

# COMPOST HAPPENS — Class Notes



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## HOW TO COMPOST

Composting is the combining and managing of specific waste materials so that they decompose. Once the materials are mixed together, microbes in the soil will start to breakdown the waste and turn it into the nutrient-rich material that helps plants grow. By composting, you are not only creating something that helps keep plants healthy, but you are keeping compostable waste products like food scraps and yard waste out of landfills.

### WHAT YOU WILL NEED

#### Brown material to produce carbon:

Dead leaves, branches and twigs, sawdust or wood chips, coffee filters, cotton and wool rags, shredded pieces of paper, cardboard or newspaper and shredded nut shells.



#### Green material to produce nitrogen:

Grass clippings and leaves, fruit and vegetable scraps, hair, lint, tea and coffee grounds



#### Water



### 1 Select a dry, shady spot near a water source.

Ideal size for your compost area is 3 feet wide by 3 feet deep by 3 feet tall (1 cubic yard). You can buy a bin, use chicken wire, or just isolate an area of ground for your compost heap.



### 2 Add brown and green material in alternate layers.

Try and keep the ratio roughly 3 parts browns to 1 part greens. Make sure larger pieces of material are chopped or shredded.



### 3 Keep the compost moist [but not too wet].

Moisture helps with the breakdown of organic matter.



### 4 Occasionally turn your compost mixture to provide aeration.

This helps speed up the composting process and keeps things airy, which cuts the risk of things getting smelly.



### 5 As materials breakdown, the pile will get warm.

There might even be steam. Don't be alarmed. That means it's working. Now you just have to wait.



### 6 All done!

When material is dark with no remnants of food or waste, your compost is ready. Add it to lawns and gardens or anywhere that could benefit from some good soil.

### WHAT NOT TO COMPOST

Metal, glass, and other products that do not easily breakdown, coal or charcoal ash, diseased or insect-ridden plants, black walnut tree leaves and twigs, pet waste, bones, meat, fats, oils dairy products and eggs (egg shells are OK), and yard trimmings treated with chemical pesticides.



#### What's vermicomposting?

Vermicomposting is a type of composting that uses red wiggler earthworms (*Eisenia fetida*) to break down organic material. Place worms in a container 8-16 inches deep, layered with dirt, newspaper, and leaves. Make sure the bin has small holes at the bottom (a quarter inch or smaller) to allow for ventilation and drainage. Fruit and vegetable waste will eventually be replaced with nutrient-rich excrement. This method requires far less space, so it's a good alternative for people who don't have enough room or the ideal conditions for a large compost pile.

## THE BASICS

Composting is an invaluable way to reduce human impact on the environment. It prevents landfill methane emissions, contributes to carbon sequestration, creates healthy soils, and, when done at home, reduces the ecological footprint and economic cost of a community's waste management system. Best of all, composting is an easy all-natural process. A team of micro- and macro-organisms will do all the important work, our job is to just provide them with an ideal environment to get 'er done. You can micromanage or be as hands-off as you like. At a minimum, a compost pile requires food, water, oxygen, heat and some sort of structure. Beyond that you'll decide what, where, and how to compost in the best way to suit your needs.

## FEEDING THE PILE

Compost ingredients are divided into two main categories. "Browns" are materials high in carbon, and are the building blocks of the pile. "Greens" are materials high in nitrogen, and provide the energy to fuel metabolic activity and speed up the decomposition process. A pile should mix both types – but will always need more carbon than nitrogen (2-3 times as many brown materials as green.) EXAMPLES OF BROWN MATERIALS: dried plants, wood chips, shredded paper, cardboard, straw. EXAMPLES OF GREEN MATERIALS: fresh pulled weeds & yard trimmings, fresh grass clippings, coffee grounds, stale food, vegetable peelings, kitchen scraps, fur, feathers, hair.

MATERIALS TO AVOID – Not everything should be composted at home. Leave out: meats, dairy, oils/fats, bones, anything chemically treated, bioplastics, invasive plants, infected/infested plants, seeds, manures from carnivorous animals, colored or glossy paper. In general, follow the "when in doubt, leave it out" rule.

## PILE TEMPERATURE

The temperature of a pile indicates its rate of metabolic activity- the hotter the pile, the faster it will break down. But temperature fluctuates, and, to maintain a "hot" compost pile, the process must be monitored and managed (with a well-balanced carbon to nitrogen ratio, actively aerating the pile, and regularly checking the temperature). The easiest way to compost is to maintain a "cold" compost pile. This type of system is more art than science and will not need to be closely monitored or have much time spent managing it. It will however take longer to break the materials down. Whichever route you choose here are four tips for making compost more quickly:

1. Feed the pile a variety of materials, with enough nitrogen-rich greens to energize the process. *(recommended)*
2. Keep the pile damp, but never dried out or saturated. *(required)*
3. Chop/shred/cut up materials into a smaller size before composting. *(optional)*
4. Turn the pile to aerate and enliven the process. *(optional, or, recommended to resolve problems)*

## AERATION

Compost is a living system that requires oxygen. To keep the pile from becoming compressed and anaerobic, either turn it periodically, or, build aeration in by adding layers of twiggy dry material in between wetter, denser materials. It is also important to not let a pile drown – cover during long periods of rainy weather or check to make sure it is draining freely.

## STRUCTURES

You can compost in a plain old pile. Or you can spend lots of money on a high-tech system. You can DIY build a bin from a wide variety of materials. Or you can skip the pile completely and bury your scraps. In the end, the decision is yours. Choose a system that fits your yard, budget, and materials needing to be managed. Composting closer to the kitchen is more convenient, near a water source is nice, and a sunny spot will heat up faster.

## BLACK GOLD!

Finished compost is an excellent addition to your garden beds or top-dressing for turf. It will improve the health of your soil and plants, and make your landscape easier to work with. All while reducing the waste your household makes.