

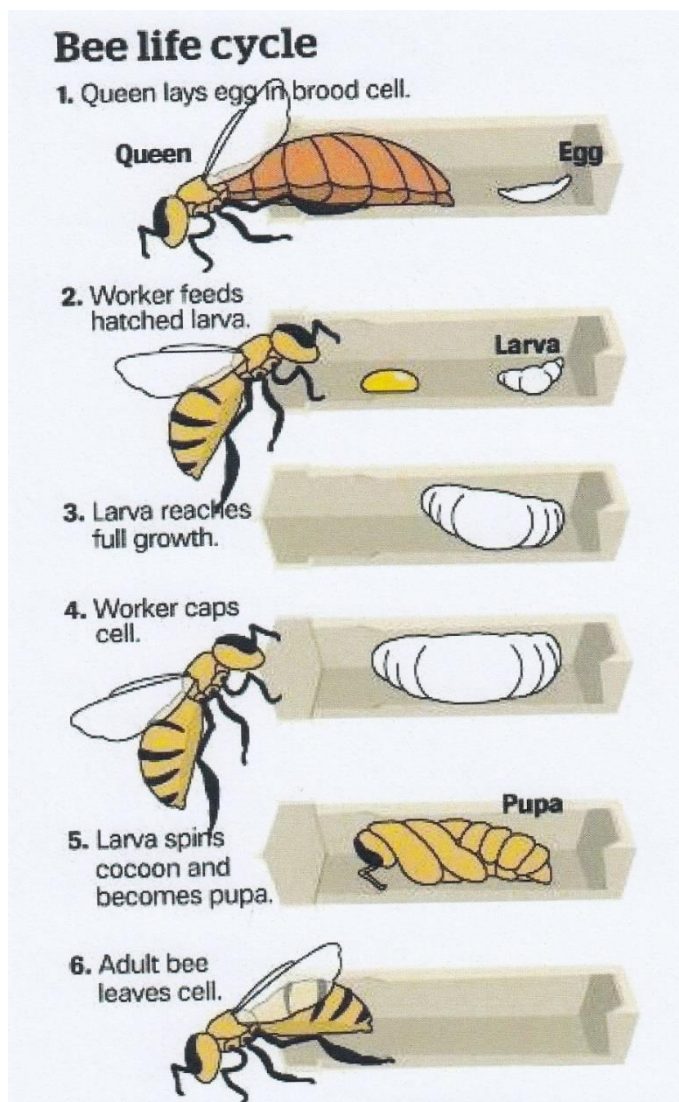


# The life cycle of the Honey Bee

## Advisory Leaflet No: 6

There is clear evidence that humans have been engaging with honey bees for more than 4000 years. Despite this, bees remain completely wild creatures with a life pattern that has changed little since they first evolved.

The life of a colony of bees revolves around the queen bee. When a new queen hatches her first task is to kill any other hatchling queens in the colony. Having safeguarded her position, she then leaves the hive for anywhere up to 10-12 mating flights, during which she will mate with a number of drones (male bees). She will store all the sperm from the drones she has mated with and will not mate again. Returning to the hive she will, within a few days, start laying eggs.



The queen lays both fertilised eggs, which hatch into worker (female) bees and un-fertilised eggs, which hatch into drones. After three days the eggs hatch into grubs. For the next six days the grubs are fed and cleaned by the worker bees. They are then sealed into their cells with a cap of wax. Worker bees hatch 12 days later and drones 15 days later. Queens can live for up to 6-7 years but rarely survive for more than 3 or 4.

Young worker bees spend their first 10-12 days acting as nurse bees, looking after the queen, tending the eggs and grubs and generally keeping the hive clean. Nurse bees fulfil one other essential function, they are able to produce wax which is used to build comb, either for egg laying purposes or for storing honey. As they grow older, they lose this ability.

For the next period of their lives, again 10-12 days, they act as guard bees at the entrance of the hive, receiving nectar and pollen from the foraging bees and storing it within the hive, and defending the hive from marauding wasps, bees from other

colonies attempting to steal honey, and any other unwanted visitors, including beekeepers!

For the final period of their lives the bees act as foragers until they simply wear themselves out. During the summer the typical life span of a worker bee is around 6 weeks, but this is due to physical wear and tear. Bees entering the winter period can live 6-8 months until the season starts again.

Drones have only one purpose and that is to mate with a virgin queen. If successful, they die shortly afterwards. They play no other role within the life of the colony and each autumn are ejected from the hive and left to die.

Most years the colony will swarm which is the colony's natural way of reproducing and creating new colonies. To prepare for this, the colony needs to raise a new queen who will take over when the existing queen goes off with the swarm. To do this they select one or more fertilised eggs and build very greatly enlarged cells around them, known as queen cells. When the eggs hatch, the larvae are fed a special diet of royal jelly. These cells are sealed on day 9 of the cycle and the new queens emerge 7 days later. The first new queen to hatch then sets about killing the other emerging queens.



Shortly before the first of the queen cells hatches, the existing queen leaves the hive, together with around half of the colony's bees. This is called a swarm.

Before they go, the bees gorge themselves on honey in order to feed themselves for the next few days. The swarm may fly anywhere up to 3 miles from the hive before settling as a cluster, sometimes in unusual places!



The bees will rest here for anywhere from a few hours to a few days whilst their scout bees seek out a suitable location for their new home, which could be anywhere dry and they can protect.