

Name: .....

Class: .....

# Tip the Balance on waste!

Student Book



It's all about the choices you make.

Can you reduce the amount of rubbish you generate?

Developed by Environment Canterbury on behalf of  
the Canterbury Waste Joint Committee

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## A Quote from the Web

### Recycle

First **reduce** consumption, then reuse what you can, then recycle everything possible of what's left. Promote this practice in your community and workplace. Besides voting, recycling is currently one of the few ways we participate in public life on a mass scale voluntarily.

### Useful websites:

- <http://www.reducerubbish.govt.nz/text/index.html>
- <http://www.worldwatch.org/node/1497>
- <http://www.kidsfootprint.org/>
- <http://www.sustainability.govt.nz/>
- <http://www.earthday.net/programs/teachers/default.aspx>
- Try this Webquest which looks at advertising techniques:  
<http://www.thematzats.com/propaganda/>

## Student Book Key

<b>T</b>	This activity requires teacher explanation and is part of a lesson plan.
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<b>S</b>	This activity can be completed by the student independently.
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Written by Debbie Eddington, Environment Canterbury.

# Reducing Waste Bingo



Find a different person for each box.

Get a friend to sign the box if they:

Take their food scraps home in their lunch box every day to be composted or puts them in the school compost bin.	usually have a reusable drink bottle of water.	use reusable bags when shopping.	Have home made baking in their lunchbox.
use plastic wrap around their sandwiches.	Have at least two pieces of fruit in their lunchbox most days.	Have more than two commercially wrapped products in their lunchbox most days. For example, yoghurt, muesli bar, etc.	Carry their sandwiches in a sealed, reusable container, using no food wrap.
use paper lunch wrap, (can be composted).	use a reusable container for their lunchbox.	Sort their lunchbox rubbish into the proper school bins each day.	Have sandwiches made with home made bread.
Have a vegetable garden at home	As a family, buy locally grown fruit and vegetables for lunchboxes.	Tip everything from their lunchbox into the rubbish bin so they don't get in trouble with the adults at home.	won't eat individually wrapped bars for lunchboxes.

## Post Unit Evaluation:

Complete the 'Reducing Waste Bingo - Revisited' chart at the back of this book, making your own categories for class members to sign. Consider how you could reduce waste in all aspects of your life, e.g.

Biking to school —————> Not wasting fuel

No Junk Mail —————> No extra paper in your mailbox



# Rubbish, rubbish - the 5 minute challenge

Within 5 minutes record all the rubbish you can think of that is produced at school. Be clever and classify it by highlighting the same types of rubbish in the same colour, e.g. highlight plastics in pink, paper in green, glass orange, etc.

Now do the same again for your household rubbish. Think carefully about all the different items of rubbish your family generates. e.g. toothpaste box, toothpaste tube, food cans, food wrap, etc.

Compare your sheet with a friend's. Who came up with the most items?  
Looking at the items on your lists, are there any that you could reduce or get rid of all together? List them below and explain what you could do instead.

# Waste and the Media - a homework task

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Over the next two weeks, either view television ads or cut ads from the newspaper or magazines and fill in the table below. **You don't need to just include food products – try others.**

Product	Where - e.g. TV, newspaper, etc.	Intended Audience (toddlers, teens, adults, etc.)	Advertising technique, e.g. bargain & free, urgency, repetition, etc.	Is the product offered in larger or bulk containers Y/N?	Comments – could the product be marketed another way – reducing waste?
Prunes	TV	All ages	Personal Health Just like you	Yes	It is available in a 500gm container which could then be divided and put into a resealable container as and when needed. Should only be available in bulk containers.
Soap	Junk mail	Adults	Economy Bargain & free	No	There are five pieces of packaging around the cakes of soap. Each is individually wrapped then another cellophane layer is right round the outside – do they need any at all?

# You are a Poet and You Know it!

S

## If I... I would... And I wouldn't...

Here are some suggested starter lines for a poem. Do the research and write a poem using one of the 'If I' examples ... or create your own.

### \*\*IF I

**... Stopped using aluminium cans**

... Drank water from the fountain

... Grew my own vegetables

**... Stopped using plastic cling wrap**

... Used green shopping bags

... Had a compost/worm farm

### \*\*I WOULD

**(Stopped using aluminium cans)**

Use a reusable bottle

Have a drink out of a cup

Reduce rubbish by 365 cans a year

Have a drink out of the water fountain

Use a soda stream

Be healthier

**(Stopped using plastic cling wrap)**

Use reusable containers

Wrap my food in lunch paper

Eat on the run

### \*\*AND I WOULDN'T

**(Stopped using aluminum cans)**

Produce so much waste

Have to recycle them

Have to spend so much money on buying the drink in the first place

Be using oil, which is a non-renewable resource and is running out

**(Stopped using plastic cling wrap)**

Have to worry about my dog

accidentally swallowing some

Have to find a place to dispose of it

**NOW YOU HAVE A GO ON PAGE 5!**

# If I... I Would... And I Wouldn't

1. IF I... (choose an example from page 4 OR start your own)

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2. I WOULD...

- ---
- ---
- ---
- ---

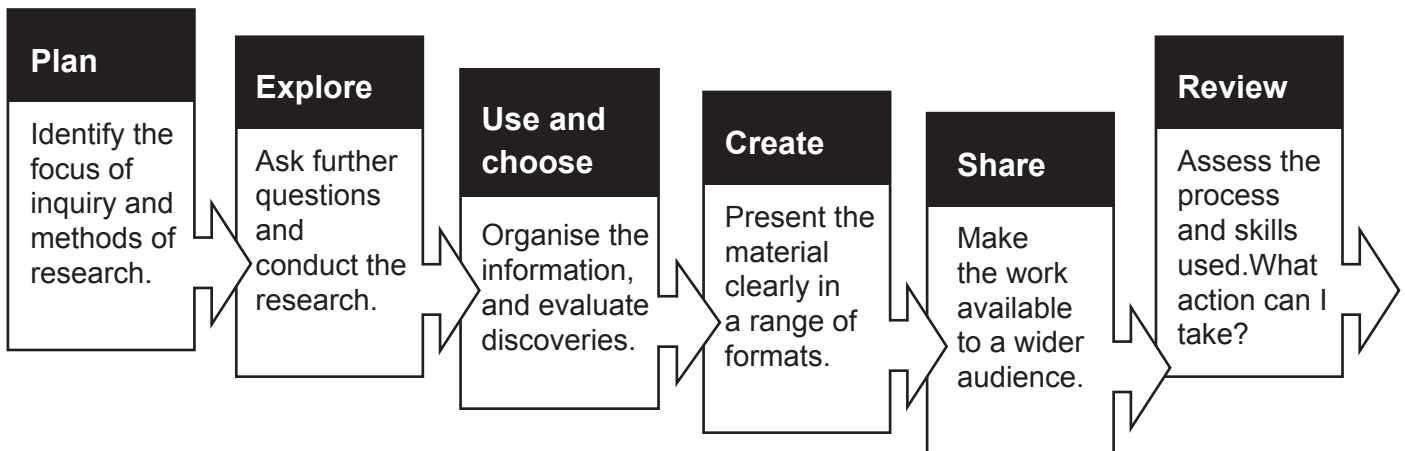
3. AND I WOULDN'T...

- ---
- ---
- ---
- ---

**Try others in your writing book.**

Publish your favourite poem and display around school, home or community notice boards (supermarkets, libraries, etc.)

# 'The Big Picture' - An Inquiry Learning Template



## Research Ideas

- Life Cycle of soft drink bottle.
- Life Cycle of cling wrap.
- Alternatives to... cling wrap.
- Visit the supermarket or another retail outlet – observe/compare similar products and the packaging used.
- Government initiatives/ideas for reducing waste.
- How people can reduce their waste.
- Investigate food marketing. Why is there so much packaging? Look at advertising techniques and how these are used in packaging to convince consumers they need the product.

*These are suggestions only  
- be creative, think of your own  
research ideas!!*

## Big Questions

- If cling wrap was banned in New Zealand what alternatives are there and would people use them?
- What is the environmental impact of New Zealand importing fruit from America/Australia?
- How much rubbish does the average household (approx. 4 people) produce and what does it consist of?
- How can I reduce the amount of waste I produce?
- What is 'carbon footprint'? What does it have to do with me?
- What happens to my old/broken TV, refrigerator or microwave? Is this the same in every region of New Zealand?
- What products can be recycled in my home town and is it cost effective (worth doing)?

# Actions Speak Louder than Words

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S

## The Class Party

1. As a class, agree upon a format for your celebration, e.g. formal afternoon tea with invited guests (other classes, parents/caregivers, community groups, the Mayor, etc.), class shared lunch, syndicate shared lunch, etc.
2. In groups, plan, prepare and run a class celebration.

**REMEMBER: Ask yourself and your group during the process -  
“Do we need this on our table or can we do without it?”  
(Reduce, reduce, reduce!)**

## Suggestions for Party

- **Invitations** – create environmentally sustainable invitations, e.g. email, text, phone, voicemail, etc. – design team for email invite.
- **The Menu** – group of planners create menu suggestions and share with class (vote for most popular options). Consider preparation/ease of serving, e.g. finger food. If being brought from home, use reusable containers – not cling wrap.
- **Cutlery & Crockery** – old dinner set brought from home/hired/borrowed from church/community group – in return volunteer your time (instead of using plastic throwaway alternatives).
- **Speaker/Toastmaster** – sharing what they have learnt throughout the unit. Share ‘PowerPoint’ presentation.
- **Seating Plan**
- **The Table** – decorate using recycled material, vase of flowers, etc. Serviettes – home-made out of old sheets or cloth ones brought from home (no paper ones!!)
- **Video the Event** – a gift to participants. Post video on ‘You Tube’ and email attendees.
- **Entertainment** – invent a simple game to be played at the celebration which reinforces your learning and the ‘reducing waste’ theme.

## Things to consider:

- Shopping for the party– use ‘green’ bags – no plastic supermarket bags OR as part of the unit, make reusable shopping bags as gifts to each other or your guests.
- Remember to buy in bulk – this saves on packaging. Shop for the whole class – other groups may require the same foods as you.
- How are you going to get to the supermarket? Think REDUCE!  
(Scooter, wheelbarrow, bike).

# Group Planning Sheet



**NB:** Teachers can add/delete tasks, and/or group numbers to suit final activity, e.g. formal afternoon tea with invited guests (parents), shared lunch, syndicate lunch (combined classes).

**Use a highlighter to indicate your role in the activity.**

**People in my group:** \_\_\_\_\_

**My/Our guests are:** \_\_\_\_\_

**NB:** All members of each group contribute to each task – the named person is the co-ordinator/overseer of that task and is responsible for its completion.

Assigned Job	Name	Key Tasks
Invitation		Design a waste-reducing invitation, e.g. text, email, etc.
Speaker/presenter		Present knowledge gained to guests, e.g. speech, PowerPoint presentation.
Menu		Plan menu with waste reduction in mind, e.g. finger food in a big resealable container.
Table		Set table waste reduction – cloth serviettes, crockery & cutlery.
Dishes – waste analysis/ disposal		Clear tables.
Waiter/Waitress		Wait on guests, serving food, drinks, etc.

**Did my group reduce waste? Y N (circle correct one) How?**

**What could we do to improve waste reduction next time?**

**How can we apply this at home? My family could...**

\_\_\_\_\_ **Parent Signature:** \_\_\_\_\_

# Reducing Waste Bingo - Revisited!



With all your new found knowledge, create your own Bingo game with a waste reduction theme. You could play it with your friends and family at home.

The first two are done for you.

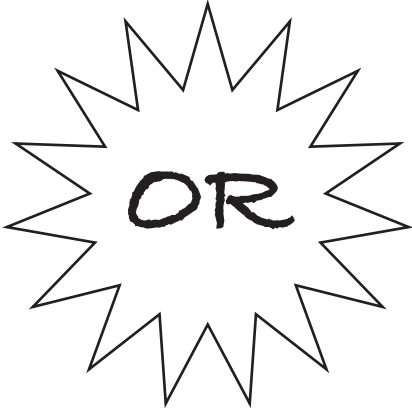
**Find someone who:**

<i>Bikes to school most days to prevent wasting fuel.</i>	<i>Buys unpackaged cakes of soap.</i>		

# Aluminium Can Life Cycle

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Cut the shapes out below and arrange them in the correct order. Once you are happy with the arrangement, glue them into the spare pages at the back of your book. Link the stages with arrows. Check your accuracy by using the Teacher's mastercopy or the CD-ROM.

Bauxite travels 3000km by boat to Gladstone refinery, Queensland.	Drinks factory - Auckland.	Landfill - Canterbury.
Bauxite mine, Weipa, Cape York, Queensland.	Recycling Plant.	Ore on boat 2200km from Gladstone to Melbourne.
Consumed by someone.	Ore smeltered (heated and melted) into aluminium blocks. Smelter Melbourne.	Distribution centre Christchurch.
Made into aluminium sheets, then cans.	Filled cans sent to Christchurch by truck and inter-island ferry to a warehouse or distribution centre.	Empty cans trucked to plant for filling - Auckland.
Corner dairy or supermarket - Canterbury.	Refinery where ore is washed out of Bauxite, Gladstone, Queensland.	
Shipped back to smelter in Melbourne for melting down - then cycle begins again.	Aluminium blocks shipped 2600km to Auckland.	
		Delivered by truck to retail outlets (shops, dairies) in Canterbury.
		Rubbish bin.

**Wahoo!!!** If you have arranged them correctly, you have cut out the first four steps of the aluminium can's life cycle. Think of how much waste/energy you have saved by recycling your can!

- mining —————> machinery —————> fuel —————> emissions  
 - shipping —————> diesel —————> emissions... the list goes on

# Notes

# Notes

# Glossary

<b>Biodegradable</b>	Capable of decomposing rapidly by micro organisms under natural conditions. Most organic materials, such as food scraps and paper are biodegradable.
<b>Carbon Footprint</b>	A Carbon Footprint is a measure of the impact human activities have on the environment in terms of the amount of greenhouse gases produced, measured in units of carbon dioxide.
<b>Compost</b>	Compost enables us to convert food (food scraps), garden waste (GREEN waste) and dried leaves, sawdust, hay, paper, etc. (BROWN waste) into something which can be used again.
<b>Food Miles</b>	Food miles refer to how much a product has had to travel to get to its final destination.
<b>Greenhouse Gases</b>	Greenhouse gases (GHGs) are trace gases that control energy flows in the Earth's atmosphere by absorbing infra-red radiation.
<b>Imported Goods</b>	Imported goods are anything that comes from another country other than where you live.
<b>Landfill (residual management – 5Rs)</b>	Landfills are essentially a hole in the ground but especially designed and built. They prevent contamination of the land and other natural resources like water. The design takes into account the geology of the land and proximity to a range of different natural resources. The base is lined so contamination of the land is minimal and they are covered to prevent smell, the spread of disease and unwanted animals like rodents living in the area.
<b>Recover</b>	Can the materials and/or its energy be used again but in a different way?
<b>Recycle</b>	Recycling is the process of reclaiming used products and objects from businesses and households and remaking them into new or sometimes different products.
<b>Reduce</b>	Reduce the amount of packaging used. For those products that must be packaged, consider methods of reducing the amount of material used in the packaging. It is the first step in the waste management strategy.
<b>Refuse Station</b>	Sites at which the public can deposit waste for composting, recycling or reuse (also known as transfer stations).
<b>Reuse</b>	The idea of reusing is to use something again in its original form for either the same purpose or a similar one. It is closely linked with reduce as it lessens the amount of waste that ends up in the landfill. It is the second step in the waste management strategy.
<b>The 5Rs</b>	The nationally and internationally recognised system for managing waste is the 'waste management hierarchy' or the 5Rs – Reduce, Reuse, Recycle, Recover and Residual Management (landfill).
<b>Vermicomposting (worm farming)</b>	The process of using earthworms to convert organic waste into nutrient-rich fertiliser. An earthworm's waste (also know as castings) provides beneficial nutrients for compost and soil, which encourages plant growth. Also called "vermiculture".
<b>Waste stream</b>	The total flow of solid waste from homes, businesses, institutions and manufacturing plants that is recycled, burned or disposed of in landfills. This includes any waste produced during production, packaging and the product itself.
<b>Wastewise</b>	Like its name, Wastewise means to be wise about waste. This includes looking at where the product is from, it's packaging, and how any remains are disposed of.