**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Assignment: Read the passage and annotate as you go.**

HIGHLIGHT/UNDERLINE KEY TERMS

STAR THINGS THAT INTEREST YOU

? WHERE YOU HAVE A QUESTION OR WANT TO KNOW MORE

**Hive Social Structure**

The honey bee is an amazing insect. Bees are social insects. They live with thousands of other bees and one queen in a colony made of wax. Each bee has a special job and this is what keeps the colony alive and going strong. If the bees did not do their special job, the colony could not survive. When insects live in a colony and each insect has a job, this is called a caste system. The castes of the honey bee caste system include the queen, drones,workers, and brood.

**Brood**

Before any bee becomes an adult, it is part of the brood. The brood of the colony is made up of eggs, larvae, and pupae. This is a complete lifecycle because there are four stages.

The queen lays eggs, which hatch into larvae. The larva’s job is to eat and grow. Larvae are fed by workers and will shed their skin a few times as they grow. When they are ready, the larvae will shed their skin one last time and emerge as a pupa. The pupa prepares for life as an adult. When the pupa has rested and gone through all the changes it needs, it will emerge as an adult. There are three types of adult bees that live in the hive: worker bees, drones, and one queen bee.

**Worker Bees**

Worker bees are all female. Worker bees do all the work in the hive and they have many different jobs. A worker bee takes about 21 days to go from egg to adult and she lives about

6 weeks. Her job will change as she gets older. A worker bee has a very special body to help it do its job. When worker bees first emerge from the pupa case, their job is to clean the nest. They are called house bees. House bees clean the nest for the first 2 days of their lives as adults.

Workers who are 3-12 days old work as nurses. Their job is to feed and take care of the larvae. When workers are 12-17 days old, they are construction workers and build and repair the cells of the nest. They can make wax with special wax glands on the bottom of their abdomen. They have small spurs on the backside of the legs that they use to pull the wax off to be used for construction. They also store nectar and pollen brought in by other bees. Guard worker bees are 18-21 days old. They protect the hive from enemies and invaders. They also inspect any worker bees entering the nest to make sure they are not from another colony. If they don’t smell right, they don’t get allowed in!

The oldest of the worker bees are called foragers. They are 22-42 days old and this is the last job they will have before they die. Foragers have the very important job of gathering nectar and pollen for the colony. They are the only workers to fly away from the nest. The reason the oldest workers are allowed to leave, is because they will die soon, and if they are killed while gathering food, it is not a big loss to the colony. Worker bees have pollen baskets on their hind legs. When a forager visits a flower, it packs pollen into the pollen baskets. Next time you see a bee visiting a flower, look for the pollen basket. A full pollen basket is yellow and round. Pollen baskets are used to store pollen so the bee can carry as much as possible back to their hive. Sometimes

pollen is picked up on their body and dropped off at another flower. This is called pollination.

Worker bees also suck up nectar with their lapping mouthparts. Parts of their lapping mouthpart are like a long tongue with a spoon at the end. They take the nectar back to the hive where they store it in a honey cells. Once the cell is full they cap it and the nectar will turn into honey.

**Drones**

The drones are the only male bees in the colony. They are bigger than the worker bees, but

smaller than the queen. It takes them the longest to go from egg to adult – 25 total days.

They are lazy and do nothing except eat and mate with the queen. Drones hatch in the

spring and are killed off by worker bees before the winter months.

**Queen**

There is only one queen in a hive and she is the most important bee. She is the largest bee in the hive and lives the longest, but it takes her less time to go from egg to adult (only 16 days!). This is because she is fed a special diet of royal jelly. The queen does not have an easy life. She keeps busy laying eggs all day. A strong queen can lay up to one thousand eggs or more a day and can live as long as six years!

**Wrap Up Questions**

What is a caste system?

Name the worker bee jobs from youngest to oldest.

Who lives the longest in a honey bee colony?

Which caste is the only male caste in a honey bee colony?

Why do the oldest workers leave the nest to forage and not the youngest?

Write answers to the above questions in complete sentences.