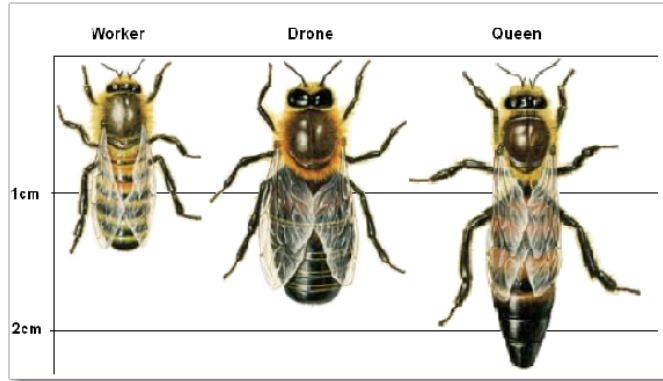
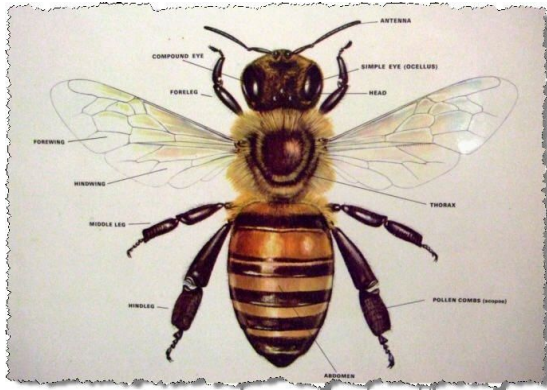


# Bee Anatomy & Hive Structure

## Objectives (NGSS Standards)

→ HS-LS2-8



(I may take pictures and make diagrams myself but until then, this is what will be used)

<u>Type of Bee</u>	Queen	Drone	Worker
<b>Size</b>	Largest	Medium	Smallest
<b>Amount in Hive</b>	Usually only <b>1</b>	Anywhere from <b>zero</b> to <b>200</b>	At least <b>20,000</b> to <b>200,000</b>
<b>Lifespan</b>	<b>2-3 years</b>	Only <b>21-90 days</b> ( <b>shorter lifespan in the spring</b> ) usually dies because queen kills him after mating	Only <b>20-40 days</b> and is literally worked to death
<b>Jobs/Activities</b>	<ul style="list-style-type: none"> <li>❖ Kills other Queens</li> <li>❖ Mates with males</li> <li>❖ Lays 1500 eggs/day  <ul style="list-style-type: none"> <li>➢ <b>200,000 per year</b></li> </ul> </li> <li>❖ Secretes a chemical to make sure worker bees never become queens</li> </ul>	Only "job" is to mate with the Queen	<ul style="list-style-type: none"> <li>❖ Make comb</li> <li>❖ Tend larvae</li> <li>❖ Tend young drones</li> <li>❖ Tend queen</li> <li>❖ Clean hive</li> <li>❖ Gather nectar</li> <li>❖ Gather pollen</li> <li>❖ Evaporate nectar</li> <li>❖ Cap cells</li> <li>❖ Defend hive</li> <li>❖ Starve drones</li> </ul>



			<ul style="list-style-type: none"><li>❖ Lay drone eggs</li><li>❖ Move larvae for making new queen</li></ul>
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## Activities

### ★ Construct a 3D model of bees (groups of 3)

- Materials:
  - Marshmallows
  - Pretzels
  - Chips
  - Mini reese's
  - M&M's
  - Posterboard
  - Sharpie
- Requirements
  - Eyes
  - Stinger (only on females)
  - Head
  - Thorax
  - Abdomen
  - Antennae
  - 6 legs
  - Pollen basket
  - labels

### ★ Cheeto pollination

- Paint on flowers to small boxes
- Fill some with cheetos and others without
- Put one box on each student's desk
- Hand students the cheeto pollination handout
- Explain directions to students

