



Kanwal Public School

Discover how practical solutions delivered by an enthusiastic student 'IBIS' team led to a 70% reduction in food waste going to landfill.

Project background

Kanwal Public School has been exploring environmental themes in cross-curricular activities for a number of years and progressively building its sustainability knowledge and skills amongst students and staff. The popularity of lunchtime gardening activities in the school's vegetable plot and food forest has seen a kitchen garden program embedded across all stages.

Plastic has also been a particular focus, including adopting the 'Take 3 for the Sea' message. This global movement is a home-grown Central Coast initiative that helps people to see and understand the problem of plastic pollution in our waterways.

Inspired by these successful activities, the school decided to further explore the issue of waste and how organics might be diverted to produce compost for the school's kitchen garden.

Project goals

- Significantly reduce the school's waste going to landfill by introducing bin stations to further separate waste at source into food scraps and Return & Earn.
- Educate students and the wider school community about the impact of waste going to landfill and how we can all contribute to reduce this problem.
- Transform organic 'waste' into a resource by increasing the use of worm farms and composts to turn food scraps into food for plants.
- Grow more food in the school vegetable garden for the school canteen and kitchen garden program.

From waste audit to new bins and beyond



The school undertook two waste audits fifteen weeks apart to measure the impact of their waste reduction efforts.



After the first audit new bins were distributed and student-designed stickers were applied to to explain what should go in each bin.

Kanwal PS Waste Audit 7/11/23

MIXED WASTE LANDFILL BIN	Contents	MASS	Not Saved VOLUME
FOOD SCRAPS		6 kg	15 L
Recycling (NDNN RfE)		0.3kg	10 L
Return + Earn (39)		1.2kg	25 L
Landfill incl soft plastics		19.7kg	347 L
Paper & Cardboard		2 kg	50 L

FOOD SCRAP BINS 😊	going to compost
in classrooms	15kg 50 L
in playground	3kg 9 L

RETURN + EARN BINS	going to Recycling
in classrooms (36)	0.7kg 20 L
in playground (59)	2.3kg 35 L

in one day 127 refundables = \$12.70 if 10c refund
 we get 5c for returner when collected so \$6.35/day
 = \$1270/year
 potential funds raised

During waste audits the students applied their knowledge of mass and volume, and did multiple calculations.

Changes implemented

In classrooms:

- Every class has a food scrap caddy that is emptied twice a week.
- On Tuesdays the classroom food scraps are taken to the school compost bins.
- On Fridays the food scraps are taken to the waste contractor's food organics/garden organics (FOGO) bin.
- Teachers had a choice between 2 different styles of bins for their classrooms, depending on the amount of space they had available.

In the playground:

- There are five bin stations in the playgrounds with bin inserts/flexitubs to capture food organics and Return & Earn.
- Bins are checked for contamination at the end of recess and lunch.
- The FOGO bins are collected weekly.

In the garden:

- The school's popular lunchtime gardening group use some of the food scraps to feed onsite worm farms.
- 6 new 220L compost bins and four worm buffets (in-ground worm farms) are in use to make healthy soil for the school's vegetable garden and food forest.

Student involvement

- A team of IBISes have helped to roll out this waste reduction initiative. No, not the birds! IBIS is an acronym for 'Intelligent Bin Inspection Students'
- Each class has 3 IBISes, who help with emptying the food scrap caddy in their class room, as well as support the Lead Teacher with ongoing in-class training.
- IBISes can also volunteer for additional responsibilities. These include a roster to check the bins at the end of recess and lunch and use tongs to remove any contamination and put those items in the correct bin.

“The discussion and demonstration of composting prompted further discussions back in the classroom which led to a procedural text lesson on how to construct a personalised worm farm. Feedback from students has been very positive, several have taken the information home and encouraged their families to build a compost system in the backyard.”

Year 3 Teacher

What waste goes where



The IBISes also created information posters for school noticeboards explaining what could go in the FOGO bins. This included indicating that wrappers need to be removed first.

Worm farming

- The worms used in worm farms are different to your everyday garden worms. They are known as Red Worms or Tiger Worms.
- One worm can eat its own weight in food each day. So 1-2kg of worms can deal with 1-2kgs of food waste per day!
- When eating your food waste, worms produce two types of fertiliser that can be used on your garden:
 - Worm pee (vermiliquid).
 - Worm poo (vermicast).
- As worms are sensitive to big changes in temperature, it is best to put them in a sheltered spot out of the sun.
- Remember to keep the tap on your worm farm open so they don't drown when it rains.

Advice for other schools

- Educate the school community about what belongs in which bin. Kanwal Public School used a waste positive behaviour for learning (PBL) lesson for the whole school and created "Which Bin do I Use" signs for all the classrooms and noticeboards to help remind everyone about what waste went where.
- Recognise and reward your IBIS team – Kanwal Public School does this via cooking sessions with the IBIS team. Other schools give out points to their students.
- Before introducing food waste separation, understand who empties and cleans what bins. While Kanwal Public School's students are responsible for classroom bins, the school needed cleaning support for the playground bins. The cleaners need to be on board or your food waste will end up in the landfill bins.
- Allocate a couple of hours a week for a staff member (teacher and/or SLSO) to support the program – to keep it top of mind in the school to help reduce contamination and to make sure the bins get emptied and cleaned.

Kanwal's composting tips



Tip 1: Paper is a 'brown' material in composting. The smaller the paper pieces the faster it will break down in the compost. For best results try to add one part green/nitrogen matter (fruit and vegetable scraps, grass clippings) to two parts brown/carbon matter (dry leaves, paper, cardboard).

Tip 2: To avoid rats being attracted to the compost bins a perforated aluminium sheet was placed under each bin

90kg

of food waste is now being composted in on-site compost bins and worm farms, or through the school's organic waste collection service