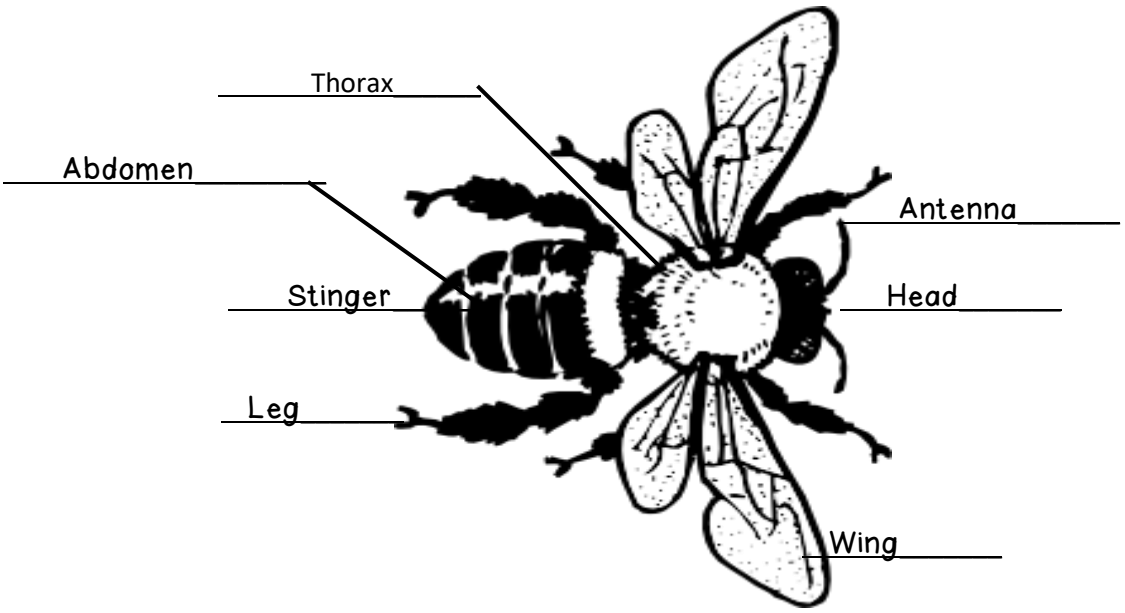
Lit Mama Homeschool

Honeybees

There are more than 22,000 types of bees in the world. Do you know which bees make honey?

Without honeybees, you wouldn't have any honey to spread on your toast in the morning. You may have seen honeybees flitting about in your yard or garden, collecting the nectar with which they make honey. Honeybees are easily recognizable by their yellow and black stripes.

Like all insects, honeybees have 6 legs and a 3-part body. The body's parts are the rounded head, the middle thorax, and the egg-shaped end called the abdomen. Honeybees do not have bones. Rather, they have an exoskeleton—a hard outer 'skin' that protects their bodies from the outside.



Honeybees sense the world through their eyes, antennae, and body hairs. They have eyes that cover the whole sides of their heads, and each eye is divided into more than 4, 000 tiny parts. This means when a bee sees a flower, the image is likely made up of thousands of little squares. You can get an idea of what this is like if you look through a fine wire screen.

Simply hold a piece of screen about an inch in front of your eyes (have a parent help so you don't get hurt) and look through it.. See how the screen divides your vision into tiny squares? That is how a bee's large eyes work.

In addition to the 2 large eyes, a bee has 3 smaller eyes atop its head between the large ones. You can see the three middle eyes here:

A bee doesn't smell with a nose. It uses its antennae to detect scent. Antennae do more than smell, though. They will also tell the bee how something tastes and feels. So if the bee stuck his antennae into a jar of strawberry jam, he would be able to smell, feel, and taste the jam.

The hairs on the bee's body are as sensitive as cat whiskers. This means the bee can use its hairs to sense what is happening in the world around it, especially things it can't see. That's why when you approach a bee from behind it will fly off before you reach it. It feels the air currents caused by your movement with its body hairs. So it knows you're there without even looking!

This sensitivity also causes bees to be able to sense changes in air pressure. So if you're on a picnic and all the bees suddenly disappear, you just might be in for some rain. A sudden drop in air pressure tells the bees that rain is coming and they return to the hive.

The honeybee is a social insect. Social means it likes to be with other bees. In fact, it has to in order to survive. Bees live in a colony and the colony lives in a hive.

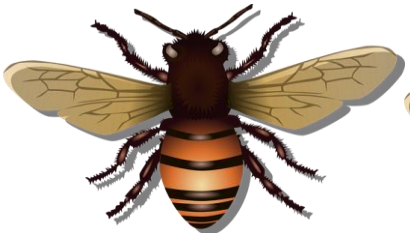
The colony consists of three types of honeybee: the queen (the only bee that lays eggs), the drone (male bee), and the worker (female that doesn't lay eggs). Each of these orders has its own job in the colony.

The queen bee is the longest and skinniest bee in her colony. She is also the only honeybee that can repeatedly sting. However, the queen rarely leaves the hive. The queen is the most important bee in the hive because it is up to her to lay eggs and produce more bees. There are always new bees hatching to ensure the colony maintains its size.

The drone is the male bee. His job is to mate with the queen. Soon after the drones mate with the queen they are driven from the hive. Without worker bees to feed them, they quickly die. However, all the eggs the queen lays in her lifetime (which can be up to a million) are the offspring of the drones who mated with her before being turned out. Drones are fatter and longer than worker bees. They are also fatter than the queen. They do not have stingers.

The worker bees sting only once and then die. The stinger is left in the victim. The worker bee is the busiest bee of the colony. It has many jobs: nurse, janitor, builder, security guard, and food collector.

Queen



Drone

Worker

To collect food, honeybee workers collect nectar from flowers. One bee finds a field of flowers and points the way for the other workers. It uses a waggle dance to do this. Flying back to the hive, it crawls along the honeycomb, using its body to point the direction of the flowers in relation to the sun. It tells the distance by moving quickly if the field is far away or slowly if it is nearby.

Once the bees know where the flowers are, they suck the nectar from the flowers and carry it back to the hive in a honey sac, which is located in front of the stomach. You may have seen honeybees buzzing around flowers. If you watch them without getting too close, you will see them crawl right down into a flower. They are searching for a few drops of the sweet nectar, or sugar water, that the flower makes.

The bee will visit a lot of flowers before carrying a load of nectar back to the hive. Worker bees inside the hive take the nectar and fan their wings to dry up the excess water. They then add their digestive juices to the nectar, which turns it into honey. The honey is stored in wax compartments called honeycombs for future use.

Most of the eggs the queen lays hatch as worker bees, and the queen can lay up to 1,500 eggs per day. The hive has a special nursery cell where the eggs are laid. Once the queen has laid the eggs, she has nothing more to do with them. The worker bees care for the eggs until they hatch, and they even care for the grubs that emerge from the eggs.

It only takes 3 days for an egg to hatch. The grubs are immediately fed by worker bees. In 6 days, the queen grubs eat so much royal jelly that they grow to adult size. Drones and worker grubs only eat royal jelly for 3 days, then for 3 more days they eat a watery mixture of honey and pollen.

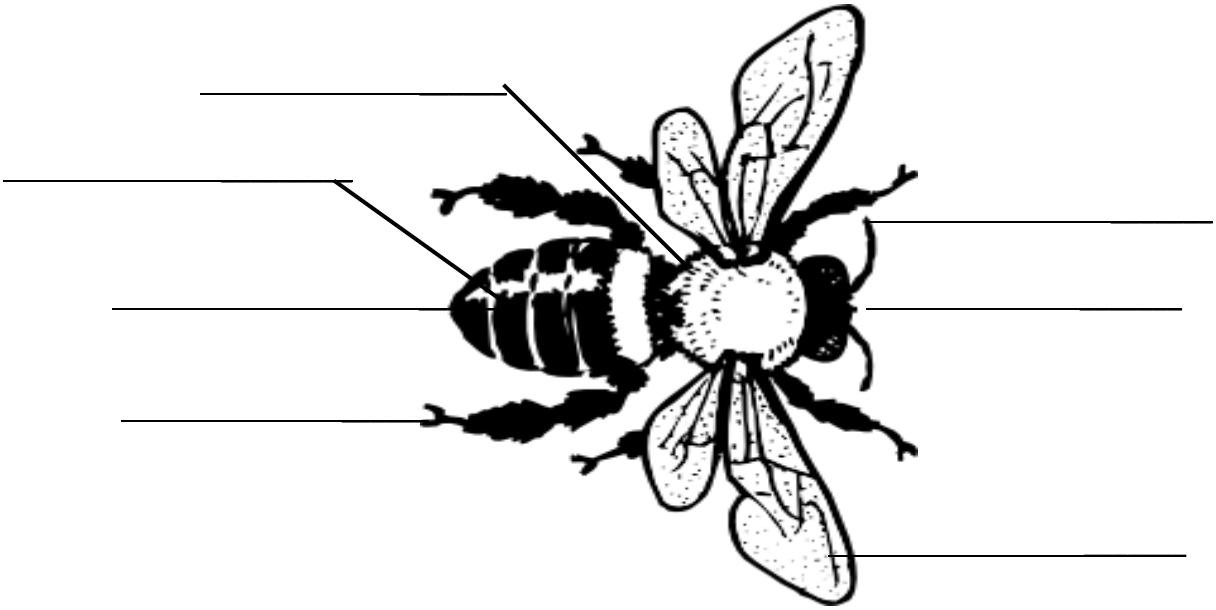
After their 6-day feast, the grubs are sealed back in their nursery cells where they spin cocoons and begin to change into adult bees. The worker bee caretakers ensure that the temperature of the hive is just right for the grubs. If it becomes too cool, the workers huddle together to warm it up. If it becomes too warm, the workers sprinkle water on the nursery cells and fan them with their wings. In less than 2 weeks, the grubs become full-sized adults. They tear open their nursery cells and set about starting their specific jobs.

For the first 3 weeks, new workers help inside the hive. They feed grubs, make wax for building and repairing the honeycombs, guard the hive entrances, and clean the cells. At the end of 3 weeks, they start to leave the hive and search for food. At first, they make short flights close to the hive, but they eventually learn how to find their way home from distant fields. Being a worker bee is so much work during the summer that the bees only live about 6 weeks.

When new queens hatch, the old queen leaves. Scouts are sent out to find a new place for a hive. Once they've found it, the queen flies to it, followed by thousands of workers. This flying mass is called a swarm. Swarming usually occurs in the spring and the new hive is built in time for summer gathering.

If you're wondering why bees make honey to begin with, the answer is simple. Honeybees huddle together in their hive throughout the winter and eat the honey collected over the summer. Just like a squirrel stores nuts, bees store honey to get through the winter.

Label the Bee



Which bee is which?

Label the queen, drone, and worker bee.

_____ _____ _____

Fill in the blanks.

1. The _____ bee lays all the eggs.
2. Bees do a _____dance to point workers to a field of flowers.
3. Honeybees collect _____ from flowers.
4. The middle section of a bee is called the _____.
5. Bees sense air currents with their _____ _____.
6. A male honeybee is called a _____.
7. Bees can taste, smell, and feel with their _____.
8. Bees carry nectar back to the hive in a _____ _____.
9. The _____ bee does most of the work for the hive.
10. Queen grubs eat _____ _____ for 6 days after they hatch.
11. Honey is stored in wax cells called _____.
12. The _____ is the only honeybee that can sting multiple times.
13. A bee's large eyes are divided into more than _____ tiny parts.
14. When bees move to a new hive, the flying mass is called a _____.
15. Instead of bones, bees have an _____ which protects their bodies from the outside.
16. Bees are _____, which means they like to be around other bees.

Thank you so much for downloading this Bee Nature Unit printable! I truly appreciate your support and encouragement and hope this printable helps you with teaching nature study to your child.

Like What You See Here?

Check out my low-cost novel studies available for purchase!

Lit Looking Glass Novel Studies

Click on the link below to go to my Lit Looking Glass Shop.

Need help picking the perfect novels for your homeschool?

Choosing the Perfect Fiction Books for Your Homeschool Year

Click on the link below to find out more.