# facts & vocabulary

## Quick Facts about milk container recycling in Alberta

- In Alberta each year, approximately 26 million milk containers are recycled through municipal recycling programs.
- At present, the vast majority - 87% - of Alberta residents have access to voluntary milk container recycling in their communities. The Alberta Dairy Council continues to work to expand milk container recycling province-wide.
- Last year, Albertans recycled more than 1200 tonnes of used plastic milk jugs. This is an increase of more than 40% since the program's inception in 1999.
- Each 4-litre milk container weighs only 60 grams. Approximately 16,000 four-litre milk jugs and approximately 15,500 two litre milk cartons equal one tonne.
- Municipal voluntary recycling programs represent a unique partnership between industry and municipalities, delivering convenient and effective milk container recycling opportunities at minimal cost to Alberta consumers.

## Vocabulary

The following terms are introduced in the Swish 'n' Squish DVD.

**HDPE** – High density polyethylene – The hard plastic from which milk jugs are produced.

**Swish and Squish** – A motto encouraging rinsing used milk containers ('Swish') to prevent the smell from old, un-refrigerated milk; then crushing the containers ('Squish') to reduce space taken up in recycling bin.

**Municipal Recycling Facility** – A community recycling depot to which people bring items to be recycled.

**Polyethylene film** – the thin layer of plastic that coats the inside and outside of milk cartons.

**Twister Truck** – a vehicle used to sort and compress milk containers from recycling facilities, then transport them for sorting and recycled.

**Hydra-pulper** – a machine that uses water and mechanical methods (like a washing machine or blender) to break down the cardboard in milk cartons, changing into pulp which ultimately makes paper.

# activity 1 DVD - presentation and follow-up

## Outline

Students will be introduced to the milk container recycling program 'Swish 'n Squish', watch the DVD presentation while completing content questions, and complete a summary match-up handout.

## Waste in Our World SLE's met

6. Identify methods of waste disposal currently used within the local community.
9. Identify ways in which materials can be reused or recycled, including examples of things the student has done.
11. Identify actions that individuals and groups can take to minimize the production of wastes, to recycle or reuse wastes and to ensure the safe handling and disposal of wastes.

## Materials

- 'Swish n' Squish' DVD
- Class set of handouts  
*Swish n' Squish Presentation Questions* and  
*Swish 'n Squish Match-Up*

## Time

One-two class period(s)

## Answer Key

DVD Presentation Questions	Match-Up
1. 300 million litres of milk products	1. H
2. 124 million containers	2. F
3. two	3. G
4. density	4. A
5. petroleum	5. J
6. milk	6. K
7. caps	7. C
8. so they won't smell	8. I
9. so we can fit more in the recycle bin	9. E
10. Yes	10. D
11. 1.3 million kg of milk containers	11. B
12. 500	
13. TRUE	
14. FALSE	
15. melted	
16. mill	
17. flower pots, picnic tables, patio furniture, decks, non-food containers, storage bins, etc.	
18. cardboard, tissue, writing paper	
19. SQUISH!	

## Hook – "Guessing Game"

Ask two students to come to the board – these will be your recorders. Have the remainder of the class brainstorm several reasons recycling milk containers is good for our society and environment (see section *Milk Container Recycling – It Matters!* on page two for ideas). Then have students guess how many milk containers (jugs and cartons) are used per year in Alberta and how much milk is consumed. Tell them they will now watch the 'Swish n' Squish' DVD and see how close their guesses were!

## Procedure

1. Pass out the DVD presentation handout and go over the questions.
2. Have students watch the DVD as they fill in the answers and then take up as a group. We suggest watching the DVD twice so students get the 'full effect'.
3. Students may complete the match-up immediately afterwards, for homework, or on a subsequent day.

## Extensions

Visit a recycling facility.

# swish 'n squish

## presentation questions

NAME: \_\_\_\_\_

Complete the sentences with information from the Swish 'n Squish DVD.

1. Albertans consume more than \_\_\_\_\_ million litres of milk products every year
2. In the last year alone, we used more than \_\_\_\_\_ million milk containers!
3. There are \_\_\_\_\_ types of milk containers.
4. HDPE stands for high d\_\_\_\_\_ polyethylene.
5. One of the ingredients used to make this plastic is p\_\_\_\_\_.
6. The caps are different colours to identify the type of \_\_\_\_\_ inside the container.
7. \_\_\_\_\_ on the milk containers should always be removed before you 'swish n' squish.'
8. Why do we swish water in milk containers? \_\_\_\_\_
9. Why do we squish containers? \_\_\_\_\_
10. Do we also 'swish and squish' milk cartons? \_\_\_\_\_ YES or NO?

# swish 'n squish

continued

11. Albertans recycle more than \_\_\_\_\_ million kilograms of milk containers every year.
12. This is like keeping \_\_\_\_\_ elephants out of the landfill!
13. TRUE or FALSE. After milk containers are put in the recycling bin, they go to a municipal recycling facility.
14. TRUE or FALSE. Milk jugs and milk cartons are recycled exactly the same way.
15. The plastic containers are baled and sent to a plastics recycler where they are chipped and washed. The chips are \_\_\_\_\_ and formed into pellets.
16. Milk cartons are sent to a paper recycling facility or a pulp and paper \_\_\_\_\_ where the materials are broken \_\_\_\_\_ down into pulp.
17. The plastic pellets can be made into all kinds of things like: \_\_\_\_\_ , \_\_\_\_\_ and \_\_\_\_\_.
18. The pulp can be made into items such as \_\_\_\_\_ and \_\_\_\_\_.
19. Remember to SWISH AND \_\_\_\_\_ !!!

# swish n' squish

## match up

Name: \_\_\_\_\_

Match the answer on the right with the statement on the left. Write the letter in the blank provided.

1. \_\_\_\_\_ Milk containers are made from \_\_\_\_\_  
\_\_\_\_\_ that can be recovered during recycling.
  2. \_\_\_\_\_ This is the (full) name of the plastic used to make milk jugs.
  3. \_\_\_\_\_ Albertans recycle more than \_\_\_\_\_ million kilograms of milk containers every year!!
  4. \_\_\_\_\_ Pulp from recycled milk cartons can be made into products like this.
  5. \_\_\_\_\_ This part of the milk jug should always be removed and discarded before you 'swish n' squish.'
  6. \_\_\_\_\_ By recycling milk cartons, our \_\_\_\_\_ won't fill up as fast.
  7. \_\_\_\_\_ Plastic milk jugs, when recycled, can be made into items such as these.
  8. \_\_\_\_\_ This helps keep our milk containers from smelling as they travel through the recycling process.
  9. \_\_\_\_\_ Almost \_\_\_\_\_ % of Alberta residents have access to voluntary milk container recycling in their communities.
  10. \_\_\_\_\_ Recycling milk containers is an important way to preserve Alberta's \_\_\_\_\_.
  11. \_\_\_\_\_ When we do this, it means we can fit many more items in our recycle bins at school and home.
- A** Writing paper, tissues, cardboard
- B** SQUISH!!!
- C** picnic tables, patio furniture, decks, non-food containers, storage bins, etc.
- D** Environment
- E** 90
- F** high density polyethylene
- G** 1.3
- H** valuable resources
- I** SWISH!!!
- J** cap
- K** landfills

## activity 2 - the great package 'smack-down'

### Outline

Students will complete a research chart in pairs using the internet and present their findings to the class. The teacher will first introduce the purposes of packaging and discuss research source (website) credibility.

### Waste in Our World SLE met

5. Compare different kinds of packaging, and infer the relative advantages and disadvantages of that packaging. In evaluating different forms of packaging, students should demonstrate the ability to consider a consumer perspective as well as an environmental perspective.

### Materials

- Access to computers and internet;
- Assorted empty example containers and packaging *glass bottle, plastic bottle, milk jug, milk carton, cardboard, aluminum can, etc.*
- Class set of handouts  
*"Packaging Warm-up: What, Why and How?" and "The Great Package Smack-Down"*

### Time

180 minutes

### Hook - "Packaging – What, Why and How?"

Pass around assorted example containers and packaging. Ask students to give reasons why packaging material is so varied (purpose, visibility, durability, weight, marketing, etc.) Divide students in small groups and distribute the handout "Packaging Warm-up: What, Why and How?" After they have completed it, discuss as a class.

### Procedure

1. Go over the research project as described on the handout chart "The Great Package Smack-down." Discuss how to determine credible websites (they are created by well-established organizations, government, universities, individual experts) and remind students to carefully list all websites visited.

2. Partner together suitable students in 'research project pairs.' Assign a package type to each pair. Packaging types to be researched include (although others can of course be added!):
  - Tetra Pak cartons;
  - cardboard;
  - High Density Polyethylene (HDPE, milk jugs, detergent bottles);
  - milk carton packaging (paper product coated inside and out with a thin layer of polyethylene film plastic); glass jars and bottles; cellophane (also called cellulose packaging);
  - aluminum (cans);
  - polyethylene terephthalate (PET or PETE; 2-L soft drink bottles; cooking oil; peanut butter jars); polyvinyl chloride (PVC; water bottles, salad dressing, shrink-wrap);
  - low density polyethylene (LDPE; clear produce and drycleaning bags),
  - polypropylene (PP; yogurt containers),
  - polystyrene (PS; meat trays, foam plates)
3. Begin research on computers. 60-90 minutes will be required.
4. When complete, have students share information with each other in groups or in class-wide presentations.

### Answers

#### Packaging Warm-Up

- 1-3. Individual answers.
4. bubble wrap, Styrofoam;
5. often to prevent shoplifting
6. Environmentally-friendly packaging is generally reusable, recyclable or biodegradable. It could also use renewable resources, rather than non-renewable and possess features such as vegetable-based inks. It may require less energy and resource use (smaller, lighter) than other types of packaging; smaller and lighter packaging also reduces the amount of fuel needed to transport the product.

### Extension

Using their research charts, have students construct an awareness-raising packaging display for their school. Include examples of packaging and accompanying summaries of material used, reusability, recyclability and other attributes.

# packaging warm-up:

what, why and how?!?

Name: \_\_\_\_\_

1. What is packaging? Put your own definition here: \_\_\_\_\_

---

---

2. Name three things you used today (or will use) and the types of packaging these materials or items came in. (Hint: think about your breakfast and lunch, school supplies, items at home)

_____	packaging? _____
_____	packaging? _____
_____	packaging? _____

3. Name four types of packaging for liquids (drinks, oil, paint, etc.)

_____	_____
_____	_____

4. Name two types of packaging for fragile goods.

_____	_____
-------	-------

5. Why is extra packaging sometimes used on items like batteries, tooth brushes and small electronic devices? \_\_\_\_\_

---

6. What is the difference between environmentally-friendly packaging and packaging that is not? Fill in the following chart.

Packaging characteristic	Environmentally-friendly packaging	Not as environmentally-friendly packaging
size? (smaller or larger)		
weight? (heavier or lighter)		
biodegradable? (yes or no)		
reusable/recyclable? (yes or no)		

# the great package

smack-down!

Name: \_\_\_\_\_

Type of package being researched: \_\_\_\_\_

Consumer perspective	Environmental perspective
Is this package easy to handle and carry? (give several reasons why or why not)	What is the packaging made of?  What are the raw materials used to make this packaging material?
Is it important that we can see the product through the packaging? Why?  If so, is the product visibility good?  Yes/No	Are these raw materials renewable resources (such as wood or plant material) or nonrenewable resources (such as petroleum products, metal, sand)?
Is the packaging light or heavy? Why?	Is this packaging reusable? For what?

# the great package

## smack-down!

Consumer perspective	Environmental perspective
<p>Does it matter that the appearance of this package is attractive? Why?</p> <p>If yes, is it attractive in your opinion? Explain.</p>	<p>Is it recyclable?</p>
<p>Is the person who buys this product paying a lot or a little for the packaging? (Expensive packaging is usually heavy, made of something unusual or new, and may have a fancy design and/or may have an unusual shape, etc.)</p> <p>Do you think more people would buy this product if it was less expensive? More expensive?</p>	<p>Could this packaging be smaller, more lightweight or more environmentally friendly in another way (biodegradable? reusable? recyclable if it is now not?)</p>
<p>What sorts of factors does this packaging protect the product from? (e.g. wear and tear, bruising, spoilage, fading?)</p>	<p>Describe a type of package that has been made more environmentally-friendly (e.g. search 'lightweighting glass bottles' or 'McDonalds foam packaging')</p>
<p>Websites Visited:</p>	<p>Websites Visited:</p>

## activity 3 - how many fit?

### Outline

Students will use different methods to hypothesize about how many milk containers fit in a recycle bin and how many squished ones can fit, then test their hypotheses.

### Waste in Our World SLE met

11. Identify actions that individuals and groups can take to minimize the production of wastes, to recycle or reuse wastes and to ensure the safe handling and disposal of wastes.

### Materials

- Rulers and/or tape measures,
- calculators,
- pencils,
- recycle bin,
- more than enough intact and clean ('swished') milk jugs OR milk cartons to fill a recycle bin when squished,
- enough clean ('swished') and squished containers for individuals or pairs to measure in Procedure Step 2,
- class set of handouts "How Many Fit?"

### Time required

45-60 minutes

### Hook – The Educated Guess

This activity should follow Activity 1.

Ask students how we make an educated guess (hypothesis) about something. Answers could include using our senses, using past experience, asking around, researching, combining information from several sources, measuring). Ask students how they would hypothesize about how many items would fit in a given container? Tell students today they are going to hypothesize about how many intact and squished milk containers will fit in a recycle bin.

### Procedure

1. Pass out the handout 'How Many Fit?' and go over.
2. As a class, complete Step 1 (hypothesis by 'eyeballing').
3. Have students take their time and complete Steps 2,3,4 and 5 individually or in pairs, telling them to wait before beginning Step 6.
4. When the entire class is ready to complete Step 6, have a pair of students place intact containers in the bin until it is full (level). Then go over the 'Swish and Squish' procedure. (Even though you may not have access to a sink in your classroom, have students pretend to put water in the milk containers provided, 'swish' it around and 'empty' in the pretend sink.) Caps from jugs must be removed and discarded as they are not recyclable at this time. Students then squish the containers (use paper towel to clean up any water). Now, have a different pair of students place squished containers into the bin until it is full.

### Answers

**Steps 3. and 4.** Divide volume of bin by volume of container.

**Step 5.** Subtract number of intact containers from number of squished containers.

**Question 1.** So that they don't smell as they travel through the recycling process 2. So that recycle bins hold more containers and containers can all be recycled.

### Extension

Do the same activity with a bigger challenge by giving students many different types of containers and asking if they will all fit when intact or fit when squished.

# how many fit?

(why 'swish 'n squish' matters!)

Name: \_\_\_\_\_

Recycling milk containers is a simple yet very important thing we can all do to reduce our impact on the environment and get maximum benefit from wise use of our resources. But how best do we recycle? We make sure containers are clean, we recycle as many containers as we can wherever we are and we encourage others to recycle.

## Steps

### 1. Hypothesis by 'eyeballing'

By examining the intact milk containers (cartons or jugs) and the recycle bin, estimate how many intact containers will fit in the bin: \_\_\_\_\_.

Examine the squished container provided and estimate how many squished containers will fit in the bin: \_\_\_\_\_.

Using these numbers, calculate how many more squished containers will fit compared to intact containers: \_\_\_\_\_

### 2. Hypothesis by measurement and calculation

Measure the length, width and height of a milk container, then multiply these numbers together to find its volume.

length: \_\_\_\_\_ x width: \_\_\_\_\_ x height: \_\_\_\_\_ = Volume: \_\_\_\_\_

Do the same for a squished container:

length: \_\_\_\_\_ x width: \_\_\_\_\_ x height: \_\_\_\_\_ = Volume: \_\_\_\_\_

Do the same for the recycle bin:

length: \_\_\_\_\_ x width: \_\_\_\_\_ x height: \_\_\_\_\_ = Volume: \_\_\_\_\_

### 3. How many containers should fit in the bin? Show your work.

# how many fit?

(continued)

4. How many squished containers should fit in the bin? Show your work.
5. How many more squished containers should fit in the bin than intact containers? Show your work.
6. Verify these hypotheses by actually placing intact and squished milk jugs in the bin.  
Number of intact containers that actually fit? \_\_\_\_\_  
Now SWISH 'N SQUISH! Number of squished containers that actually fit? \_\_\_\_\_  
How many more squished containers actually fit? \_\_\_\_\_

## Questions - Answer in complete sentences.

1. Why is it important to swish milk containers? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
2. Why is it important to squish them? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# activity 4 - making the connections

## Outline

Students will demonstrate an understanding of where milk and milk containers come from, and how milk containers are recycled to become other products.

## Waste in Our World SLE met

10. Develop a flow chart for a consumer product that indicates the source materials, final product, its use and method of disposal.

## Materials

- Class set of handouts "Coming and Going" and "Flowchart" (do not double-side photocopy the flowchart pages, have students tape or glue the two flowchart pages side-by-side to make one large chart)
- scissors, glue

## Time required

One class period

## Hook – It all begins with the sun

- Ask students to explain where the power comes from for vegetable plants, fruit trees and grain crops to grow. Answer: *the sun* provides the energy for photosynthesis. In this process, light photons drive a chemical reaction where carbon from the air is trapped and combined with water and nutrients from the soil, resulting in plant growth and reproduction. And since animals consume these plants, it can be said that we too as humans, get our energy from the sun.
- In social studies students will have learned (or will soon learn!) that petroleum resources in Alberta are derived from ancient plants and animals 'cooked' for millions of years under extreme heat and pressure. Natural gas and oil (along with coal) are produced in this process, but

since in our lifetime, these resources cannot replenish themselves, we call them non-renewable resources. Petroleum products are important for meeting the needs and wants of humans however, including in the production of plastic products (including milk jugs!)

- Ask students where livestock (cattle) get their energy (from plants, and therefore ultimately from the sun). Do the same for each energy source (all ultimately powered by the sun's energy). Tell them that today, they are going to summarize where a commonly consumed product and its containers come from and where the materials recovered in the recycling process go.

## Procedure

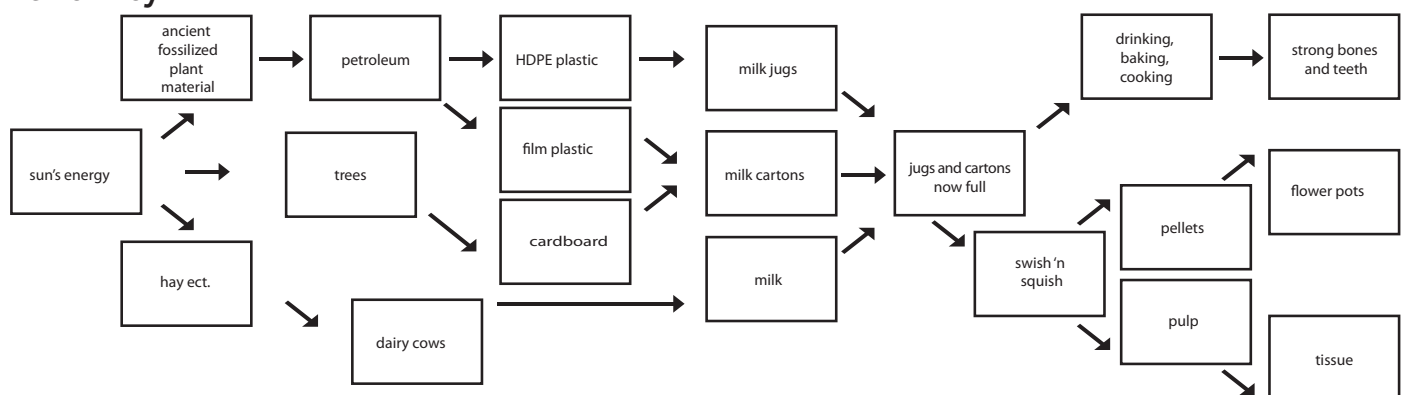
Distribute the handout, go over and complete.

## Extension

Complete the same activity for several other types of products contained in recyclable containers, such as:

- fruit or vegetable juice in glass bottles
- fruit or vegetable juice in Tetra Pak cartons
- toys in cardboard and plastic packaging
- iced tea in aluminum cans
- wooden or corn-based plastic cutlery in cellophane (also called cellulose packaging)
- cooking oil or peanut butter in polyethylene terephthalate containers (also known as PET or PETE)
- bottled water or salad dressing in polyvinyl chloride containers (also known as PVC)
- vegetables and fruit in clear produce bags (made of low density polyethylene or LDPE)
- yogurt in polypropylene containers (also known as PP)
- meat on polystyrene (PS) meat trays and shrink wrap (polyvinyl chloride or PVC)

## Answer Key



# coming and going:

## milk container production and recycling

Step 1) Cut out the squares below.

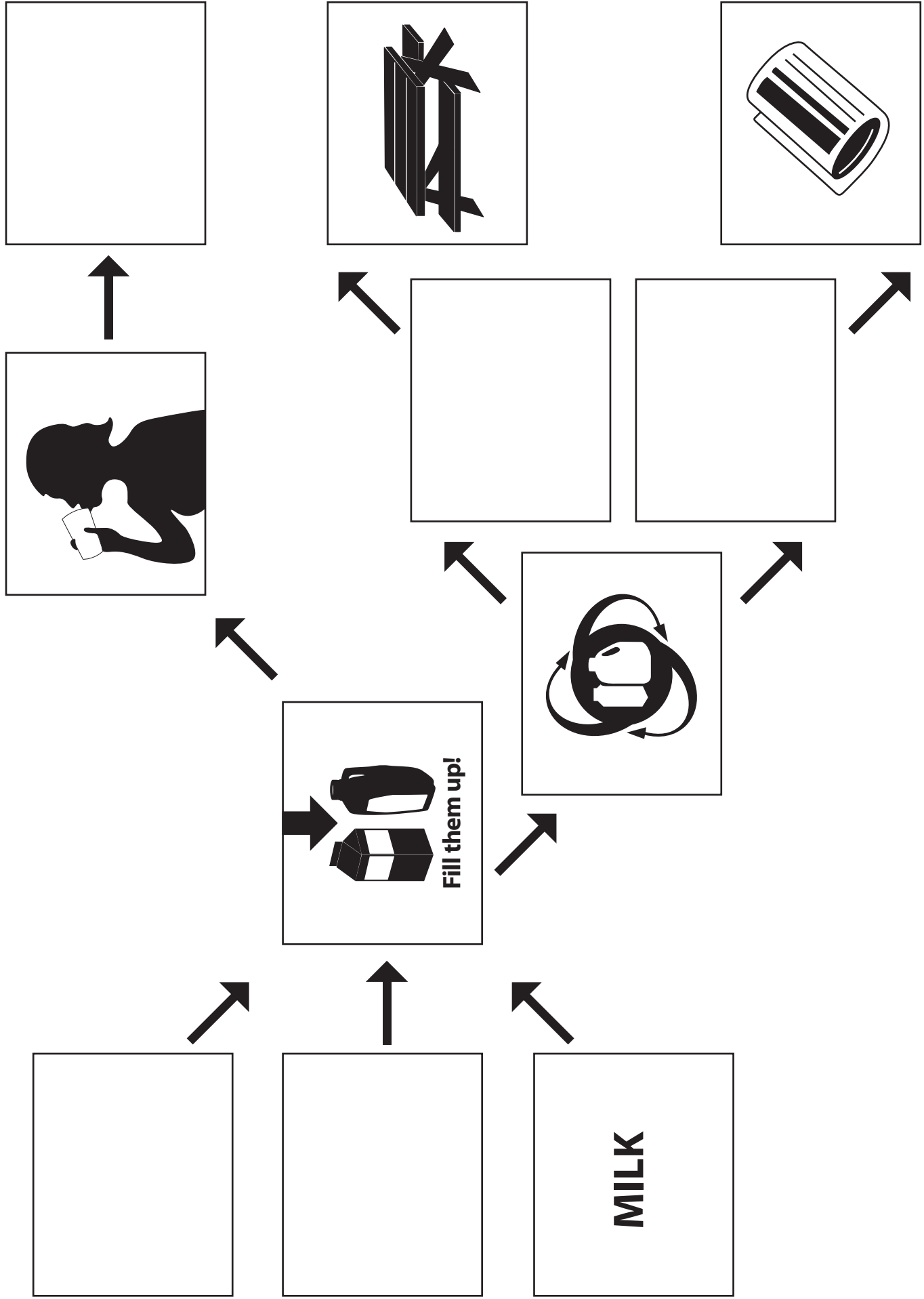
Step 2) Arrange the words and phrases in the squares on the flowchart pages provided, attaching the flowchart pages together with tape, glue or staples.

Step 3) Glue the squares onto the flowchart when you are sure. Some hints are provided you in picture form, but make sure to cover the pictures with the word that fits!

tissue	trees	drinking, baking, cooking	strong bones and teeth
milk	plastic milk jugs	plants like hay and grains	petroleum products
<b>SWISH 'N SQUISH</b> recycling of milk containers!!!	plastic pellets are made into things like flower pots, picnic tables, patio furniture	paper products like tissue, writing paper, cardboard	milk jugs and car- tons now are filled with milk
HDPE plastic	cardboard	ancient fossilized plant material	used milk cartons are made into pulp
milk cartons (card- board coated with film plastic)	dairy cows	plastic milk jugs and chipped, cleaned, and melted into plastic pellets	film plastic



**Flow Chart** continued



## activity 5 - what's the plan?

### Outline

Students will create and monitor a school-wide plan for reducing waste over a short period, including the recycling (or increased recycling) of milk containers.

### Waste in Our World SLE met

12. Develop and implement a plan to reduce waste, and monitor what happens over a period of time.

### Materials

- Handouts  
    *"Current Waste Inventory and Management"*  
    *"Results: Cutting Waste at our School"*
- Clipboards, if students need to go on investigative study
- Rubber gloves (for garbage can examination)

### Time required:

60 minutes initially, then time to implement the plan and monitor

### Hook – Change can happen!!!

Discuss what it takes for people to change. (They have to see the need for change, have a plan and support structures in place, and keep motivated with rewards, recognizable progress, etc.)

Why do we need to change some of our habits in order to conserve our resources and protect our environment?

Brainstorm examples of these changes, such as smaller cars, fluorescent lights, more wind and solar power, widespread recycling programs.

Since 1999, milk container recycling in Alberta has expanded so much that almost 90% of people now have access to voluntary programs!

### Procedure

1. Distribute and discuss the handouts 'Current waste inventory and management' and "Results: Cutting Waste at our School."
2. Encourage brainstorming of ideas for boosting recycling in your school – record answers on the board, and decide on several actions that students can/will commit to.

These could include:

- Contacting the Alberta Dairy Council to get a school recycling bin - [info@milkcontainerrecycling.com](mailto:info@milkcontainerrecycling.com)
- daily announcements,
- adding more recycle bins,
- contacting local recycling facilities and/or municipal office to see how school recycling can be expanded,
- putting posters up (on used paper!),
- running a class vs. class contest or school vs. school contest,
- placing notices on top of garbage cans stating "Can you recycle that?",
- conducting a school survey to find out how recycling can be boosted,
- make recycling fun by building a "can crusher" and placing it in a central location (a can is placed in the "machine" and a hand lever is used to cause the crushing – a nearby high school machine shop can build this as a project),
- bringing in the media and/or dignitaries as motivating factors, treating the whole school to a 'green' presentation or activity if recycling goals are met, and many more!

### Extension

- Contact the SEEDS Foundation to find out how to become a 'Green School' – [www.seedsfoundation.ca](http://www.seedsfoundation.ca)

# current school

## waste inventory and management

Name: \_\_\_\_\_

1. Check off materials/containers currently recycled at your school.

GLASS? \_\_\_\_\_ POP CANS? \_\_\_\_\_ MILK CARTONS? \_\_\_\_\_ DRINKING BOXES? \_\_\_\_\_  
 FINE PAPER? \_\_\_\_\_ NEWSPRINT? \_\_\_\_\_ PLASTIC BOTTLES \_\_\_\_\_ OTHER? \_\_\_\_\_

2. Where are recycle bins located in your school? Check the following that apply.

classrooms? \_\_\_\_\_ computer room? \_\_\_\_\_ cafeteria/lunchroom? \_\_\_\_\_ office? \_\_\_\_\_  
 hallways? \_\_\_\_\_ entrances? \_\_\_\_\_ teacher's lounge? \_\_\_\_\_ other? \_\_\_\_\_

3. Wearing rubber gloves, carefully examine three trash cans in the hallways and/or entrances. How many recyclable containers are found in each?

Trash Can	How Many Containers?	What Type?
1		
2		
3		

4. Do you have any recycling posters in the school? Yes or no \_\_\_\_\_ How many? \_\_\_\_\_

Where are they located? \_\_\_\_\_

Who provided them, or are they school-made? \_\_\_\_\_

### IDEAS for boosting recycling (place other ideas on a separate sheet of paper)

Idea/Strategy	Materials? Cost?	Time required?	Possible challenges?
<i>Example: Daily announcements asking all to place recyclables in recycle bins only</i>	none	<i>Time to write announcement and then several minutes each day to read it</i>	<i>Some people may not pay attention or may forget</i>

# results

## cutting waste at our school

Name: \_\_\_\_\_

Strategy	Goal	Progress at two weeks	Progress at one month	Future plans
<i>Example: Daily announcements asking all to place recyclables in recycle bins only</i>	<i>To have no recyclables in the recycle bins</i>	<i>(check garbage cans) If goal not reached, ask students why we are not there yet, and for ideas</i>	<i>(check garbage cans)</i>	

## swish and squish websites

Alberta Dairy Council Milk Container Recycling  
[www.milkcontainerrecycling.com/AB/](http://www.milkcontainerrecycling.com/AB/)

Alberta Environment – Education Section  
<http://environment.alberta.ca/926.html>

Inside Education  
[www.insideeducation.ca](http://www.insideeducation.ca)

One Simple Act  
[www.onesimpleact.alberta.ca](http://www.onesimpleact.alberta.ca)

Recycling Council of Alberta  
[www.recycle.ab.ca](http://www.recycle.ab.ca)

SEEDS Foundation – Green Schools Program  
[www.seedsfoundation.ca/greenschools.html](http://www.seedsfoundation.ca/greenschools.html)



[www.insideeducation.ca](http://www.insideeducation.ca)