

WHY DO THIS? To recycle organic waste material in all seasons, preventing it from going into landfill, reducing carbon footprint, plus getting a potent compost tea fertilizer and worm castings soil for indoor or outdoor plants.

MATERIALS

1. **Worms:** recommend red wigglers or red night crawlers as they digest food fast. Need 200 - 250 worms per square ft of bedding surface. *Night crawlers can also be used for fishing!*
2. **Bins:** 3 nesting round pails/trays recommended: 1 = bottom for collecting compost tea, 2 = curing bedding and 3 = working bin for top feeding worms. Traditional one tote bin works and is simple, but takes more work to separate out the liquid, compost and worm layers.
3. **Lid & old t-shirt:** top off the buckets with a venting lid. T-shirt to keep out flies.
4. **Bedding material:** the "*browns*" of composting = carbon fiber, such as coconut hull (coir), dried grass, plants or leaves, shredded paper & cardboard. Note paper & cardboard that are bleached and/or contain coatings, synthetic inks and plastic films cannot break down and/or may have toxicity to worms.
5. **Grit:** soil, stone dust, fine sand, fine ground egg shells. Add 1 handful to prepared bedding mix per 2 buckets.
6. **Food:** the "*greens*" of composting = nutrients. See FEEDING below for details. Cut, chop or grind up food scraps and freeze in a bag so you can always feed the right amount and prevent over or underfeeding.
7. **Screen and tray:** mesh screen to sift out composted soil onto tray, separating worms and larger clumps of uncomposted material. About 1/4 inch hardware cloth works well. Active worms tend to clump in balls.

MAKING THE WORM BIN

1. **3 bin "flow through" system:** all bins make 4 @3/4 in holes under top rim to aid in separating buckets, bin 2 - 5 gal 80 & 1 gal 40 holes @1/8" in bottom, bin 3 - 5 gal 120 & 1 gal 60 holes @1/4 inch holes (bigger holes to let worms migrate).
2. **Lid:** make large (2-4") holes using saw hole bit to remove 2/3 of lid plastic. Cut the t-shirt to cover and hang over the top of bin 3, placing the lid with holes over this to hold it snug (if no lid, use a bungee cord to hold t-shirt on).

FEEDING

1. **Perfect foods:** non-acidic fruits, veggies, beans, coffee grounds, tea bags, nuts, whole grains, shredded uncoated paper & cardboard (presoak anything that is dry), un-diseased house plants, untreated yard waste, small wood chips, human hair, pet fur, aged manure (horse, sheep, cow, chicken - stay away from human, dog, cat due to potential pathogens & parasites).
2. **In moderation:** non-spicy non-acidic non-salty processed foods, starchy food (pasta, bread, potato, rice...)
3. **Do not feed:** citrus fruits (high acid harmful, peels contain terpenes & possible pesticides), meats & bones (smelly as they rot), eggs (dried shells good, insides bad as smelly when rotting), dairy products (smelly as they rot), spicy, salty, greasy or fatty foods (can be harmful and hard to digest), highly processed foods (contain additives that can cause issues), non-biodegradable materials (metals, foils, plastics will not break down, not be digested by worms and contaminate your compost).
4. **Feeding guidelines:** 1) 1 lb of worms feed 1/2 lb "green" food every 2-3 days, 2) add food in a shallow trench dug into the top layer of bin 3 in one section (rotate sections @feeding), 3) cover with 50/50 shredded newspaper/cardboard,

TIPS ON MAINTENANCE

1. **Temperature:** ideal temperatures range from 55 - 77 F, but can stay alive above 40 F & below 84 F if kept in a protected location. They freeze below 40 F and cook above 84 F. A thermometer in the bin can be helpful.
2. **Compost tea:** remove weekly or biweekly and use to fertilize your plants (dilute in water)
3. **Compost:** use screen to sift compost out and separate worms from working bin 3 every few months. Shift curing bedding from bin 2 into bin 3 and add back worms. Refill bin 2 with fresh bedding.
4. **Pests, mold, odors, dead worms:** 1) odors, pests, mold due to over feeding; if overfed, add more paper/cardboard, 2) odor from feeding protein based foods like eggs & meat, 3) death or poor composting if underfed, dehydrated or feeding foods with toxins (antibiotics, pesticides, irritants), 4) odors, pests, mold & death by drowning if too wet (ideal moisture 80% - only get a few drops of liquid squeezing bedding), 5) odors, pests, mold if you ignore bin cleaning periodically (no chemicals, just scrubbing and rinsing), 6) poor composting & dead worms if temp is too extreme hot or cold, check location of bin, check thermometer, 7) Sour smell - bedding too acidic, sift out worms and change bedding (may need new worms if worms damaged).