



put it in the right bin



Sustainable choices lesson ideas

These lesson ideas and accompanying activity sheets will assist in teaching students about various options for rubbish collection and disposal. The activity sheets are available in PDF format and as SMART Notebook files where applicable.

Broad learning outcomes

Participating in these lessons will assist students in achieving the following broad learning outcomes:

- Students will explore various options for disposal and reprocessing of household items after collection.
- Students will consider the environmental impact of each waste management option.
- Students will evaluate their own waste management practices.

English

- Students to research what happens to landfill waste items after they have been collected. Write a procedure explaining the process.
- Students to produce an information brochure for parents about 'reducing packaging when shopping'. It can include looking for products with recyclable packaging or buying in bulk to reduce packaging.
- Communities are much more efficient at preserving and reusing materials when there are limited resources (e.g. during wars, disasters, isolation, poverty). Students to explain the statement 'Necessity is the mother of invention' and give some supporting examples.
- Students to finish the story on '**The recycling adventures of a food can**' activity sheet. Include:
 - What happens next?
 - Where does the can go after it is placed in the recycling bin?
 - What does it become?
- Students to test their knowledge about reusing and recycling by completing level one or two of the '**Reuse or recycle crossword**' activity sheet.
- Students to find out what happens to household recycling after collection, then create a procedural information report, with diagrams, to describe the recycling process for paper, metal, plastic or glass. Consider what happens to the materials, where the process happens (e.g. locally, interstate or overseas) and the types of products that are made from the recycled materials.



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Mathematics

- Students to independently list as many items as possible that they place in their landfill bins at home. When finished:
 - collate the lists and present the results as a bar graph
 - use Excel to create a table representing the percentage of listed items that are made from different materials. For example, if there are 25 items and 10 are made of plastic, plastic items make up 40 percent.
 - calculate the percentage of items that should have been recycled or placed in an organics or special collection bin.
- Students to use a street directory, or online map website, to find a map of their street and all the roads within a 2km radius, then calculate the shortest route for a collection truck to empty all the wheelie bins in this area. Also calculate the total distance travelled. Remember that bins on both sides of the road need to be emptied.
- Students to survey their class members to find out how different families dispose of their kitchen scraps. Collate the results. Discuss which options are the most or least environmentally friendly.
- Students to complete the mathematics problems on the **'Working out waste'** activity sheet.
- Students to practise plotting coordinates by completing the **'Recycle your food scraps coordinate picture'** activity sheet.
- Students to complete the calculations and colour in the **'Use the correct bin number puzzle'** activity sheet to reveal the hidden pictures.

Science

- Students to investigate which natural materials are used to make one of the following: paper, glass, steel, aluminium or plastic, then create a presentation (booklet, oral presentation, PowerPoint, poster etc.) including the following:
 - an explanation of the process of making new and recycled products from this material
 - a list of benefits for the environment of recycling products made from this material.
- Students to conduct an experiment to find out how quickly one type of food decomposes under various conditions. For example, take several pieces of bread and place one, uncovered, under a window, one inside a paper bag, bury one underground (or cover it in dirt in a plastic container) and seal one in a zip lock bag. Analyse the results, take pictures and write a report. Alternatively, the experiment could compare the decomposition rates of different foods under the same conditions.
- Students to use the KWL chart activity sheet to begin a discussion about recycling, composting, or another collection and disposal topic.



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Humanities and Social Sciences

- Students to interview an older person to find out how waste management has changed since they were young. How much waste did they create and what did they do with it? Did they reuse or recycle? Present the information on a timeline and include predictions about how waste management will change in the future.
- Until quite recently many people burnt their garden materials (such as leaves, branches and grass clippings) in home incinerators. Students to research how home incinerators worked and were used, then discuss why they think this method is no longer used, along with some positives, negatives, and interesting facts from their research.
- Students to interview someone who lived in Australia during World War II to find out what sorts of things were in limited supply at that time. How did they reuse materials to save resources? Write a magazine/newspaper article, with photographs/pictures, and share the story with others.
- Students to explore different ways of sustainably managing waste and how these include the principles of avoid, reduce, reuse and recycle.
- Students to research two different methods of composting, (compost bins, worm farms, Bokashi buckets, etc.) and select one method they think could work in their school or classroom. Consider the organisation, time and equipment required. Design a system for collecting the food scraps. Present ideas at a school assembly or class meeting.
- Students to investigate which items can be placed in recycling bins. Visit your local council website for information. Design a poster, presentation, or online video to inform people of what can be recycled and how the items should be treated before they are placed in the bin (e.g. lids off, cleaned etc.).

The Arts

- Students to brainstorm the reasons why people put recyclable or compostable items in their landfill bin. Write a song or jingle to encourage people to use the correct bin.
- Students to research the lid colours of the waste bins in their local council area. Using only those colours, create a waste management poster.
- Students to use recyclable items to create a class mural, collage or sculpture.
- Students to use the Wheelie bin template to make their own paper recycling bin.

Technologies

- Supermarket items come in many different types of packaging (plastic, cardboard, metal). Students to select some common items and discuss why they are packaged as they are. What properties do the packaging materials have that make them suitable for the product? If the packaging cannot be recycled investigate alternative packaging for the product.



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Health and Physical Education

- Students to use the '**Leftover lunch**' activity sheet to record the uneaten or unfinished items of food from their lunch and recess for one week. What are some of the reasons for this waste (I don't like it, too much food, not enough time to eat etc.)? Develop some strategies to reduce this waste.
- Students to investigate the health risks associated with waste. What issues would be faced by individuals, society and the environment if we did not have adequate waste collection and disposal services?
- Students to create a week's worth of lunchbox options that use minimal or reusable packaging. Create menus and display them around the school.
- Students to discuss how we can reduce the amount of food that is wasted in Australia each year. Brainstorm ideas to avoid food wastage at school, home and in the community. Create a campaign to promote food waste reduction.
- Students to discuss the Waste Management Hierarchy on the '**Waste race**' activity sheet. The amount of energy used becomes greater as you move down the list (e.g. recycling something requires more energy than reusing it). Play the waste race game to reinforce this concept. When finished, brainstorm products/items that fit into each waste management category.

Languages

- Students to research the top ten languages, other than English, spoken in Australia, then design a simple 'Reduce, Reuse, Recycle' poster using one of the languages.
- Students to investigate how to say 'reduce', 'reuse' and 'recycle' in a language other than English. Are there direct translations for each word?
- Students to research waste management programs in other countries. They could choose one (or more) countries with which they have a family connection, or in which they are particularly interested. What are the similarities and differences between the waste management programs in their chosen country and Australia?