

# Bees Are VIPs

(Very Important Pollinators)

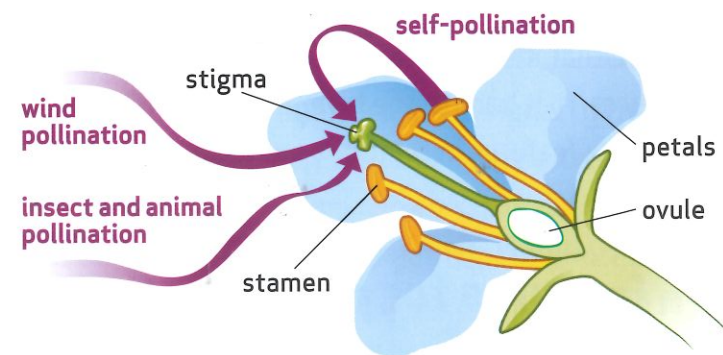
by Marie Langley

Bees are very important to the living world. Without them, many plants would not survive and humans and other animals would have little to eat. Just as bees depend on plants for their food, plants depend on bees. These little insects are expert pollinators. They hover from flower to flower, carrying the pollen that fertilises the plants and enables them to produce seeds.



## How does pollination work?

A flower has different parts. The male part of the flower – the stamen – produces pollen. Pollen is like a fine powder. It is often yellow or gold, but the colour varies from plant to plant. The pollen grains contain the cells needed for reproduction. When the grains are carried to the female part of the flower – the stigma – the flower is fertilised and can produce seeds that grow into new plants.



Some plants self-pollinate by using pollen from the stamen to fertilise stigma on the same flower. However, most plants are fertilised by cross-pollination. That's when plants are fertilised by pollen from another flower of the same species.

There are a number of ways pollen can be carried from the stamen to the stigma. Wind carries the pollen of some plants, such as grasses. Water spreads pollen for some aquatic plants. But about 80 percent of plants need living creatures such as insects, birds, or bats to carry pollen. Bees are insects, and they are the most successful pollinators of all. We humans depend on bee pollination for around a third of all the food we eat.

## How do bees pollinate plants?

Many flowers produce sweet, liquid nectar to attract bees. To get to the nectar in flowers, bees have to push past the pollen-laden stamens. The pollen grains stick to their bodies and are then rubbed off on the stigmas of the next plants they visit.

Like the honey made from nectar, pollen is an essential food for bees. Their fuzzy, hairy bodies are great for catching and carrying grains of pollen. Using tiny combs on their front legs, they rake the pollen into pollen baskets on their back legs. As they rake the pollen, they mix it with small amounts of nectar to make sure that it is securely packed into their pollen baskets. Then they carry it back to the hive. Bees certainly have a lot of special design features in their tiny bodies.

### Design features for pollination



A bee leaving a pollinated snapdragon

## How do plants attract pollinators?

Flowers use colour and perfume to signal that they are ready for pollination. Like bees, they too have evolved special features to help pollination. Some flowers, such as snapdragons, have markings that are like landing strips to direct the bees to the pollen. Others have a kind of spring mechanism to shake the pollen loose. Bees also use buzzing to shake the pollen grains free so they can collect them more easily.

The shapes, colours, and scents of flowers have developed to suit their best pollinators. Bees fit well into tube-shaped flowers, such as foxgloves. They don't see the colour red, and they have a very good sense of smell, so they mostly pollinate sweet-smelling yellow or blue flowers. Bumble bees are very good at pollinating tomatoes and other fruit. Butterflies are good at pollinating more open flowers, such as sunflowers, but bees pollinate those, too. Birds see the colour red, and they don't have a good sense of smell, so they often pollinate brightly coloured flowers that don't have much scent.

While most bee species are great pollinators, honey bees are normally used to help grow commercial crops. That's mainly because people know more about managing honey bees and their hives.

The next time you see a bee buzzing about on a lazy sunny day, don't get in its way. It's doing important work, making sure that next year there will be new plants – food for us and for all the creatures in the world – and of course, it's also collecting nectar and making yummy honey. It's hard work being "as busy as a bee".

A beekeeper checking the beehives in an orchard

