

The Structure of Flowers

All flowers are variations on a simple, basic plan. Some flowers are tiny and hard to see: others are showy and flamboyant, like orchids and roses. Some flowers grow in clusters, some bloom alone. All flowers, however, have a protected ovary to contain the seeds, and stamens to produce the pollen.

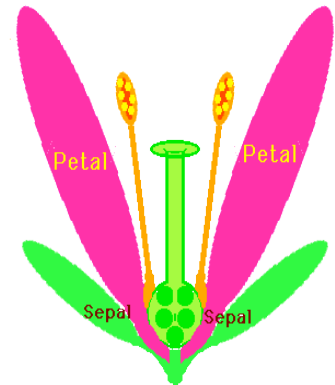
Flowers were developed by land plants. Showy petals and sweet nectar are often produced to lure insects to the blossoms. Insects carry the pollen from flower to flower, ensuring exchange of the information encoded in the chromosomes.

The Sepals

Flowers have a well-defined structure.

When the bud appears on the stem, we see the green sepals. Sepals are the green parts that protect a flower bud before it opens. There is usually one sepal for each petal. All together the sepals are called the calyx (pronounced kay-licks).

After the flower opens the sepals can often still be seen behind the petals. The sepals protect and sometimes support the corolla (all the petals together).



The petals are really advertisements for insects, signaling "Nectar Here!" Nectar is secreted at the base of the petals on the inside of the flower. The nectar is used to lure insects to the flower, and it is placed so that the insects get a dusting of pollen as they crawl to the nectar and lap it up. Then the insects fly off to other flowers, taking the pollen from the first flower with them.

Let's look more closely at the parts of the flower that make the seeds.

The inside of the flower holds the reproductive parts. The stamens, which are orange in our diagram, produce the pollen, which is represented by yellow dots. The pistil, which is the green part in the center of the flower, is considered to be the female part: you can see the unfertilized seeds waiting in the ovary at the bottom of the pistil.

The Pistil

The pistil is the part of the flower that produces the seeds.

It consists of three parts:

The stigma -- the pollen grains stick to this small sticky pad

The style -- the pollen grains grow down through this stem-like cylinder

The ovary -- this is where the young seeds wait for the chromosomes in the pollen, and where they grow into mature seeds



The wall of the ovary protects the developing seeds. When the seeds are mature they are often found in some sort of seed case, a pod, perhaps, or a fruit or berry. Animals and birds who eat the fruit scatter the seeds abroad.

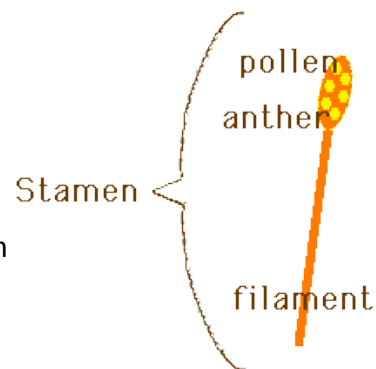
The Stamen

Stamens are slender structures that hold the pollen

They consist of two parts:

The anther -- a small case in which the pollen grains form

The filament -- a slender stem that supports the anther



The pollen grains form in the anthers, which open when the pollen is mature. The pollen is a fine, powdery, golden dust that is easily picked up by an insect or a finger. A flower may receive pollen from many different kinds of plants. However, only pollen grains from the same kind of plant will begin to grow.. The pollen sticks to the stigma and a tiny tube grows down from the pollen grain. When it reaches an unfertilized seed, the sperm cells in the pollen slide down the tube and fertilize the seed. It may take a day or two for the little tube to grow. Once the seed is fertilized, it stays in the ovary and matures. The seed will have two parts: a cell that is ready to grow into a new plant, and a food supply to help the new plant to grow.

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Source: Elizabeth Viau: World Builders
<http://www.world-bulders.org/>