

## LIVING IN YOUR GREEN HOUSE LESSON PLAN Yr 7-10

The best place to start being green is in your own house and at school. Your behaviour and the choices you make can have a big effect on the surrounding environment. The Green House education kit should be used in conjunction with the North East Waste Forum's mobile waste education unit - The Green House - visit to the school. The lesson-plans and worksheets contained within the kit can be used before or after The Green House visit. This kit is designed to allow teachers to stimulate student thinking and give clear guidance as to how they may become 'waste wise' community members. The premise of **reduce and avoid, reuse and recycle** is the foundation for the lessons involved in this kit and The Green House visit.



Lesson One introduces and defines basic concepts such as resources and waste. It encourages consideration of waste reduction, appropriate disposal and waste avoidance. It also introduces students to a learning matrix where, with their teacher's assistance, they can select activities to undertake during and after The Green House visit.

The learning Matrix is a flexible form of delivering outcomes that enables students to select activities that suit their particular abilities or interests. It also allows for teachers to conduct one or more lessons on this topic or a complete unit of work extending for several weeks. Instructions on how to use the matrix are contained in this package.

It is intended that these lessons are taught in combination with a visit from the NEWF's mobile waste education unit - The Green House. Schools can book The Green House by contacting [greenhouse@northeastwasteforum.org.au](mailto:greenhouse@northeastwasteforum.org.au) or your local council for further assistance.



### North East Waste Forum

[www.northeastwasteforum.org.au](http://www.northeastwasteforum.org.au)

To book The Green House contact [greenhouse@northeastwasteforum.org.au](mailto:greenhouse@northeastwasteforum.org.au)  
The Green House education Program is available for schools in the NEWF Region incorporating Ballina Shire, Byron Shire, Richmond Valley, Clarence Valley, Kyogle and Tweed Shire Councils

## LESSON AIMS AND OBJECTIVES

Introduction to Living in Your Green House.

Outcomes:

At the end of the Lessons students will:

- Have gained knowledge of resources and waste.
- Comprehend waste avoidance, reuse, recycling and disposal
- Apply this knowledge and understanding to waste reduction and avoidance strategies
- Analyse information and issues arising in waste management
- Evaluate the impact of waste disposal on the physical and social environment

Key Skills:

The Lessons aim to develop skills in:

- Observation
- Collection of data while in the field
- Application of data in the classroom using graphing, sketching and other geographical tools
- Interpretation and analysis of data collected



Resources:

- Teacher resources - Appendix 1
- Curriculum links for NSW Secondary schools - Appendix 2.
- Student Work Sheet One - Living Green in Your House and at School -Appendix 3\*
- Teacher Work Sheet One - Living Green in Your House and at School -Appendix 4
- The Green House Learning Matrix- Appendix 5
- The Wising Up to Waste Crossword - Student and teacher copy Appendix 6
- A Waste of Words Find-a-Word - Student and teacher copy Appendix 7
- A Climate Change and Waste word game - Appendix 8
- The Green House Walls - Appendix 9

\*Appendices intended for students are not marked with the words Appendix ---

## LESSON STRUCTURE

Time	Script	Presentation, Tips and Resources
5 min	<p><b>Introduce the Topic: Living Green at Home and at School</b></p> <p>This lesson is designed to stimulate student thinking around the subject of waste in their daily lives. Ultimately students should feel a sense of understanding and be stimulated to get involved in this important facet of their education and daily life.</p> <p>Brainstorm for 3 minutes with class about what Living Green at Home and at School means.</p> <p><b>Explain to class what going to be happening in this and subsequent lessons and what they will learn.</b></p>	<p>Use white board for brainstorm</p>
<p>10 min</p> <p>10 min</p> <p>10 min</p>	<p><b>Hand out the student work sheet</b></p> <p>1) Define key words</p> <p>Introduce the concept of a <b>resource</b> and ask class for examples. Write these on the board and instruct class to copy onto worksheet. Repeat for waste.</p> <p>Read or have students read the paragraph on waste</p> <p>2) <b>Introduce the concept of the waste hierarchy.</b> Have students put the words Avoid/Reduce, Reuse, Recycle, Dispose in the correct order in the triangle on their worksheet</p> <p>3) <b>Explore the concepts from the hierarchy.</b> The balance of the worksheet provides information and requires students to give examples from their home and school experience.</p> <p>Teachers can reiterate and emphasise points and discuss as necessary. Where students are to add examples it is suggested at some point the list(s) be padded up by teacher input from the solutions worksheet or a lists developed with student input on the whiteboard that all students can copy down.</p> <p>Additional resources can be found on the NEWF website under the Education Section and School resources. These include:</p> <ul style="list-style-type: none"> <li>• Preparing a low waste lunch</li> <li>• Setting up a school compost heap</li> <li>• Setting up a school worm farm</li> <li>• Implementing a recycling system in the school</li> <li>• Conducting a waste audit</li> <li>• School waste fact sheets</li> </ul> <p>With section of the lesson completed the students will be suitably informed to make The Green House visit far more meaningful, enjoyable and help reinforce the central themes of waste and waste minimisation.</p> <p>If the lesson is completed after Green House visit it will serve to reinforce what students have learnt and allow them to personalise what they have learnt.</p> <p><b>** If time is short, or the school has not received the teachers kit prior to The</b></p>	<p>➤ Teacher Worksheet 1</p> <p>➤ Student Worksheet 1</p> <p>You can draw a triangle on the board for this. See solutions teachers Worksheet</p> <p>Show graph of schools waste available in Schools Waste Fact Sheet – <a href="http://www.northeastwasteforum.org.au">www.northeastwasteforum.org.au</a> - A_Z of Waste</p> <p>Low waste lunches are at <a href="http://www.northeastwasteforum.org.au">www.northeastwasteforum.org.au</a> under Education projects/ Early childhood/ resources</p> <p>The Green House Poster Walls – Appendix 9 or available for download in poster format or on-line viewing at <a href="http://www.northeastwasteforum.org.au">www.northeastwasteforum.org.au</a></p>

	<b>Green House visit, please provide copies of The Green House walls (Appendix 10) to the students to review and research in class.</b>	
15 min	<p><b>4) Introduce the Learning Matrix</b></p> <p>The ‘Green House Learning Matrix’ has been developed to allow teachers a one day follow up or several days if that suits curriculum guidelines and timetables. The Matrix is designed to allow students to follow their interests and capabilities whilst gathering information and presenting works that demonstrate what they have learnt.</p> <p>It is important that students receive a copy of the Learning Matrix as soon as possible after their Green House visit. Some of the tasks will require them to search out and copy information from The Green House poster walls which are in Appendix 10 or available for download on <a href="http://www.northeastwasteforum.org.au">www.northeastwasteforum.org.au</a> (to save on printing costs).</p> <p>As the amount of time spent on these tasks is unknown by the Green House development team the teacher can reduce student requirements by deciding which of these tasks may be selected, for example limiting selection to Knowledge and Comprehension or Verbal and Mathematical tasks only.</p> <p>The matrix tasks are considered least challenging in the Knowledge row, to most challenging in Synthesis and Evaluation rows. If this is an assessable task a sliding scale of points earned is used, for example 1 -6 points for Knowledge, Comprehension, Application, Analysis, Synthesis and Evaluation respectively. Alternately students can be required to do three Knowledge tasks, two Comprehension and Application or one Analysis, Synthesis and Evaluation.</p> <p>If students have finished their tasks early the ‘Waste of Words’ find-a-word, ‘Wising up to Waste’ crossword and Climate Change word game are available to keep their minds busy. Drawing of posters is also a fun way for students to express their new found knowledge and provide educational information on class walls.</p>	<p>➤ The learning matrix – one copy for each student</p> <p>The Green House Poster Walls – Appendix 9 or available for download in poster format or on-line viewing at <a href="http://www.northeastwasteforum.org.au">www.northeastwasteforum.org.au</a></p> <p>➤ The Wising up to waste Crossword</p> <p>➤ A Waste of Words find-a-Word</p> <p>➤ A Climate Change and Waste word game</p>
5 min	Ensure students have selected a task or set this as homework if time is short. Again the Matrix can be done entirely in class with the provision of copies of the Green House poster walls.	

### Feedback

We welcome any feedback or suggestions you have in relation to the information presented in this kit, and in particular the learning matrix. Please email [education@northeastwasteforum.org.au](mailto:education@northeastwasteforum.org.au) or contact the NEWF Education Office on Ph. 6685 3651.

## Teaching Resources

### Sustainable Schools NSW

[www.sustainableschools.nsw.edu.au](http://www.sustainableschools.nsw.edu.au)

Resource Centre, Developing a plan & Our Community

### Environmental Education Unit, Curriculum Support

[www.curriculumsupport.education.nsw.gov.au/policies/envired/index.htm](http://www.curriculumsupport.education.nsw.gov.au/policies/envired/index.htm)

Environmental Education Policy & Implementation documents, Audits and action plans & Sample SEMP's

### Local Programs & Support from: Dorrroughby Environmental Education Centre

Telephone: 6689 5286

[www.dorrroughby-e.schools.nsw.edu.au](http://www.dorrroughby-e.schools.nsw.edu.au)

Excursions, fieldwork, environmental activities, school planning

### Catholic Earthcare

[www.catholicearthcareoz.net](http://www.catholicearthcareoz.net)

### A-Z of Waste Fact Sheets

[www.northeastwasteforum.org.au](http://www.northeastwasteforum.org.au)

### NSW Department of Environment and Climate Change

<http://www.environment.nsw.gov.au/warr/index.htm/>

### Waste Wise in Schools, Sustainability Victoria

<http://www.sustainability.vic.gov.au/www/html/1861-waste-wise-schools.asp>

### Waste Management Association of Australia

<http://www.wmaa.asn.au/>

### Resource Smart Victoria

[http://www.resourcesmart.vic.gov.au/for\\_educators/waste\\_and\\_recycling\\_3168.html](http://www.resourcesmart.vic.gov.au/for_educators/waste_and_recycling_3168.html)

A very comprehensive user guide for completely transforming way waste is dealt with in schools. This website provides information, tools, training packages and anything you may need to know regards changes to make to reduce your schools environmental footprint.

[http://www2.epa.nsw.gov.au/resources/spd\\_mur\\_infoall.pdf](http://www2.epa.nsw.gov.au/resources/spd_mur_infoall.pdf)

Lessons in 'How To Recycle Effectively'. Murphy who works at the Materials Recovery Facility (MYF..Murf) takes participants through all recycling processes and the suitable and non suitable products. Presented in cartoon style and good for all ages.

## Syllabus Links

### Appendix 2

The Living in Your Green House Lesson Kit complies with the objectives of the Geography Yr 7-10 Syllabus in its aim to stimulate students' enjoyment of and interest in the interaction of the physical and human environments. The kit relates to Stage 4 and 5 where students develop knowledge and understanding of:

- the use of natural resources and sustainability
- environmental management and ecological sustainability
- contemporary environmental issues
- the responsibilities and responses of individuals, groups and government to issues in the environment
- informed and active citizenship in relation to global environments

**The matrix teaching method specifically provides educational opportunities that:**

- engage and challenge all students to maximise their individual talents and capabilities for lifelong learning.
- More specifically the following **Stage 4 and 5** outcomes are fulfilled in the abridged focus areas below:

#### **STAGE 4: Focus area 4G4 Global Environments**

Outcome 4.4 Geographical tools (collect and record data in the field)

Outcome 4.8 Interaction between people and the environment

<b>At least ONE community and the way it interacts with the selected environment:</b>	
<ul style="list-style-type: none"> <li>• the way the environment influences the community</li> </ul>	<ul style="list-style-type: none"> <li>• describe the interrelationship of the environment and a specific community</li> <li>• explain how individuals, community organisations and government actions are contributing to the current management of the environment</li> <li>• identify the responsibility of government to the community and its environment</li> <li>• describe current use of the environment and suggest strategies for future ecological sustainability</li> </ul>
<ul style="list-style-type: none"> <li>• the way the relationship between the community and the environment is changing</li> </ul>	
<ul style="list-style-type: none"> <li>• strategies and processes that individuals, groups and governments use to influence change</li> </ul>	
<ul style="list-style-type: none"> <li>• the way the community is responding to these changes</li> </ul>	

#### **OR 4G4 Global issues and Active Citizenship**

<b>Global geographical issues</b>	
<b>At least TWO global geographical issues selected from the list:</b>	Climate change, energy use, urbanisation, land degradation
<ul style="list-style-type: none"> <li>• the nature of the issue</li> </ul>	<ul style="list-style-type: none"> <li>• describe the spatial dimensions of the issue</li> <li>• describe the ecological dimensions of the issue</li> <li>• identify perspectives and bias about the issue, including in media reports</li> <li>• describe the actions of individuals, groups and governments in relation to the issue</li> <li>• communicate appropriately with organisations to participate as a global citizen</li> </ul>
<ul style="list-style-type: none"> <li>• different perspectives relevant to the issue</li> </ul>	
<ul style="list-style-type: none"> <li>• the responsibility of governments to the issue</li> </ul>	
<ul style="list-style-type: none"> <li>• the actions of individuals, groups and governments</li> </ul>	
<ul style="list-style-type: none"> <li>• implications for social justice and equity</li> </ul>	

#### **STAGE 5: Focus Area 5A2 Changing Australian Communities**

<b>Factors causing change in Australian communities</b>	
<ul style="list-style-type: none"> <li>• factors causing change including an overview of:             <ul style="list-style-type: none"> <li>– resource depletion</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• describe the factors causing change in Australian communities</li> </ul>
<b>At least ONE Australian community:</b>	

<ul style="list-style-type: none"> <li>• factors that contribute to the community's sense of identity</li> </ul>	<ul style="list-style-type: none"> <li>• define the community in terms of its shared space and/or social organisation</li> </ul>
<ul style="list-style-type: none"> <li>• factors causing change in the community</li> </ul>	<ul style="list-style-type: none"> <li>• describe the factors causing change and the impacts of change on the community</li> </ul>
<ul style="list-style-type: none"> <li>• individuals, groups and levels of government involved in the process of change</li> </ul>	<ul style="list-style-type: none"> <li>• analyse the strategies and actions of individuals, groups and different levels of government in responding to change</li> </ul>
<ul style="list-style-type: none"> <li>• community responses to change</li> </ul>	<ul style="list-style-type: none"> <li>• explain the impacts of change on the community</li> </ul>
<ul style="list-style-type: none"> <li>• purpose, structure and actions of community groups responding to change</li> </ul>	<ul style="list-style-type: none"> <li>• identify a community group and describe how it responds to change</li> </ul>

### OR Focus Area 5A3 Issues in Australian Environments

<p><b>Students learn about:</b></p> <p><b>Geographical issues</b></p> <ul style="list-style-type: none"> <li>• geographical issues affecting Australian environments including: <ul style="list-style-type: none"> <li>– land and water management</li> <li>– waste management</li> </ul> </li> </ul>	<p><b>Students learn to:</b></p> <ul style="list-style-type: none"> <li>• describe each geographical issue in relation to: <ul style="list-style-type: none"> <li>– its nature</li> <li>– its impacts</li> <li>– the responses by individuals, groups and governments to the issue</li> </ul> </li> </ul>
<p><b>At least TWO geographical issues affecting Australian environments, selected from the list above</b> (one study must include fieldwork):</p> <ul style="list-style-type: none"> <li>– the geographical processes relevant to the issue</li> <li>– the perceptions of different groups about the issue</li> <li>– individual, group and government responses to the issue</li> <li>– decision-making processes involved in the management of the issue</li> <li>– management of the issue and implications for sustainability, social justice and equity</li> </ul> <ul style="list-style-type: none"> <li>• investigate a geographical issue through fieldwork by developing and implementing a research action plan (as outlined on page 17)</li> </ul>	<ul style="list-style-type: none"> <li>• explain the interaction of the physical and human elements of the environment</li> <li>• recognise the responsibility of the levels of government to the issue</li> <li>• propose actions that promote: <ul style="list-style-type: none"> <li>– sustainability</li> </ul> </li> <li>• evaluate the success of individuals, groups and the levels of government in managing the issue</li> <li>• develop a research action plan</li> <li>• apply fieldwork techniques</li> <li>• present geographical information in an</li> <li>• demonstrate active citizenship by proposing individual/group action to address the issue</li> </ul>

<p><b>Science</b></p> <p>4.10 – Ecosystems</p> <p>5.10 – Ecosystems</p>	<ul style="list-style-type: none"> <li>• Identifying factors affecting the survival of organisms in an ecosystem</li> <li>• The impacts of human activities on ecosystems</li> </ul>
<p>5.11 – Impact of Human Resource Use.</p> <p>5.11.2 – Waste from Resource Use</p> <p>Other 4.11, 4.17, 4.18, 4.19, 4.20, 4.21, 4.23</p>	<ul style="list-style-type: none"> <li>• Pollution from waste</li> <li>• Strategies for minimising impacts and achieving environmental sustainability</li> </ul>
<p><b>Both Geography &amp; Science</b></p>	<p><b>Action Research</b></p> <ul style="list-style-type: none"> <li>• Fieldwork incorporates action research skills to investigate problems and find solutions</li> </ul>

# Living Green in Your House and at School

## Avoid Wasting Our Green Planet!!

The best place to start being green is in your own house and at school. Your behaviour and the choices you make can have a big affect on our environment.

First we need to understand a few important words:



What is a **resource** ?.....any land, raw materials or human activities that are considered valuable and used by people.

What are a few examples?

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What is **waste** ?.....an unwanted or undesired material or substance.

What are some of the common names we give to waste?



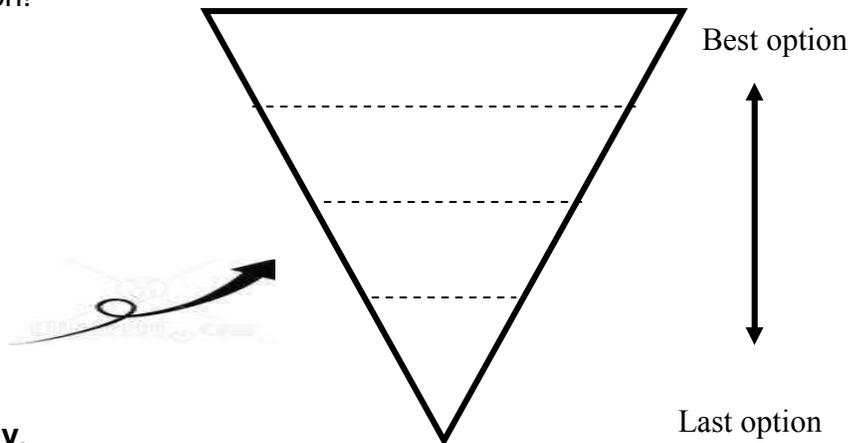
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When we buy products which we want we need to think about what **resources** have been used and how much will be **wasted**?? The items we choose to use may have a positive or negative environmental effect. Our aim is to **reduce or avoid** products that cannot be **reused or recycled** as much as possible. This way people can continue to enjoy the use of our resources for as long as possible with very little environmental impact. We are trying to **sustain** or use most efficiently our resources instead of wasting them.

**The simple rule is Reduce and Avoid, Reuse, Recycle and if there is no other choice then Dispose.** We refer to this as the **waste hierarchy**.

Let's get our thinking caps on!



**In the triangle fill in  
The Waste Hierarchy.**

.....

### Think before you buy!

Before any purchase, it is important to establish what you need and exactly how much e.g. shopping list. Avoiding purchases that we do not need will avoid making unnecessary waste. We can avoid certain products which use excess packaging and take reusable bags or a backpack when we shop. We can also avoid products which may have significant environmental impacts such as hazardous and toxic waste or excessive energy use e.g. non recycled paper. These decisions before we purchase reduce the number of waste items we need to deal with later.

Think of a product you may buy regularly. Are there other options that could reduce waste? How? Write it down.

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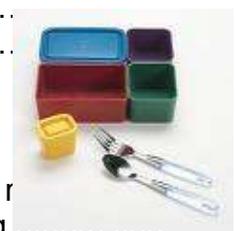


### Think before you use or eat!

How much waste will a meal create? Will I end up with a pile of non recyclable plastic, sandwich wrap, plastic bottles and some compost? Unless you have planned to avoid this outcome the answer is probably yes! It is possible to buy foods that are not individually wrapped and bring them to school in reusable containers which you can take your compostable materials home in to feed your busy and hungry worms in the worm farm. Can you think of two items in your lunch box you could change or replace to reduce waste e.g. buy bulk and pack portions in reusable container



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### Think before you discard!

Is there any other way your waste items might be able to be used by others to reuse or recycle? Old furniture, toys, clothes, sporting goods and books can all be put to good use helping others and what they need. There are many community groups you can *donate or even sell* your waste items to. Selling your second hand items can be done in the paper, online or from your garage. Can you name some of these reuse facilities??



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.....  
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Councils usually provide facilities for you to discard household hazardous and electronic (e) wastes which if thrown in your ordinary household or school bin and into landfill can have very negative environmental impacts.

Can you think of 10 household items that would be hazardous or toxic if disposed of and require safe disposal?

.....  
.....  
.....



Australian households and business generate more than 41 million tonnes of waste per year. Can you imagine what that would look like in one enormous pile !!!!! Do you think we should all start thinking about what part of that pile is discarded by **us!!!!**



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The best place to start being green is in your own house and at school. Your behaviour and the choices you make can have a big affect on our environment.



First we need to understand a few important words:

What is a **resource** ?.....any land, raw materials or human activities that are considered valuable and used by people.

What are a few examples? **air, water, land, food, timber, plastic, labour, minerals, metal, time, rubber, concrete, glass, telephone, stereo, bed, car, bike etc.**

What is **waste** ?.....an unwanted or undesired material or substance.

What are some of the common names we give to waste?



**rubbish, trash, garbage, junk, broken, second-hand, used, unwanted, discarded etc.**

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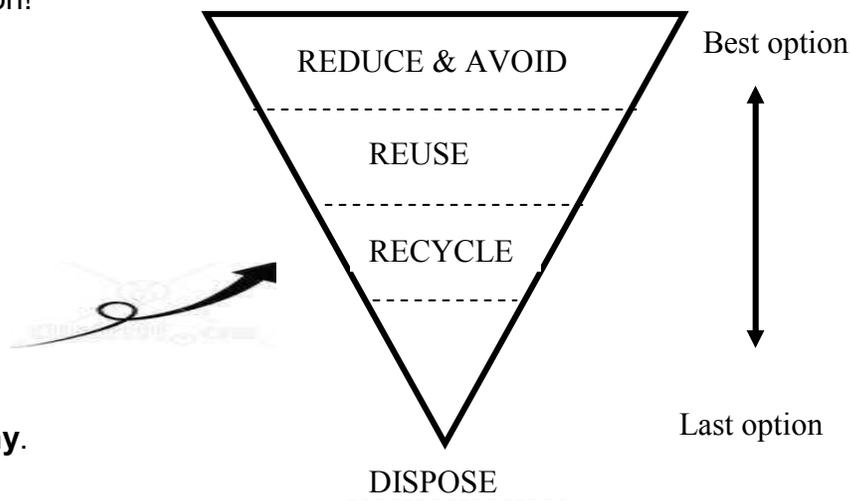
When we buy products which we want we need to think about what resources have been used and how much will be wasted?? The items we choose to use may have a positive or negative environmental effect. Our aim is to reduce or avoid products that cannot be reused or recycled as much as possible. This way people can continue to enjoy the use of our resources for as long as possible with very little environmental impact. We are trying to *sustain* or use most efficiently our resources instead of wasting them.

**The simple rule is Reduce and Avoid, Reuse, Recycle and if there is no other choice then Dispose.** We refer to this as the **waste hierarchy**.

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Think of a product you may buy regularly. Are there other options that could reduce waste? How? Write it down.

**Avoid upgrading technology before you really need to or before it is broken.  
Buy fresh foods more regularly instead of frozen, tinned or plastic wrapped.**



### Think before you use or eat!

How much waste will a meal create? Will I end up with a pile of non recyclable plastic, sandwich wrap, plastic bottles and some compost? Unless you have planned to avoid this outcome the answer is probably yes! It is possible to buy foods that are not individually wrapped and bring them to school in reusable containers which you can take your compostable materials home in to feed your busy and hungry worms in the worm farm. Can you think of two items in your lunch box you could change or replace to reduce waste e.g. buy bulk and pack portions in reusable container



**Tinned fruit – buy fresh fruit, save the tin and compost the scraps  
Juice – buy large bottle and decant portions into drink bottle, make fresh juice  
Yoghurt - buy in bulk and pack for school in reusable containers**



### Think before you discard!

Is there any other way your waste items might be able to be used by others to reuse or recycle. Your old furniture, toys, clothes, sporting goods and books can all be put to good use helping others find what they need. There are many community groups you can *donate or even sell* your waste items to. Selling your second hand items can be done in the paper, online or from your garage. Can you name some of these reuse facilities??



**Salvation Army, St Vincent de Paul, Lifeline, Red Cross, Scrappy Joe – metal, .....  
Scout and Girl Guides – aluminium, glass, corks, Freecycle – online, Asthma .....  
Foundation etc.**

Councils usually provide facilities for you to discard household hazardous and electronic (e) wastes which if thrown in the bin and into landfill can have very negative environmental impacts.

Can you think of 10 household items that would be hazardous or toxic if disposed of and require safe disposal?

**Adhesives, batteries – car and household, paint, mineral turps, kerosene, acetone (nail polish remover), paint thinners, petrol, herbicides, old fire alarm, pesticides (rat poison), gas/gas bottles, pool acid & chlorine, bleach, drain cleaner etc.**



Australian households and business generate more than 41 million tonnes of waste per year. Can you imagine what that would look like in one enormous pile!!!! Do you think we should all start thinking about what part of that pile is discarded by **us!!!!**

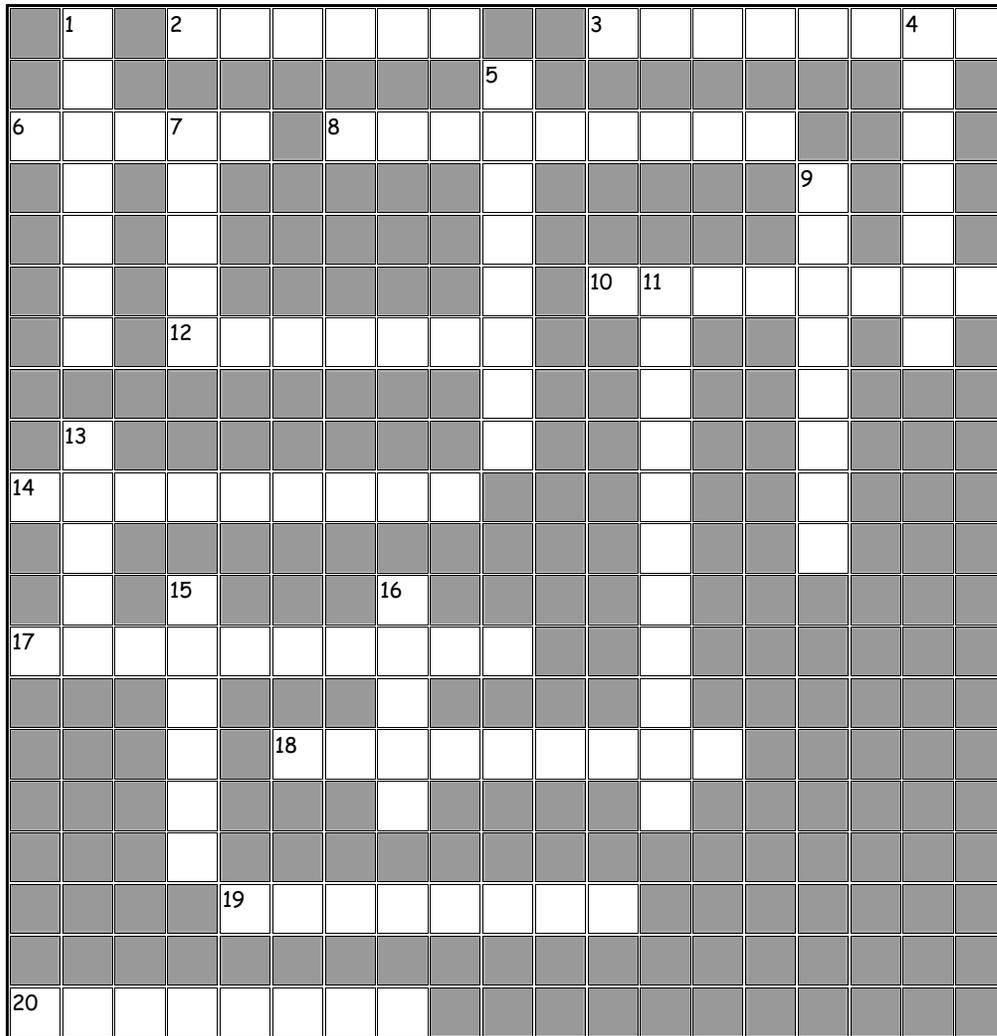
# The Green House Learning Matrix

Appendix 5

Multiple Intelligence	Verbal	Mathematical	Spatial	Kinaesthetic & Musical	Interpersonal/ Intra personal
Blooms Taxonomy					
<b>Knowledge</b> Count, quote, recall, state, read tell, identify, list, describe, define, name, repeat	Find and copy the details of the 'waste hierarchy' and draw up an A4 poster.	Find and copy two bits of information from the walls that use percentages, weight, volume or number measurements.	Draw a cross section of a compost bin and a worm farm and label.	Search the 'Living Green at Home' wall. Copy down two actions you could take at home that would help reduce waste and greenhouse gas emissions.	In pairs create a picture book about a recycling hero ( e.g. Wally the Worm, Rachel Recycler)
<b>Comprehension</b> Discuss, restate, explain, review, describe, locate, identify, summarise, give examples	From the 'Ecological Footprint' wall find and copy all the Top tips to reducing your footprint. Identify which things you already do at home.	From the 'Living Green at Home and Beyond' wall find the information to draw a bar graph that shows the percentages of what is in the rubbish bin of the average Australian household.	Complete the 'Waste of Words' find-a-word and write a definition to 5 of these words. Searching the Green House boards will help you achieve this. You will need to have the list of words you are looking for with you when you visit the Green House.	Write a radio Jingle that promotes recycling or reusing.	Design a poster from the 'Smart Shopping' display to educate people about reducing packaging
<b>Application</b> Use, apply, interpret, calculate, demonstrate, illustrate, dramatise, construct	Write an explanation about reusing something instead of buying something new. <b>OR</b> Write a letter to your local council requesting a presentation on how to set up a worm farm, compost or conduct a waste audit. Explain how this will assist your school becoming waste wise.	With data gathered from the Green House walls write a newspaper article about waste reduction in Australia	Complete the 'Wising up to Waste' crossword. <b>OR</b> Draw an A4 size picture of a 'low waste lunch' box with contents. Label the foods used, why they were chosen and how they are contained.	Write and perform a song about any of the topics covered in class or at the Green House that helps teach or inform people about waste issues. (e.g. Lets Not Waste Away, Reduce Recycle Rap etc.) Think of common tune to match it to.	In pairs write and perform a song about any of the topics covered in class or at the Green House that helps teach or inform people about waste issues. (e.g. The Landfill Lurch, Eco Footprint Stomp, Say No Say Yes etc.) Think of common tune to match it to.
<b>Analysis</b> Compare, contrast, analyse, group, order, separate, investigate, inspect <b>Synthesis</b> Plan, predict, develop, arrange, organise, devise, improve, imagine, change, construct	Write a speech about the importance of reducing waste. <b>OR</b> Write a guide to householders informing them of how to separate their waste properly (think the 3 RE words). Explain what the environmental benefits are of doing this effectively.	See 'Don't waste the earth' wall. Draw a timeline that follows the life of a resource from raw material through manufacturing to product use. Identify where energy is used and waste produced.	Draw a map of your school complete and mark positions for recycling and organic bins. Explain why certain bins were placed where they were.	Design a board game around the theme of reduce, avoid, reuse, recycle.	Create an action plan for your school to become waste efficient. Consider systems to put in place and expectations you would have of student and staff behaviour.
<b>Evaluation</b> Recommend, decide, evaluate, criticise, select, rate, judge, conclude, assess, debate	Make a list of recommended actions for your own family to follow to get you living in a Green House. Think of all that you have learnt so far.	Create a table with 3 columns and 5 rows. In column 1 list 5 things from household waste that can be reused or recycled. In column 2 list where they are sent (e.g. recycling bin, compost, charity). In Column 3 list what things that could be made from these materials.	Imagine you are going grocery shopping. Consider the 'waste hierarchy' and describe the process of selecting the appropriate products. What do you want to avoid? What waste will result from your purchase? How will the waste be dealt with?	With recyclable materials (from home or the school) create a sculpture or musical instrument	In a group of 4 develop and perform a debate around the question "Should households or governments be responsible for recycling"

# Wising Up to Waste

Using these words at home and at school is a start to helping the environment



## ACROSS

2. Where you buy secondhand clothes or goods (2,4)
3. A place where worms break down food scraps
6. Unwanted or undesired material or substance
8. Raw materials, land or human activity that are consider valuable
10. Take these bags to avoid plastic bags
12. Decaying organic matter used to fertilize soil
14. Collects rainwater (5,4)
17. Gases that cause global warming
18. Boxes, containers or wrapping on products
19. The last option if a product can not be recycled or reused
20. A common name given to advertising material put in your letter box (4,4)

## DOWN

1. Appliances left on still use power on ..... (5,2)
4. To treat or process to make suitable for reuse
5. Save power and water by reducing the use of ... .....(3,5)
7. Chemicals cause this type of waste
9. Liquid formed in landfill from decomposing organic matter
11. The water, air, plants and organisms that surround and affect us
13. Printing on both sides saves.....
15. Buying only what you need will .....waste
16. Use on gardens to keep them moist or weed free

# Wising Up to Waste

Using these words at home and at school is a start to helping the environment



	<sup>1</sup> s		<sup>2</sup> o	p	s	h	o	p			<sup>3</sup> w	o	r	m	f	a	<sup>4</sup> r	m
	t									<sup>5</sup> h								e
<sup>6</sup> w	a	s	<sup>7</sup> t	e		<sup>8</sup> r	e	s	o	u	r	c	e	s				c
	n		o							t						<sup>9</sup> l		y
	d		x							w						e		c
	b		i							a	<sup>10</sup> r	<sup>11</sup> e	u	s	a	b	l	e
	y		<sup>12</sup> c	o	m	p	o	s	t		n				c			e
										e				v				h
	<sup>13</sup> p									r				i				a
<sup>14</sup> w	a	t	e	r	t	a	n	k						r				t
	p													o				e
	e		<sup>15</sup> r							<sup>16</sup> m				n				
<sup>17</sup> g	r	e	e	n	h	o	u	s	e					m				
			d											e				
			u			<sup>18</sup> p	a	c	k	a	g	i	n	g				
			c											t				
			e															
						<sup>19</sup> d	i	s	p	o	s	e						
<sup>20</sup> j	u	n	k	m	a	i	l											



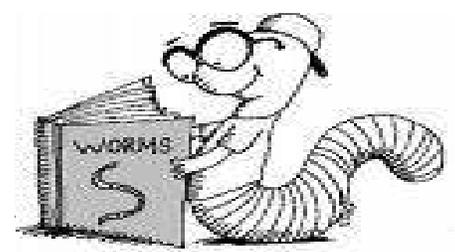
## ACROSS

- Where you buy secondhand clothes or goods (2,4)
- A place where worms break down food scraps (4,4)
- Unwanted or undesired material or substance
- Raw materials, land or human activity that are consider valuable
- Take these bags to avoid plastic bags
- Decaying organic matter used to fertilize soil
- Collects rainwater (5,4)
- Gases that cause global warming
- Boxes, containers or wrapping on products
- The last option if a product can not be recycled or reused
- A common name given to advertising material

## DOWN

- Appliances left on still use power on ..... (5,2)
- To treat or process to make suitable for reuse
- Save power and water by reducing the use of ... .....(3,5)
- Chemicals cause this type of waste
- Liquid formed in landfill from decomposing organic matter
- The water, air, plants and organisms that surround and affect us
- Printing on both sides saves.....
- Buying only what you need will .....waste
- Use on gardens to keep them moist or weed free

# A Waste of Words



Hunt down all the words related to reducing and avoiding waste! We need to find these words and use them in our homes and at school! Appendix 7

- APPRECIATE
- AVOID
- BEHAVIOUR
- COMPOST
- DISPOSE
- ECOLOGICAL FOOTPRINT
- EDUCATE
- ENERGY EFFICIENT
- ENVIRONMENT
- GLASS
- GREEN
- GREENHOUSE GAS
- LANDFILL
- LEACHATE
- MULCH
- PACKAGING
- PAPER
- PLASTIC
- POLLUTION
- RECYCLE
- REDUCE
- RESOURCE
- REUSE
- SHOPPING BAG
- SUSTAIN
- SWITCH OFF
- TOXIC WASTE
- WASTE
- WATERTANK
- WORMS

Try to find **all 30** words on this board.

V	E	T	A	H	I	K	V	X	I	O	I	G	I	T	E	E	C	U	I
Z	B	K	S	S	M	R	O	W	K	D	L	N	V	U	C	S	E	K	T
E	A	E	V	E	W	P	H	X	G	Q	S	R	I	X	A	U	S	N	G
D	T	C	I	T	S	A	L	P	C	A	T	G	G	P	C	E	I	P	U
U	G	A	T	A	Y	C	S	W	U	E	L	C	Y	C	E	R	K	G	B
C	T	J	I	H	M	W	N	O	I	T	U	L	L	O	P	E	J	A	H
A	N	Y	W	C	E	T	S	A	W	C	I	X	O	T	A	S	M	B	V
T	E	N	H	A	E	J	G	A	W	E	E	I	O	X	C	O	U	G	K
E	I	X	G	E	L	R	S	L	S	Q	K	O	L	N	K	U	L	N	V
G	C	I	A	L	H	T	P	O	W	U	F	E	J	I	A	R	C	I	G
S	I	I	D	L	E	S	P	P	M	L	C	Y	W	A	G	C	H	P	X
H	F	Y	V	I	R	S	S	K	A	U	W	Y	Q	T	I	E	Q	P	O
R	F	T	B	F	I	A	D	C	D	J	P	X	S	S	N	N	A	O	D
N	E	S	N	D	V	L	I	E	A	O	J	V	W	U	G	P	X	H	C
U	Y	O	G	N	U	G	R	E	E	N	H	O	U	S	E	G	A	S	Y
J	G	P	D	A	O	S	G	N	U	T	X	Z	E	R	O	S	V	H	X
J	R	M	W	L	K	N	A	T	R	E	T	A	W	I	I	X	O	I	V
P	E	O	O	Z	Z	A	C	Z	Q	A	F	F	O	H	C	T	I	W	S
S	N	C	Q	I	J	B	E	H	A	V	I	O	U	R	I	S	D	J	K
B	E	N	V	I	R	O	N	M	E	N	T	M	J	A	F	T	F	T	M



# A Waste of Words

Hunt down all the words related to reducing and avoiding waste! We need to find these words and use them in our homes and at school!

APPRECIATE  
 AVOID  
 BEHAVIOUR  
 COMPOST  
 DISPOSE  
 ECOLOGICAL FOOTPRINT  
 EDUCATE  
 ENERGY EFFICIENT  
ENVIRONMENT  
 GLASS  
 GREEN  
 GREENHOUSE GAS  
 LANDFILL  
 LEACHATE  
 MULCH  
 PACKAGING  
 PAPER  
 PLASTIC  
POLLUTION  
 RECYCLE  
 REDUCE  
 RESOURCE  
 REUSE  
 SHOPPING BAG  
 SUSTAIN  
 SWITCH OFF  
 TOXIC WASTE  
 WASTE  
 WATERTANK  
 WORMS

Try to find all 30 words on this board.

V	E	T	A	H	I	K	V	X	I	O	I	G	I	T	E	E	C	U	I
Z	B	K	S	S	M	R	O	W	K	D	L	N	V	U	C	S	E	K	T
E	A	E	V	E	W	P	H	X	G	Q	S	R	I	X	A	U	S	N	G
D	T	C	I	T	S	A	L	P	C	A	T	G	G	P	C	E	I	P	U
U	G	A	T	A	Y	C	S	W	U	E	L	C	Y	C	E	R	K	G	B
C	T	J	I	H	M	W	N	O	I	T	U	L	L	O	P	E	J	A	H
A	N	Y	W	C	E	T	S	A	W	C	I	X	O	T	A	S	M	B	V
T	E	N	H	A	E	J	G	A	W	E	E	I	O	X	C	O	U	G	K
E	I	X	G	E	L	R	S	L	S	Q	K	O	L	N	K	U	L	N	V
G	C	I	A	L	H	T	P	O	W	U	F	E	J	I	A	R	C	I	G
S	I	I	D	L	E	S	P	P	M	L	C	Y	W	A	G	C	H	P	X
H	F	Y	V	I	R	S	S	K	A	U	W	Y	Q	T	I	E	Q	P	O
R	F	T	B	F	I	A	D	C	D	J	P	X	S	S	N	N	A	O	D
N	E	S	N	D	V	L	I	E	A	O	J	V	W	U	G	P	X	H	C
U	Y	O	G	N	U	G	R	E	E	N	H	O	U	S	E	G	A	S	Y
J	G	P	D	A	O	S	G	N	U	T	X	Z	E	R	O	S	V	H	X
J	R	M	W	L	K	N	A	T	R	E	T	A	W	I	I	X	O	I	V
P	E	O	O	Z	Z	A	C	Z	Q	A	F	F	O	H	C	T	I	W	S
S	N	C	Q	I	J	B	E	H	A	V	I	O	U	R	I	S	D	J	K
B	E	N	V	I	R	O	N	M	E	N	T	M	J	A	E	J	F	T	M





# Waste and Climate Change

Appendix 8

What we do with our waste has a big impact on climate change and global warming. Match the descriptions below by putting the correct number beside the correct answer in the **answer bank** and see if you can make the connections.

1. The average weather we experience over a long period of time. Landfill waste can affect this.
2. The air around the earth that naturally contains greenhouse gases
3. Two common greenhouse gases that warm the earth so that we can live. When they increase too much they are considered pollution.
4. A measurable degree of heat. When too many gases pollute the atmosphere they trap the sun's heat and cause this to rise.
5. A word describing sunny skies, rain, drought and snow. Scientists say that climate change will affect these patterns.
6. The chemical process that our garbage undergoes when buried in landfill. This process produces the gas methane.
7. An animal that produces greenhouse gas when it burps. As this animal digests its food bacteria produces methane.

## ANSWER BANK

\_\_\_ COW

\_\_\_ WEATHER

\_\_\_ CLIMATE

\_\_\_ TRUCK

\_\_\_ DECOMPOSITION

\_\_\_ CARBON DIOXIDE  
AND METHANE

\_\_\_ ATMOSPHERE

\_\_\_ PRODUCTS

\_\_\_ HUMAN

\_\_\_ TEMPERATURE

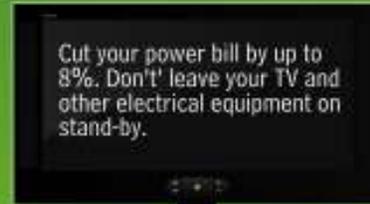
\_\_\_ REDUCE

What we want to do to greenhouse gas releases. To do this we need to think about the products we buy and use everyday and find out how they are made. Then we need to consider if we really need them or if they can be reused or recycled.



# Living Green at home and beyond

Why buy something new when you can find the same product second-hand. Save money and the environment – reuse, rent and recycle furniture, clothes, toys, books and more.



Reduce your energy use, save money and the environment by using compact fluorescent light bulbs



Make a low-waste lunch for school or work and avoid packaging. Use reusable containers, include healthy fresh food and don't forget to compost your food scraps.



Source: Department of Environment and Heritage 2006 published in Household Greenways 2006, Waste Management Research Unit, Canberra

Design by www.thegreenhouse.com

## Living Green with The Green House

[www.northeastwasteforum.org.au](http://www.northeastwasteforum.org.au)



# Living Green Outdoors

Reduce your greenhouse gas emissions by setting up your own worm farm to recycle your food scraps. Nutrient rich worm juice is the perfect organic fertiliser for your garden.



Compost your food and garden waste. Home made compost can transform soil into a nutrient rich moisture holding marvel.



Avoid wasting water by using a watering can on your pot plants around the home.



A rainwater tank can reduce your water bills and provides a valuable water source for filling washing machines, flushing toilets, watering gardens and washing cars.



Mulching your garden helps maintain moisture, prevents weed growth and creates natural compost without having to use fertilisers or pesticides.



## Living Green with The Green House

[www.northeastwasteforum.org.au](http://www.northeastwasteforum.org.au)



Design by www.thegreenhouse.com

# Living Green at Home



Sort your rubbish: Avoid, Reuse, Compost and Recycle. Almost one fifth of the average Australian family's greenhouse gas emissions is from waste which goes to landfill.



Reduce your energy use, save money and the environment by using compact fluorescent light bulbs

Check for dripping taps.



25% of energy used in the home is to heat water. Using solar energy to heat water produces no harmful greenhouse gas emissions and can provide up to 90% of your total hot water requirements (depending on climate and model of heater).

Recycle your food scraps with a compost bin or worm farm.



Reduce the use of chemicals in your home. Clean with green alternatives like white vinegar, baking soda and lemon juice and use reusable cleaning cloths instead of disposables.



Look for the most energy and water efficient appliances when purchasing new products. The more stars the rating has, the more efficient the product is and the more money you will save.



Shop Smart: Australians throw away 3.3 million tonnes of food every year – up to a quarter of the country's food supplies. Why? Simply because we purchase too much. Make a shopping list and buy only what you need.

Recycling starts in the kitchen. Set up your bin sorting station in a handy place where it's easy to access and take outside when full.

Recycling matters: it takes significantly less energy and water to make many products using recycled materials. Check with your local Council as to the service and facilities it provides for recycling in your local area.



# Don't waste the earth

Australian households and business generate more than 41 million tonnes of waste per year. More than half of the waste that ends up in landfill is a valuable resource including food and garden waste and recyclable products like paper, glass and metals. Once these resources are land filled, they are lost forever and their slow decomposition may result in greenhouse gas emissions<sup>A</sup> and potentially harmful leachate<sup>B</sup> liquid if not managed correctly. The more that we avoid, reuse, compost and recycle the less of our resources are wasted forever to landfill.

<sup>A</sup> Landfill gases can be captured and converted into energy in a modern landfill through a methane collection system. The energy is then fed into the electricity grid to power homes.  
<sup>B</sup> Leachate is made up of liquids from decomposing waste and water percolating through landfills.



Think about the life cycle of a product: where it comes from to where it will end up. By reusing and recycling, you are minimising the use of raw materials, as well as preventing waste in landfill. Recycling and reusing also saves tonnes of energy, and megalitres of water.

## Parts of a typical modern landfill

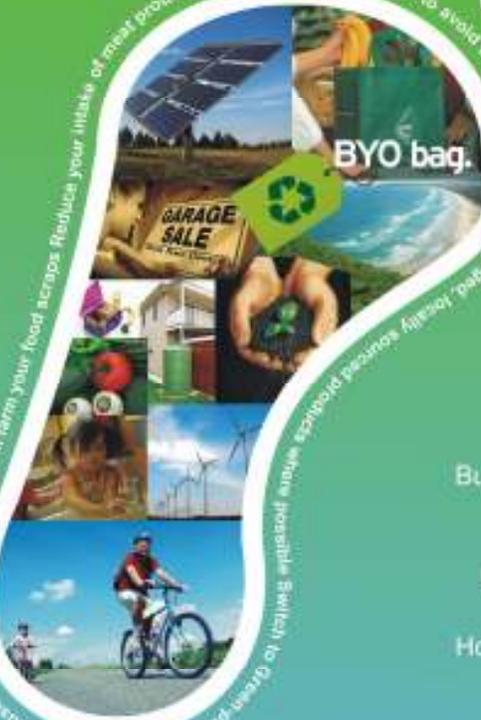
A landfill is an intricate systems of liners, pipes and cells designed to store your waste for hundreds of years.

**A - Ground Water**  
**B - Compacted Clay**  
**C - Plastic Liner**  
**D - Leachate Collection Pipes and Pumps**  
**E - Geotextile Mat**  
**F - Gravel**  
**G - Drainage Layer**  
**H - Soil Layer**  
**I - Old Disposal Cells**  
**J - Current Disposal Cells**  
**K - Leachate Pond**

# Ecological Footprint



Recycle and compost or worm farm your food scraps  
 Reduce your intake of meat products  
 Only buy what you need to avoid wasting  
 Buy fresh, unpackaged, locally sourced products  
 Switch to Green-power or solar power  
 Reduce your water use  
 Use public transport, bicycle or walk instead of using your car  
 Hold a swap party with your family and friends to exchange clothes, books, toys and music  
 Be a careful and conscious consumer



## How Big is Yours?

How many planets does it take to support your lifestyle?

As the second biggest consumers of natural resources and producers of waste per person in the world, if everyone everywhere lived like Australians currently do, we'd need 4 planets to support us all! So let's act now to protect our world.

### Top tips to reduce your footprint:

- Avoid, Reduce, Reuse, Rebuy and Recycle
- Compost or worm farm your food scraps
- Reduce your intake of meat products
- Only buy what you need to avoid wasting
- Buy fresh, unpackaged, locally sourced products
- Switch to Green-power or solar power
- Reduce your water use
- Use public transport, bicycle or walk instead of using your car
- Hold a swap party with your family and friends to exchange clothes, books, toys and music
- Be a careful and conscious consumer



Design by www.illustrations.com

Living Green with The Green House

[www.northeastwasteforum.org.au](http://www.northeastwasteforum.org.au)



# The Waste Hierarchy

## AVOID



Think before you buy!  
Buy in bulk and buy items with minimal or no packaging



### Say NO

to plastic bags  
to junk mail  
to buying things you don't need  
to unnecessary packaging  
to products in packaging which can't be reused or recycled

## REUSE



### Say YES

to buying pre-loved second hand products  
to repairing and renting products  
to reusable over disposable  
to garage sales and op shops  
to reusing items that you can

## RECYCLE



It takes 80% less energy to make aluminium cans from scrap than from raw materials



Cut your household waste in half by composting and worm farming



Recycling one tonne of paper and cardboard saves approximately 13 trees



Recycling a shipping bag full of glass bottles and aluminium cans saves at least 5kg of greenhouse gas emissions

Recycling saves resources, energy and water  
Choose products with recyclable packaging  
Buy products made out of recycled materials  
When you recycle you turn something used into a new product  
Recycle right – check with your local Council for recycling services

## DISPOSE

This is the last option and only things that can't be avoided, reused, recycled or composted should go into the rubbish bin.



Living Green with The Green House

[www.northeastwasteforum.org.au](http://www.northeastwasteforum.org.au)

