

# BREAK IT DOWN

## VOCABULARY

**Compost**—The end result of the composting process (decomposition) and is the decomposed organic material from yard waste and kitchen vegetable and fruit scraps that have been put in a compost pile. The plant waste used in compost piles should be a mixture of brown waste such as twigs and dead leaves and green waste such as grass and vegetable scraps. Compost is a rich, robust material high in fertilizer value and can be used on gardens and yards to enrich and enhance the soil.

**Consumer**—An organism that obtains energy by feeding on other organisms and their remains through ingestion. Usually, consumers are classified as primary consumers (herbivores-plant eaters), and secondary consumers (carnivores-animal eaters).

**Decomposer**—Microorganisms which are the last step in the decomposition of plant and animal waste and return the waste back to minerals such as phosphate and nitrate. These are plant fertilizers, so in turn plants absorb these nutrients, continuing the recycling of matter that occurs continuously in nature.

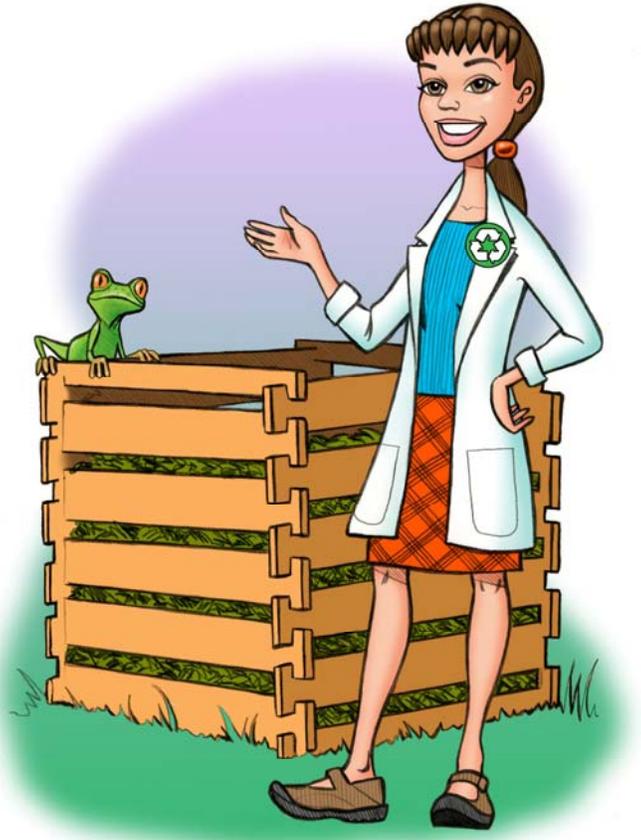
**Energy Flow**—The flow of energy from the Sun through an ecosystem according to the laws of thermodynamics. The Earth needs a continuous supply of Energy and for most life, the source is the Sun. Energy cannot be created or destroyed. The form changes as it goes from light energy to chemical energy in the form of sugar through photosynthesis. Ultimately, the energy that was captured through photosynthesis returns to the atmosphere as heat energy.

**Food Chain**—The transfer of food energy from organisms in one nutritional level to those in another. Who eats who. For example, a rabbit feeds on a green plant, then a snake eats the rabbit, and then a coyote eats the snake.

**Food Web**—The complex and interlocking series of food chains.

**Natural Resources**—The raw materials supplied by the Earth and its processes. Natural resources include nutrients, minerals, water, plants, animals, oil, natural gas and coal.

**Nonrenewable Resources**—Substances such as petroleum oil, coal, natural gas and metals such as copper, aluminum and gold. Once oil or coal is burned for fuel, it is gone. As fuel, the elements making it up are released as gases such as carbon dioxide into the atmosphere. No more oil or coal is being made on Earth. Metals are mined from the Earth, and there is a finite amount. As with all matter, recycling is the natural way of maintaining the resources on Earth in balance between the physical world and the biological world. Dumping nonrenewable resources in a landfill is a non-sustainable way of managing our resources.



## BREAK IT DOWN | Vocabulary (continued)

**Organic Matter (Organic Material)**—These terms can be used interchangeably and is any matter which can be decomposed (decayed) by microorganisms. This includes the organic portion of plants and animals as well as petroleum oil. It includes the refined products we make from plants such as sugar and vegetable oil. Petroleum oil is also organic matter as its origin is plant and animal matter. Organic matter can also include plastic, which is organic, but due to the structure of the molecules making up the plastic it is resistant to decomposition and can take centuries to decompose. The term organic matter/material have multiple definitions, depending on the context within which they are used.

When talking about soils and organic matter in soil, it is usually referring to both the decayed, decaying and end-product of decay (humus and is pronounced “hew-muss”) that is in the soil as opposed to tree branches and leaves on top of the soil that have yet to start decomposing. The end-product of composting is called “compost” and is the same as humus. Both humus and compost are subject to very little further decomposition, but are rich in plant nutrients and help hold moisture in soil.

The term organic material can also be used to refer to the leaf litter, grass, twigs and branches which fall to the ground or the vegetable scraps in compost bins that have yet to decompose. Once they have rotted, it is referred as organic matter rather than material as it becomes an integral part of the soil.

**Producer**—Green plants which make sugar through the process of photosynthesis. Sugar is made up of carbon, hydrogen and oxygen which came from carbon dioxide and water. This process not only captures the energy of sunlight in the sugar, but also provides the basic building blocks for the matter that organisms are made out of—carbon, oxygen and hydrogen.

**Raw Materials**—The material from which other things are made. For example, petroleum oil is the raw material for making plastics. Bauxite is the ore from which aluminum is extracted. Sugar cane is grown and then sugar is extracted from it.

**Renewable Resources**—These resources fall into two categories. 1) Living resources (plants and animals) that can grow more of themselves, and 2) resources which essentially never run out which includes wind, sun and falling water. Another name for resources which essentially never run out is “perpetual” resources. Humans have little impact on perpetual resources. We do have a big impact on renewable resources. For example, we can overharvest fish out of lake so there are no more. There are many examples of where humans have directly caused the extinction of plants and animals.

**Vermicomposting**—A composting method that utilizes earthworms which eat the garbage. The worm’s waste (called “castings” or worm manure) is an organic material very rich in plant nutrients. The castings look like fine-textured soil. For those with limited yard space for full-size composting, vermicomposting can be done indoors.

