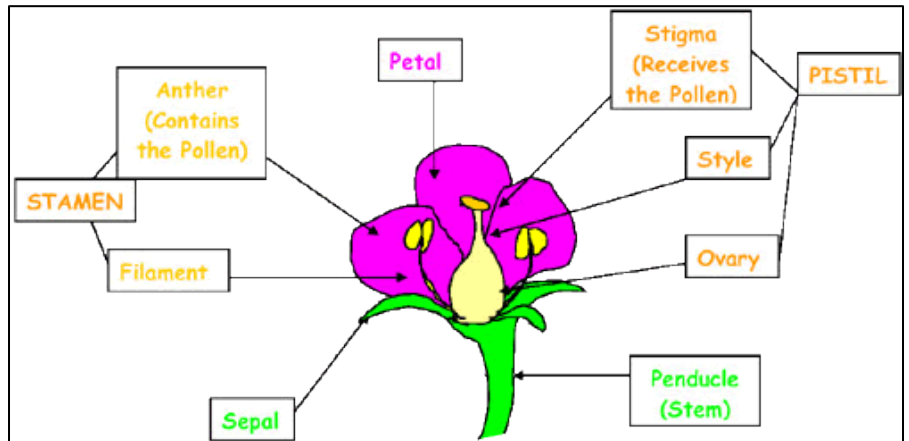


What is Pollination?



Pollination is the act of transferring pollen grains from the male [anther](#) of a flower to the female [stigma](#). The goal of every living organism, including plants, is to create offspring for the next generation. One of the ways that plants can produce offspring is by making seeds. Seeds contain the genetic information to produce a new plant.

[Flowers](#) are the tools that plants use to make their seeds. The basic parts of the flower are shown in the diagram below.



Seeds can only be produced when pollen is transferred between flowers of the same **species**. A species is defined a population of individuals capable of interbreeding freely with one another but because of geographic, reproductive, or other barriers, they do not interbreed with members of other species.



This wasp is a specialist pollinator of Penstemon, which is the flower it is visiting, or rather sleeping in here. Photo by Dr. Jim Cane, USDA ARS Bee Biology and Systematics Laboratory, Logan, Utah.

How does pollen get from one flower to another? Flowers must rely on vectors to move pollen. These vectors can include wind, water, birds, insects, butterflies, bats, and other animals that visit flowers. We call animals or insects that transfer pollen from plant to plant “**pollinators**”.

Pollination is usually the unintended consequence of an animal's activity on a flower. The pollinator is often eating or collecting pollen for its protein and other nutritional characteristics or it is sipping nectar from the flower when [pollen](#) grains attach themselves to the animal's body. When the animal visits another flower for the same reason, pollen can fall off onto the flower's [stigma](#) and may result in successful reproduction of the flower.

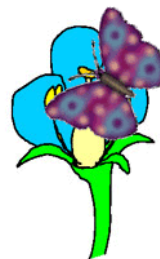
Referring to the animated image, pollen from the anthers of Flower 1 is deposited on the stigma of Flower 2. Once on the stigma, pollen may “germinate,” which means that a “[pollen tube](#)” forms on the sticky surface of the stigma and grows down into the [ovule](#) of the plant.

This growth can result in:

- Successful [fertilization](#) of the flower and the growth of [seeds](#) and [fruit](#)
- A plant can be only partially fertilized, in which the fruit and/or seeds do not fully develop
- The plant can completely fail to be pollinated, and may not reproduce at all.

Plants can be: **Self-pollinating** - the plant can [fertilize](#) itself; or **Cross-pollinating** - the plant needs a vector (a pollinator or the wind) to get the [pollen](#) to another flower of the same species.

POLLINATION



FLOWER 1



FLOWER 2