NSW Department of Education

Composting

A how-to guide for schools

January 2025

Acknowledgement of Country

The Department of Education acknowledges the Traditional Custodians of the lands where we work and live. We celebrate the diversity of Aboriginal peoples and their ongoing cultures and connections to the lands and waters of NSW.

We pay our respects to Elders past, present and emerging and acknowledge the Aboriginal and Torres Strait Islander people that contributed to the development of this handbook.

Guide to Composting

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What is composting?

Composting is a natural way of dealing with organic waste.

When organic matter dies and subsequently decomposes it forms a dark rich soil known as humus or compost, which is so rich in nutrients some people call it “black gold.” Compost can be used in gardening and farming to support the growth of plants.

Bacteria and fungi, earthworms, millipedes and billions of microbes all help break organic matter down into a dark rich soil (humus).

How does it work?

The whole process of breaking down organic matter into humus takes place over a few weeks or months. Bacteria and fungi start the process of decomposition. A by-product of their activity is heat so compost piles can get up to 65°c. This heat helps speed up the process as well as kill off any weeds and harmful bugs that maybe in the compost.

Once the temperature drops off, invertebrates like earthworms and millipedes enter the compost heap from the surrounding soil and finish off the decomposition process.

The result is a safe-to-use compost, ideal for nourishing the school gardens and vegetable patches.

Why compost?

By introducing composting, the school can empower students to start making a difference to the environment. Over half of waste that goes to landfill is organic waste and accounts for over 3% of Australia’s total greenhouse emissions annually. When buried in landfill, it decomposes anaerobically i.e. without oxygen. This is a problem because this process produces methane, a greenhouse gas which is 25 times more potent than carbon dioxide in trapping heat in the atmosphere.

Composting will reduce the amount of money spent on waste disposal. Food waste is incredibly heavy. As general waste disposal costs are determined by weight, not separating out food waste is contributing to increased costs in waste collection.

The humus that is produced can be used to improve the quality of our soil by creating a natural fertiliser which replenishes nutrients in our soils, improving soil health and structure, increases the ability of soil to hold water and leads to better plant health.

Setting up a compost system

Setting up a compost system is a simple thing to do.

Gardening Australia has a great introduction into composting that is worth watching before you start. It is also really important to work out the logistics in supporting a successful school composting system, before getting started.

Who will be managing the compost?

Whether this is the environment team, a teacher or the GA you need to ensure that firstly, they know about it and secondly, more than one person is involved so there is always a backup and the responsibility is shared!

How is the food scrap collection system going to work?

Who collects, empties and cleans the bins?

Where are they going to be placed (classrooms, staff rooms, canteen, playgrounds)?

How many do you need?

The Waste Handbook has suggestions for the types of bin infrastructure that should be used for different areas.

How are you going to educate the school community about separating out food waste?

Many schools will launch this type of initiative with a whole of school positive behaviour lesson. However, this will need to be continually reinforced. A great way of doing this is clear signage which serves to remind people about what can go in food scraps bins and what can't. The bin suppliers usually have signs but a great and fun way of involving students is to get them to make signage for around the school.

The student environmental team can be great advocates and reinforcers by checking bins for contamination!

Once you have sorted this out, you are ready to set up your compost system! We recommend following the simple set up procedure outlined below.

Equipment list:

- A minimum of 3 compost bins with 2 red lids and 1 green lid.
- Twigs, prunings, dry leaves, mulch, grass clippings, paper, cardboard
- Some mature compost or healthy soil to act as a starter
- Rodent proof barrier
- Compost aerating tool
- Dolomite or compost conditioner
- Hessian sacks or compost blankets
- Access to water
- Gloves
- Pelletised manure (optional).

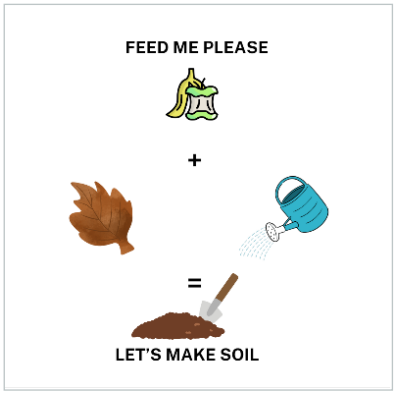
Stepped out process

Step 1

Pick a flat and accessible area that has adequate room for at least 3 compost bins. The ideal spot is sunny, well drained, close to water, and where there is room to store both garden mulch and other “woody” materials used in the composting process.

Step 2

Make sure you have colour coded lids with additional clear labelling. These examples were made using Canva.



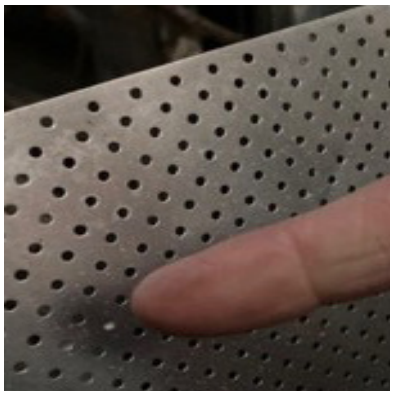
Step 3

To avoid rodents burrowing under the compost to get to the food scraps use a sheet of aluminium with perforations. These can be sourced from a local metal fabricating workshop – 1mm thick with holes up to 10mm diameter.

Wire mesh can also be used but may rust and need replacing more often. The size of the holes in the mesh must also be small enough to ensure that rodents cannot crawl through. We recommend that the size of the holes are no bigger than 1cm square.

Hardware shops sell a mesh called 'Snake & Mouse Mesh' or 'Vermin Mesh' which we recommend as a wire mesh option: This type of barrier will stop rodents but still allow compost creatures to enter through the soil as well as allow air in and water drainage.

A short film from Gardening Australia explains how to fit the vermin mesh to the compost bin.



Step 4

To set up the first compost bin, place a 10-15cm layer (about the width of four fingers) of woody mulch or other coarse material such as dry leaves, twigs, paper, torn up cardboard in the bottom of the compost bin and water generously.

Step 5

Seed the compost bin with some rich ALIVE soil or mature compost

Step 6

Now you are ready to start adding food scraps following the ADAM principles (see page 7) and using the compost stew recipe to keep your compost system healthy. This compost bin should have the green lid and is the "feed me" bin!

Step 7

Cover with a hessian sack or compost blanket which helps keep the compost moist as well as keep the flies out.

Step 8

When you have filled your first bin, it will need to mature. Change the lid to a RED one and do not add any more fresh material. To help the compost mature, you will need to keep it moist by adding water and turn it to mix in some dolomite lime and pelletised manure once a week using the compost tool. It will reduce down to about half.

Step 9

Once the compost looks like a beautiful rich dark soil, let it rest for about 4 weeks, then it can be added to your school gardens! Keep the RED LID on this bin until it is all used. Then that compost bins can become the new GREEN LID "feed me" bin and the cycle continues!

Yowie Bay Public School

Students emptying a mature compost bin ready for use in the garden, and then preparing the empty bin for new compost by putting a 10-15cm layer of dry leaves and torn up cardboard at the base of the bin.

Maintaining your compost

If you follow the ADAM principle your compost will remain healthy.

ADAM = Aliveness, Diversity, Aeration, Moistness.

Aliveness

Think of compost as a 'living creature' full of worms, bacteria, microbes and other living organisms all working together to break down the organic waste into compost.

Diversity

You need to feed your compost a variety of materials. Aim for a 50/50 mix of food scraps to mulch (twigs, leaves, paper, cardboard etc). For every layer or bucket of food waste, add a layer of mulch! To overcome any acidity add a teaspoon of dolomite every week.

Aeration

There are living organisms in the compost who need oxygen so it should be turned at least once a week using a compost tool. Aerating the compost also helps stop it from becoming smelly.

Moisture

Compost needs water to live. It needs to be not too dry and not too wet. Aim for it be like a damp sponge by adding water every week or so especially when there is hot weather. If your compost does become too wet, add some brown waste to absorb moisture.

Easy compost stew recipe

Follow these simple steps to create a rich and nutritious soil.

Ingredients

- Food scraps
- Garden waste and other materials such as paper and cardboard
- Water
- Air
- Dolomite, compost conditioner or wood ash

Method

1. Take off the lid and blanket.
2. Tip in the food scraps.
3. Tip in the same amount of dry leaves/woody mulch.
4. Turn with the aerating tool to give the compost air.
5. Water the compost if needed.
6. Put the lid and blanket back on.
7. Clean your tools and put them away.

Examples of things that can and can't be composted

Yes	No
Vegetable and fruit scraps	Meat and dairy produce
Leaves and woody mulch	Wheat/ bread
Leaves	Plastic, metal, glass
Newspaper	Animal poo
Dead flowers	Glossy paper
Tea leaves/bags and coffee grounds	Bones
Egg shells - crushed	Fat
Grass cutting	Large tree branches
Sawdust (not from treated timber)	
Shredded paper (not glossy)	

Compost troubleshooting

Problem	Remedy
Smelly Compost This can be caused by compost being too wet, insufficient air or it has too many food scraps	Aerate the compost by adding more mulch, dry leaves and other coarse material. Use the compost tool to turn compost. Add a couple of handfuls of dolomite or garden lime.
Unwelcome visitors Ants, cockroaches, rats, mice or flies could make your compost their homes	If you didn't set the compost up with wire mesh or perforated aluminium sheeting and the compost is attracting vermin, do so now! Always keep the surface of the heap covered with hessian sacking or a compost blanket and keep the lid on Mix the heap more regularly with the compost tool as vermin don't like to be disturbed Keep the compost moist as vermin don't like damp environments Add a handful of dolomite and mix to discourage ants and cockroaches Maggots are part of life in a compost. Cover food scraps with carbon material to reduce fly access, keep lid on.
Compost isn't heating up	Add more nitrogen containing materials such as fresh grass clippings, old compost or dynamic lifter Check moisture levels as dry heaps don't heat up. Add more water when turn Mix the heap more regularly with the compost tool Add a handful of dolomite
Composting is too slow This can happen if the compost is too wet or too dry as well as too cold.	Too wet – add torn up paper to absorb the moisture Too dry – add water and turn Sitr in old compost, dynamic lifter or grass clippings

Problem	Remedy
Compost is dry You should be able to squeeze moisture out of a handful of compost	Add water and turn
Insufficient carbon materials to mix with food scraps	Ask GA to keep regular pile of woody mulch handy. Seek local tree lopper's wood chip to mix with food scraps. Collect shredded scrap paper and cardboard in bins near compost with water to wet and students to tear it up as needed.
Too much bread – going mouldy	A lot of bread is commonly found in school organics waste. Remember the mantra "No wheat, no meat and no dairy" . Alternative solutions could be chickens, FOGO or send home.

Ashcroft Public School

Students harvesting vegetables from the school's kitchen garden which has been enriched with compost.

Preparing for the holiday period

When the school is not going to be attended for an extended period and potentially no-one is around to look after the compost you may want to close down or rest your compost system.

Close Down Steps

1. Remove lids and compost blankets / hessian sacking.

2. Before mixing, lift off bins to inspect the progress of the entire heap.

Put the bin back on the heap!

3. Do an initial mix, right to the base, of ALL the bins using the compost spiral tool.

4. Add a minimum of 5 litres of manure to each bin.

5. Add a handful of garden lime or dolomite to each bin.

6. Water really well and TURN, TURN, TURN all bins using the compost tool.

7. Put the bag or blanket back on and add a SECOND bag or blanket. This helps each bin to retain moisture and reduce evaporation.

8. Put all the lids back on.

9. Say goodbye for the holidays.

10. Once you get back from holidays, take off all the lids and blankets, give all the bins a good water and mix. You should have some superb compost for your gardens.

Further resources

Useful videos

Composting for kids Food Scrap Fridays in schools and troubleshooting

Gardening Australia: For great compost, think like a microbe

Kimbriki Quick Guide Composting

Hornsby Council I Dig Compost Guide to Composting

References

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https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/wasteregulation/fogo-on-a-page.

https://www.dcceew.gov.au/environment/protection/waste/food-waste#end-food-waste-australia

https://www.hornsby.nsw.gov.au/__data/assets/pdf_file/0003/52509/HSC00272-EGFS-Composting-FA.pdf

https://www.desi.qld.gov.au/our-department/news-media/down-to-earth/how-to-compost-effectively

Walcha Central School

Students adding brown matter via shredded paper and aerating the compost.

We acknowledge the homelands of all Aboriginal and/or Torres Strait Islander people and pay our respect to Country.

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