There are 20,000 BEE SPECIES on the planet.  Only 8 of those species are honeybees!

70% of bees live underground! Bumblebee, mason bee, leaf cutter bee

We are going to talk about HONEYBEES.

Why are bees important?

- Pollination
    - Fruits, vegetables, NUTS
- Make honey
- One out of every 3 bites of food people take was pollinated by a honeybee
- Without Bees, We'd Lose:
    - 100%  Almonds
    - 90%  Apples
    - 90% Onions
    - 90% Blueberries
    - 90% Cucumbers
    - 90% Carrots*

What kind of honey bees are in a colony?

- Queen bee – lays all the eggs
- Drone bee – Male no stinger
- Worker bee – Female Has a job based on her age
    - 1-2 days Clean cells
    - 3-11 days Nursery bee
    - 12-17 CONSTRUCTION days old make wax
    - 18-21 – GUARD
    - 22 – 45 – FORAGE – collect nectar

How far do bees travel for food?

- 3 mile radius around their hive
    - That is like a bee flying from here (19th/Buddy Holly) to The Texas Tech United Sprit Arena to find resources

Now they found the resources, how do bees communicate?

- Waggle dance

How do bees make honey?

- Collect nectar
- Regular stomach and a Honey gut

- 1 honeybee will visit 1000 flowers to fill up their honey gut.
- Break down the nectar in honey gut into simple sugars to make honey
- Stir in the comb with their proboscis (tongue) and flap wings to make it thick
- Honeybees have 2 sets of wings that hook together to help the fly faster

There are five primary threats to pollinators.

- Habitat Loss
    - With the expansion of industrial agriculture and human development, many habitats have dwindled, fragmented, or disappeared completely. This includes natural spaces containing important forage and nesting sites for wildlife species, including pollinators.
- Chemical Pesticides
    - Pesticides including neonicotinoids deter and kill unwanted pests and weeds on both a commercial and residential scale. However, they often destroy non-target species like bees as a consequence. Harmful pesticides and other environmental pollutants are a leading cause of pollinator declines.
- Invasive Plant Species
    - When humans introduce new species into a novel environment, these plants may have a competitive edge over the native species and overtake the local ecosystem. This can result in a loss of food for local bees, whose diets have evolved to feed on local plantlife.
- Diseases and Parasites
    - All of these factors have contributed to the spread of non-native parasites and diseases. Varroa mites have weakened honeybee populations, while the German yellow jacket feeds on native bees and honeybees. Fungus like Nosema bombi has been common in bumblebee species in decline.

Ways to Save Bees!

1. Plant a Bee Garden
2. Go Chemical-Free for Bees – avoid using pesticides/herbicides
3. Plant trees that bloom
4. Create a bee bath (bees need water but they cannot swim!)
5. Learn about bees and spread bee knowledge
6. Support local Beekeepers and organizations
    a. Join a meeting. Most you can join and learn about beekeeping for free
    b. Buy local honey