

# April 2007: 30 Days of Green

SUNDAY

MONDAY

TUESDAY

WEDNESDAY

THURSDAY

FRIDAY

SATURDAY

April is National Garden Month® — When you garden, you **GROW!**

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## Curious about Compost

Help students learn about recycling in nature *and* how to reduce lunchroom waste!

[>>Printer-friendly pdf](#)

### background

It is estimated that **the average student generates 67 pounds of lunchtime waste** each school year when they throw away uneaten food, plastic baggies, utensils, and paper napkins. Promoting the use of reusable and or recyclable containers and utensils for school lunches is a great way to reduce the amount of waste while teaching students important environmental principles, but what can you do with leftover food scraps?

Start composting!

#### Composting: Nature's Recycling

Mother Nature is the ultimate recycler: She returns living organisms back to the earth after they die. As the organisms decompose, the nutrients they contain are broken down and returned to the soil, where they are available for use by future plants and animals.

Essentially, decomposition is what happens when an incredible array of organisms, both large and small, eat nature's "leftovers." Decomposers include worms and beetles as well as beneficial fungi and bacteria.

Composting happens when humans promote this natural process of decomposition and nutrient cycling by creating an environment in which particular decomposers thrive. As the decomposers use the organic matter for energy and maintenance, they break it down into simpler molecules that can be used again as nutrients for plants, and the cycle begins all over again. This process also gives off heat, which in turn speeds up decomposition. While microorganisms accomplish most of the chemical decomposition in a compost pile, small invertebrates such as sowbugs and earthworms are responsible for much of the physical breakdown of materials.

Get students thinking about nature's recycling by asking questions, such as "*Where do all the leaves go when they fall in autumn?*" and "*What would happen if those leaves didn't decompose?*" Take advantage of the abundant learning opportunities by setting up your own composting experiments. You can construct basic compost piles outside in your garden or create an indoor worm composting bin.

### activity

#### Searching for Compost Materials in the Cafeteria

Lead students in brainstorming a list of lunch-related materials that they think will and will not decompose. To test predictions, create mini-decomposition

chambers (e.g., sealed plastic bags or clear plastic bottles). Fill the containers with some of the suggested items and then let nature go to work. Record observations on a regular basis.

To broaden the experiment, alter the environmental conditions the chambers are exposed to. For instance, place them in areas receiving different light levels or temperatures, or even bury them outside.

Another idea is to create air holes, or add water or soil to some containers.



moistened materials  
mixed with soil



moistened materials  
without soil

## Outdoor Bins

Although all organic materials will eventually break down, the most efficient compost piles include a variety of organic matter, which can be loosely classified as "browns" or "greens." Greens are rich in nitrogen and include grass clippings and vegetable scraps. Browns are rich in carbon and include fallen leaves, straw, and shredded newspaper.

Challenge students to identify examples of decomposition in action occurring in their chambers. Ask them to describe what they observe that leads them to think decomposition is occurring.

Follow up the activity by asking students to research ideas for planning a litter-less lunch. In addition to composting, encourage them to devise ways to incorporate reusable and recyclable materials.

By alternating greens and browns, keeping the pile moist but not soggy, and turning the pile to keep it aerated, you'll create an ideal environment for the organisms responsible for efficient, odor-free decomposition. (A wet, compacted pile will still decompose, but the process will result in unpleasant odors due to the types of organisms that flourish in that environment!)

A 3-by-3-foot pile is a good size. If it's larger than that, materials will take longer to decompose; any smaller and the pile may not heat up enough to completely decompose.

## Indoor Worm Bins

Most kids are fascinated by worms. You can replace or supplement your outdoor composting efforts by starting an indoor worm composting bin. In a nutshell, to create a worm bin you place special worms\* in an aerated plastic container with a bed of moist newspaper. You feed them food scraps, which they devour and, in the process, turn into worm castings — a great organic fertilizer. Worm castings are a rich, dark brown, have a pleasant earthy smell, and have a texture something like coffee grounds. They are high in nutrients and can be added to houseplant soil mixes, incorporated into garden beds, or spread on the top of soil as a mulch, so that the nutrients seep in during watering.

Because red wigglers can alter the soil habitat in forestland soils, if you live near a forest you should take precautions not to introduce them to the outdoors via their castings. The University of Minnesota, which has been a leader in researching the effects of earthworms on forest habitats, recommends freezing worm castings for at least one week before spreading it in the garden. This will kill worms and their cocoons.

\*Unfortunately, the earthworms kids collect from the outdoor soil won't survive in a worm bin. For indoor bins, the worms of choice are red wigglers. These slender worms eat just about everything — fruit and vegetable peels, pasta, rice, bread, coffee grounds, tea bags, and trimmings from the garden. Just as in a regular compost pile, however, don't add dairy products, oils, or meats.

For more information about composting visit these [Kidsgardening.org](http://Kidsgardening.org) resources:

[Digging Deeper with Compost](#)

[The Rottin' Truth](#)

[Worm Stewardship](#)



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