

The Important Parts of a Plant

There are four main parts of most plants: roots, stem, leaves, and flowers. Let's look at these plant parts one at a time.

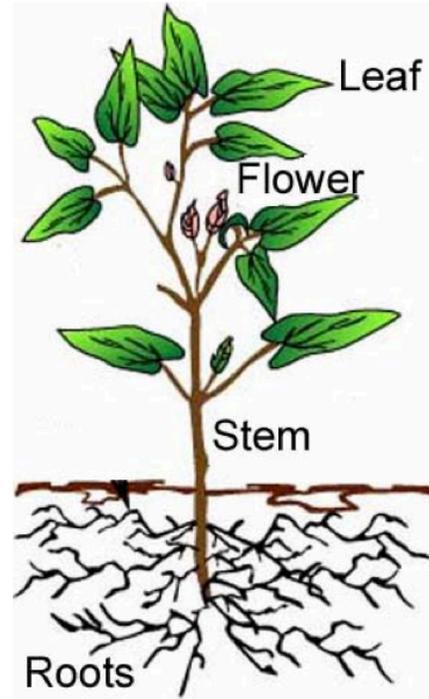
Roots: Roots anchor the plant in the ground. Plants are held tightly in the ground so that they are not blown away by wind or washed away by rain. Roots also absorb water and minerals from the soil for the plants. Some roots are able to store food for the plant, such as potatoes.

Stem: The stem connects the leaves to the roots. It transports water and minerals from the roots to the leaves where food is made. The stem also provides support for the plant allowing the leaves to reach the sunlight that they need to produce food.

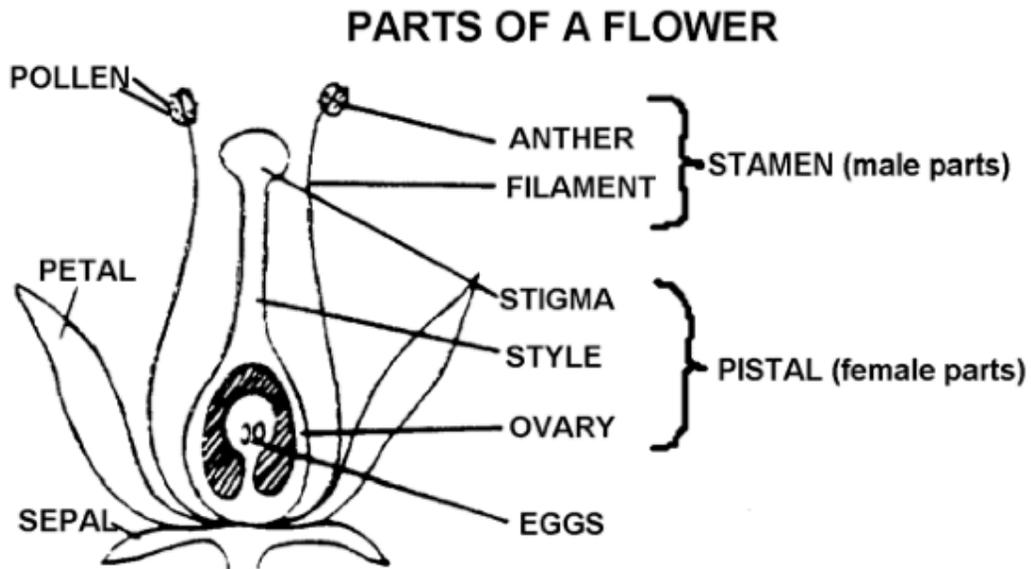
Leaves: Leaves are the food making factories of green plants. Leaves come in many different shapes and sizes, but their job is always the same. Leaves are made to catch light and they have tiny openings (*stomata*) that allow water and air to come and go. The outer surface of the leaf has a waxy coating that protects the leaf. Veins in the leaf carry nutrients within the leaf itself. Green plants make their own food and the leaves are where this happens. With energy from the sun, water and minerals from the soil, carbon dioxide from the air, and with the help of *chlorophyll* (the green color in leaves and other parts of plants) a leaf produces "food" consisting of sugars and starches. The food then circulates throughout the plant. The food making process is called **photosynthesis** ("photo" means light, and "synthesis" means putting together).

During photosynthesis, plants take in carbon dioxide and give off a waste product, oxygen. Nearly 100% of the oxygen animals (including human beings) require is made by green plants. At night, when there is no light and photosynthesis cannot take place, plants give off carbon dioxide. (Humans continually breathe in oxygen and give off carbon dioxide.)

Flowers: Flowers not only look pretty but, in fact, are the most important part of the plant for making seeds. When seeds grow, they make new plants. Flowers have some basic parts. The female part is the *pistil*. The pistil is located in the center of the flower and it is made up of three parts: the *stigma* with a sticky top, a *style* (slender



tube) and the *ovary*, a hollow structure at the base which contains the “eggs.” The male parts of a flower are *stamens* and usually surround the pistil. The stamen is made up of two parts: the *anther* and the *filament*. The anther produces pollen and the filament is a thread-like stalk that holds up the anther.



Pollination occurs when a pollen grain is transferred from the stamen to the pistil by insects, birds, or the wind. The pollen grain swells as it absorbs water, sugar and other materials from the stigma. The pollen grain then germinates — that is, it grows a tube downward to the ovary and after reaching the ovary's "eggs," produces seeds. Fruit seeds stay in the ovary until they are ripe and ready to be scattered by the wind, animals, humans, or water.

Petals: Petals are also important parts of the flower because they help attract pollinators such as bees, butterflies, and bats. You can also see tiny green leaf-like parts called *sepals* at the base of the flower. They help to protect the developing bud.

Fruit: The fruit is the ripened ovary of a plant that contains the seeds. When the pollen combines with the eggs in the ovary, *fertilization* occurs. After this happens, the ovary swells and becomes either fleshy or hard to protect the development seeds. Every seed is a tiny plant, or *embryo*, with leaves, stems, and root parts waiting for the right things to happen to make it grow. Seeds are also protected by a coat (the *seed coat*) which covers the seed and can let the embryo survive some tough conditions.

From Oklahoma School System