

Sort it out

Year level

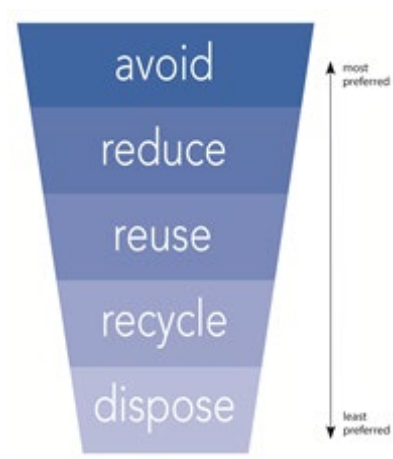
Middle primary to upper primary with extension activities listed at end of lesson plan.

Lesson description

After discussion about the waste hierarchy, students work in groups to identify and separate all items that could be avoided, reduced, reused, recycled, or composted.

In this lesson students will become aware that:

- avoid, reduce, reuse and recycle are actions that we can do at home and school to reduce our waste
- reducing, reusing and recycling our waste saves valuable resources and reduces waste to landfill
- firm plastic containers, glass bottles and jars, metal cans and tins, paper and cardboard will all be recycled when placed in the recycling bin
- flowers and garden waste will be recycled into compost when placed in the green waste bin
- fruit and vegetable scraps can be recycled via composting or worm farming



1 Waste hierarchy showing most preferred actions to least preferred.

Curriculum links

Year 4

V 9 Propose actions or responses to an issue or challenge that consider possible effects of actions (*HASS – AC9HS4S06*)

V 9 Describe how forces and the properties of materials affect function in a product or system (*Design and Technologies - AC9TDE4K01*)

V 9 Examine the properties of natural and made materials including fibres, metals, glass and plastics and consider how these properties influence their use (*Science - AC9S4U04*)

Lesson plan: Sort it out



Years 5 and 6

V 8.4 Explain how characteristics and properties of materials, systems, components, tools and equipment affect their use when producing designed solutions (*Design and Technologies – AC9TDE6K05*)

V 8.4 Select and use suitable material, components, tools, equipment and techniques to safely make designed solutions (*Design and Technologies - AC9TDE6P03*)

V 9 Propose actions or responses to issues or challenges and use criteria to assess the possible effects (*HASS - AC9HS5S06*)

Years 5 and 6

V 8.4 Investigate characteristics and properties of a range of materials, systems, components, tools and equipment and evaluate the impact of their use (*Design & Technologies - ACTDEK023*)

V 9 Explain how characteristics and properties of materials, systems, components, tools and equipment affect their use when producing designed solutions (*Design and Technologies - AC9TDE6K05*)

Year 6

V 8.4 The effect that consumer and financial decisions can have on the individual, the broader community and the environment (*Economics & Business – ACHEK017*)

V 9 Influences on consumer choices and strategies that can be used to make informed personal consumer and financial choices (*HASS – AC9HS6K08*)

Year 7

V 8.4 Science and technology contribute to finding solutions to a range of contemporary issues: these solutions may impact on other areas of society and involve ethical considerations (*Science - ACSHE120*)

V 9 Examine how proposed scientific responses to contemporary issues may impact on society and explore ethical, environmental, social and economic considerations (*Science – AC9S7H03*)

Year 8

V 8.4 Science and technology contribute to finding solutions to a range of contemporary issues: these solutions may impact on other areas of society and involve ethical considerations (*Science - ACSHE135*)

V 9 Examine how proposed scientific responses to contemporary issues may impact on society and explore ethical, environmental, social and economic issues (*Science – AC9S8H03*)

V 9 Explore the role of science communication in informing individual viewpoints and community policies and regulations (*Science – AC9S8H04*)

Materials

- Bag of recyclable and non-recyclable materials for each group. All bags should contain approximately the same number of recyclable materials, compostable waste (represented by plastic fruit and vegetables) and general waste items (including 2 or 3 items such as a piece of clothing or crockery) that could be reused.
- Posters of 'What goes in your recycling bin?' and 'What goes in my worm farm or compost bin?' (available on the Brisbane City Council website)
- Fact sheets: 'What can be recycled?' and 'Compost and worm farms brochure' (also available on Council's website)
- 5 signs for each group: 'Avoid; Reduce, Reuse, Recycle, Compost'
- Chalk, rope, buckets or hoola hoops to mark out circle for each group
- Alternatively, register online to borrow a [waste audit kit from Council](#) (available to Brisbane LGA schools only) which contains all equipment required to conduct a waste audit or waste sorting exercise.

Procedure

1. Discuss with students the need to reduce our waste and conserve our resources.
2. Discuss the waste hierarchy, what is most preferred to least preferred and why. Explain that avoiding waste by only buying what we need and buying things without packaging is an even better option for reducing our waste.
3. Explain that while recycling is a very important strategy for reducing waste, it is the last option and comes after reducing or reusing an item.
4. Demonstrate the materials that can be placed in the recycling bin and show posters to further reinforce this knowledge. Briefly explain that the paper, cardboard, plastic containers, cans and glass bottles and jars that are put in our yellow-lidded recycling bin are sent to the recycling factory where they are sorted and then are re-processed into new products.
5. Show students a piece of fruit or a vegetable and explain that these items can also be recycled, but not in the yellow lidded bin. Explain how we can recycle fruit and vegetable scraps organically through composting or worm farming. Refer to Council's online fact sheets 'What can be recycled?' and 'Composting' for more information.
6. Divide class into groups of 4 or 5 students. Each group is given a bag of materials to sort.
7. In front of each group mark out two circles and put a 'Landfill' sign in one circle and a 'Recycle' sign in the other circle.
8. Explain that students need to sit down and one at a time take an item out of the bag and place it in one of the two circles. The 'Recycle' circle is only for items that can go in the recycling bin. Once a student has placed an item in one of the circles, they sit down and it is the turn of the next person in the group. Clarify that the plastic fruit and vegetables represent real fruit and vegetables. Once bag is empty students observe and record how many items went to landfill and how many could be composted. Ensure students in each group have sorted items correctly.

9. Discuss the number of items are still ending up in landfill and ask students what else they could do to reduce their waste.
10. Give each group two more signs, 'Reduce' and 'Compost' and have them re-sort materials.

Once they have finished and you have checked that items have been placed in correct piles tell them that for every item they have placed correctly in 'Landfill' the group scores one point, for every item placed correctly in the 'Recycle' circle they score 2 points, for every item placed correctly in the 'Compost' circle, they score 5 points and for every item in 'Reuse' they score 10 points.

11. Discuss with students why reuse scores the highest and why composting scores more points than recycling. (*Recycling involves the use of resources such as water and energy to turn old products into new products, composting requires less resources, but reuse involves no additional resources*).

Extension activity

Students create a card game called 'Landfill' similar to 'Donkey'.

Using a blank set of cards, students paste or draw an identical picture of an item that could be reused, composted or recycled on two cards. One single card has a picture of a pile of rubbish to represent 'Landfill'. Cards are dealt out evenly amongst players and if anyone has a pair of identical cards they place them down in front of them. The person who is on the left of the dealer then takes one card from the person who is on their left. If it makes a pair he places the pair in front of her/him. That person then takes a card from the person on their left and it continues until there is only one person left with a card which is the 'Landfill' card. Whoever is left with that card loses the game.

Book an excursion to the [Towards Zero Waste Education Centre](#) at Brisbane Landfill to receive a waste education presentation with Brisbane City Council and tour of the landfill. This will give students the opportunity to learn more about moving towards zero waste, waste minimisation and landfill operations.

Register to borrow a free [waste audit kit](#) from Brisbane City Council and examine a real sample of school waste to learn what waste mistakes teachers and students may be making. Report results to the student body in a presentation to educate fellow students on how they can reduce waste to landfill.