Compost Basics

What is compost? Compost is the product of broken down materials such as food scraps, that are rich in nitrogen, and dried leaves or other dried yard materials that are rich in carbon. This process actually happens a lot in nature—on forest floors, prairies, and often in our own back yards. But actively composting in the way that most people think of today means controlled, intentional decomposing of these materials at a faster rate that will result in a nutrient rich, environmentally safe, natural soil amendment (that you made, *yourself!*). Compost benefits us by:

i. Feeding our gardens, lawns, trees, and shrubs with a healthy, rich growth amendment
ii. Saving money on peat moss and fertilizers
    a. Not using said fertilizers that may pose long term risks to water resources
iii. Allowing us to use resources we produce constantly (yard materials and food scraps), rather than leaving them at the curb to be picked up and landfilled

What your compost needs:

i. Nitrogen
    a. The nitrogen source for your compost can come right from your kitchen! Food scraps that are unprocessed such as potato peels, watermelon rinds, the ends of carrots, etc. can all go into your compost. You may also add plants (such as a vase of dying flowers) and simple foods such as bread. Egg shells, coffee grounds (with the filter), and tea bags can also be included. Think of these as your "greens," and add as much as by weight as your carbon materials.
ii. Carbon
    a. The carbon source for your compost can come from fallen leaves, saw dust, mulch, or other yard-type waste of dried/dead plant materials. This is a good opportunity to use up the leaves that fall on your yard in autumn—bag 'em up and store them in the garage so you have a good carbon source all year long! Think of these as your "browns," and add as much as you do for your nitrogen source, by weight. Keep in mind that this dried plant material will weigh much less than the wet, "green" nitrogen materials. Keep equal weights, but remember that means by volume you will have more carbon.
iii. Water
    a. Water your pile so that it's damp the same way a wrung out cloth might be. Too much water could drown the microorganisms responsible for decomposition, but not enough water could dry them out. While this is hard to conceptualize, after maintaining your compost for a while you'll get the hang of it.
iv. Oxygen
    a. Turn your pile 1-2 times a week, once a month, or once a year! It all depends on your need for the finished product. Turning your compost brings oxygen into the pile, an important energy source for microorganisms. Turning it 1-2 times a week will ensure that you get compost sooner rather than later (as long as you also regulate the moisture level and carbon/nitrogen ratio), and is also more likely to stay at temperatures hot enough to kill any weed seeds. A pitch fork is a helpful tool for this job.

How to maintain your compost: It's all about the microorganisms!

i. Be sure that the microorganisms in your compost are happy by maintaining equal weights of carbon and nitrogen. Too much nitrogen (the food scraps) without the balance of carbon (dead plant material) could result in a stinky, rotting pile instead of a productive compost pile. Remember that while the weights are equal, the volume of your carbon source will be greater than the volume of your nitrogen source.

ii. Get a feel for how much water is needed. It might be difficult at first, but you'll know you need to add less if it starts to smell. Too much water can drown the microorganisms and stop decomposition. Then your pile will go anaerobic (*without oxygen*).

iii. The microorganisms need time to develop their microbial communities and efficiently break down materials, but also need to be spread throughout the pile for maximum decomposition. This means that if you turn your pile too frequently, those microbial communities can't be established. If you turn it too infrequently, then your microbes aren't getting enough oxygen to fuel their decomposition work (*Note: This means that turning your pile every day* does not *mean that you'll get compost faster!*).

iv. If you see fungus, mites, worms, or other bugs and insects in or around your compost, let them make a home there! These organisms all have a place in the fabulous world of decomposition. It means you're doing it right!

v. Finished compost could be produced anywhere from 6 weeks to 12 months. It all depends on your maintenance methods.

vi. Keeping your compost in a *bin* is not necessary, but is helpful if you have limited space. It may also provide more *aesthetic* appeal rather than an open pile. Additionally, keeping your compost in a bin with a latch-able lid ensures that wildlife is less likely to loiter in your back yard.

a. Recycling Connections sells a great back yard compost bin, The Home Composter, for $65:

Note: While there are lots of things that naturally break down, it's not always a good idea to compost them in your backyard. Here's why:

1) ***Meat, bones, fats, oils, and dairy products*** *take much longer to properly decompose. They need consistent, very high temperatures, and since they take so long are likely to attract animals such as raccoons and rats—critters you might not want hanging around your back yard.*
2) ***Whole branches and logs*** *will take up space and be a nuisance if not chipped.*
3) ***Pet and human waste*** *can theoretically be composted, but must be monitored closely at high temperatures to ensure that all harmful bacteria and pathogens are killed off. Please conduct your own research before considering this option.*
4) ***Sawdust, wood chips, or pieces from treated wood*** *contain harmful stains, varnishes, or other treatments that are damaging to health when consumed.*
5) ***Persistent weeds*** *can disperse their seeds throughout your compost, resulting in an amendment that helps weeds grow just as well as the plants you actually want!*
6) ***Diseased plants****, such as tomatoes that suffered from blight, could potentially pass on pathogens to new plants when the compost is laid. This could be avoided by keeping your compost at very high temperatures.*

Happy composting!