



UNIT FOR WEEK 6

BEE KEEPING 101



HIVE ORIENTATION



ASK THE AUDIENCE

- Has anyone seen a colony of bees?
- Has anyone ever seen a bee hive that looks like a white box?
- Has anyone ever seen an observation hive?
- Has anyone ever been stung by a bee?

Although I've been a beekeeper for a long time, I will never forget my very first taste of fresh honey straight out of the bee hive. Almost ten years ago a neighbor, Mr. B, invited me to his apiary to meet his honey bees. I was apprehensive about the offer. I thought to myself, "Sure, I like honey, but I'm not so sure I like honey bees." Suddenly I imagined myself surrounded by a swarm of hundreds of buzzing bees. The idea scared me, as I think it would most people. But I was ready for a new adventure, so I accepted Mr. B's invitation.

It was a perfect early spring day when I showed up at Mr. B's home to meet his honey bees. In his backyard stood three tall boxes that looked like painted white file cabinets; these were his bee hives. As Mr. B greeted me, he handed me a beekeeper's veil to put over my head for protection. Then he donned his own veil and walked toward the hives. As I followed him, heart pounding in my ears, he explained that honey bees, although quite docile, were also curious creatures. They liked to crawl into nooks and crannies and into our clothing. The veils should stop them from stinging our faces. "Stinging our faces?" I wondered what I was getting myself into. By the time we arrived at the hives, I was trembling. Mr. B lit his bee smoker, a small tin container that looked a little like a coffee can, and blew a few puffs of smoke into the front entrance of the first bee hive. Then he lifted the cover to direct the smoke at the bees inside. He explained that the smoke calmed the bees and distracted them from our presence.

He then gently removed the cover completely from the hive and placed it on the grass. I craned my neck to peer inside, still trying not to get too close. Hundreds, maybe thousands, of honey bees crawled across the top of the ten perfectly positioned wooden frames that sat vertically inside the box. I was utterly surprised and relieved to see that the bees were indeed quite calm. With his bare hands, Mr. B, slowly removed a single wooden frame covered with bees. I watched with amazement as the bees walked across his fingers, then his hands, and onto his sleeve. But Mr. B took no notice. "These are Italian honey bees," he said. I had to smile. Since I am of Italian ancestry, I liked the idea of Italian honey bees. Out of nowhere came thoughts of telling my friends, "I raise Italian honey bees."

Mr. B inspected the frame and pointed out the different kinds of bees: the female worker bees that gathered the nectar and made the honey, and the male drone bees whose primary job was to mate with the queen. He told me that there was one queen bee in every hive and that all hive activities revolved around her egg-laying schedule. The female ruled the hive –I liked the way that sounded.

When Mr. B announced that it was my turn to hold the frame, I shrank back. But his gentle handling of the bees and his calm demeanor somehow gave me the courage to accept the frame from him with my own bare hands. Bees were everywhere—dozens of them crawling on my fingers and making their way onto my sleeves. I took a deep breath and held the frame firmly so as not to make any sudden movements and upset them. “I can do this bee thing,” I said to myself. “I am fearless.”

As I held the frame, Mr. B pointed out the perfectly formed honeycomb, made of beeswax, that filled the center of the frame. The honeycomb was where the queen laid her eggs and the worker bees stored their pollen and honey. When I held the frame up to the sunlight, the honeycomb looked like a beautiful stained-glass window. Mr. B poked his finger into the hexagon-shaped cells. Sparkling amber liquid oozed out of the cells and drizzled down the frame. Mr. B stuck his fingers under his veil and carefully licked off the precious honey. He invited me to do the same. Careful not to disturb a single bee, I poked my finger into a new cell to expose more of the pristine honey. As I excitedly drew my finger up to my mouth, I forgot about my protective veil and smeared it with the honey. Mr. B chuckled. I captured another dollop of honey, this time managing to bring my finger underneath my veil. It tasted glorious and exquisite, heavenly and perfect. It was like nothing I had ever savored. At that moment, I knew I wanted to keep Italian honey bees that made this divine treasure called honey.

Excerpt from Honey bee by C. Marina Marchese

HIVE STRUCTURE AND FUNCTION

Check out our website for information about [the Bee Grant](#).

Remember that the Observation Hive has pairs of frames. This means that the space sandwiched between the frames, or bee space, is not visible to the observer. Since the bees like to work in a darker environment, they may be more concentrated in these spaces. But, don't worry; there will be plenty of exciting activity to observe!

THE OBSERVATION HIVE

The Observation Hive is unique in that bees can be observed and studied without disrupting the colony. The hive case is made of solid wood and Plexiglas, a shatterproof material, and is secure.

The hive consists of eight frames arranged in stacking pairs. Each removable, wooden frame offers a base structure, a foundation made of thin sheets of beeswax imprinted with a pattern of honeycomb. The bees use this form to build their own combs out of beeswax. The combs are created for raising new bees, storing pollen and nectar and storing honey.

The entrance to the hive can be at the top or bottom of the hive near the mounting wall. Please assemble your hive and mount PRIOR to drilling the hole in the wall - noting whether your hive's bee entrance is at the top or bottom. The bees find their way from the outside through a tube to the entrance. There are ventilation holes on the sides, screened for your protection. It is important that the hive has good ventilation to keep it healthy. A feeding station is located on the top surface of the Observation Hive. Your beekeeper will instruct you if the bees need supplemental food before winter.

Finally, the Observation Hive moves! It is mounted to rotate so that both sides of the hive can be observed. This feature allows for better viewing and study.

THE BEES INSIDE

Right away, you should notice that the bees are busy. Every bee has a mission and is actively working to get the job done...which is never done! Some frames will have more bees on them than others. This is dependent on the purpose of that frame...the brood combs on the bottom half of the hive are usually more active than the others.

When you are near the hive, both a noise and an odor may be apparent. There will be a noticeable, gentle hum in the space shared with the hive, especially during the busy spring and summer foraging season. There may also be a slight fragrance from the hive, dependent on the type of bloom on which the bees are foraging. You may notice that the hive glass is warm to the touch, especially during brood season, which is late spring and early summer.

MAINTENANCE

Generally speaking bees will take care of themselves, and bees know best what is good for bees. Once your bees are installed in your hive case, the colony of bees will forage food and will create the perfect habitat needed for its well-being. A colony will instinctively self-adjust its work flow and life cycles to the seasons; creating brood, reproducing itself by swarming; collecting pollen and nectar, storing honey, and clustering for winter. In the low country, the colony will need minimal attention. Your beekeeper mentor will want to check for colony strength and honey/brood balance in both the fall and the spring.



COVERING THE HIVE WHEN IT IS NOT BEING OBSERVED IS HIGHLY RECOMMENDED

As honey bees prefer a dark environment, they will be more productive if covered. In addition, the hive can more easily maintain an ideal temperature if it has slight insulation. This can be accomplished with poster board cover panels or a draped tapestry or blanket.

In the winter, if there is not enough honey stored to sustain the bees through the season, the beekeeper may recommend feeding the bees a supplement of simple syrup or honey. A hive top feeding station that houses a glass mason jar makes easy work of this task without removing the Observation Hive to the outdoors.

A great advantage of the Observation Hive is that you can see inside and keep an eye on the health of the hive without having to open the hive and disrupt the bees.

I hadn't been out to the hives before, so to start off she gave me a lesson in what she called 'bee yard etiquette'. She reminded me that the world was really one bee yard, and the same rules work fine in both places. Don't be afraid, as no life-loving bee wants to sting you. Still, don't be an idiot; wear long sleeves and pants. Don't swat. Don't even think about swatting. If you feel angry, whistle. Anger agitates while whistling melts a bee's temper. Act like you know what you're doing, even if you don't. Above all, send the bees love. Every little thing wants to be loved.

SUE MONK KIDD
THE SECRET LIFE OF BEES

IF YOU ARE ALLERGIC TO BEES USE YOUR RECOMMENDED TREATMENT

In the year 2000, the World Health Organization reported 54 deaths from bee stings in the USA. This means that you are more likely to be killed by lightning, which causes 90 deaths per year, than by bee stings!

BUZZABOUTBEES.NET

SAFETY RULES

SIGNAGE: All Observation Hives come with a sign to be posted near the bee hive entrance on the exterior of the building. This helps alert visitors to the fact that there are bees in the area. Also, it helps to remind people about not using harmful chemicals, especially near the Observation Hive.

BEE ENTRANCE: For the Observation Hive, the bees enter and exit on the outside of the building. If you are outside, please stay clear of the entrance. Bees need about 4 to 5 feet of clearance before they fly up towards the sky! It is a good idea to give them a safe, 10-foot perimeter so that their flight is uninterrupted.

SWING ARM: This feature is integral in the purpose of the Observation Hive. When moving the hive, be sure to do so with care. Slowly rotating the hive for better observation is welcomed. Avoid swinging the hive quickly or with a jerky motion, and never hang on the hive.

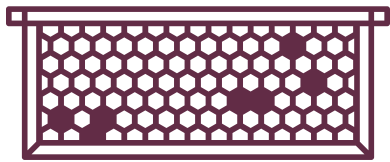
BEES INSIDE THE CLASSROOM OR OFFICE:

Frankly there's not much to be concerned about. The hive case is a sturdy and secure container. Bees cannot fly out, climb out, or chew out. In the rare incident where a bee may have found its way into the building without using the bee entrance, you may gently place a cup over the bee and slide a piece of paper between the cup and surface on which the bee landed. The bee may then be transferred outside.

BEE ETIQUETTE: The honey bees are very busy, and for the most part, will not notice you near the Observation Hive. Please keep it that way. Strong vibrations or very loud noises may agitate the bees, and in order to protect the hive, they may sting someone outside. Help the bees feel at home by providing an environment void of extremes in temperature and noise.

A BEE STING: If you do get a bee sting, make sure the stinger is removed as quickly as possible. A fingernail or credit card can be used to effectively remove the stinger. Bentonite Clay, Baking Soda, or peppermint oil will help soothe and reduce swelling. A cold compress will also relieve some of the pain. Do not rub or scratch the site, as this will produce more histamine, which causes itchiness and swelling. Evidence of the sting will disappear in a few days.

INTERACTIVE WITH THE HIVE



No Live Bees Required: use [this link](#) to observe inside the hive and [this link](#) to observe outside of the hive.

HOW TO CARE FOR THE HIVE

1. Log the temperature in the room and the temperature outside...note the difference from the temperature inside the hive, 93.5 degrees. If there is a large temperature difference, hive panels or case covers may be needed to improve colony health.
2. Look at each frame and note any changes in population. Report a significant decrease to the beekeeper.
3. Look for insects other than bees in the hive. You may see mites or hive beetles. Report any sightings to the beekeeper.
4. Are any of the combs broken or sagging? This may indicate a temperature regulation problem or trauma to the hive. Let your beekeeper know.
5. If needed, your beekeeper may teach you how to feed the bees a mixture of sugar water and special tea blend.
6. Keep the hive covered when not used for observation.