

Social Bees

Social bees are bees that live together as a family.

They share the work of building a nest, foraging for food and caring for young. Honey bees and bumble bees are examples of social bees.



What do superheroes have in common? They all have superpowers! 10
Can you guess what honey bees' superpower is? 18

When Jocelyn came into the lunchroom and spied her brother, Josh, 29 reading a book, she asked him what he was reading. 39

"It's my favorite superhero's new comic book," he answered. "I love it 51 when he teams up with other superheroes to help people!" 61

"You know," Jocelyn said, "social bees are kind of like superheroes. They 73 work together on jobs like foraging for food, caring for their young and 86 building their nests." 89

"You mean bees have nests—like birds?" Josh asked. 98

Jocelyn shook her head. "Not exactly. The nest of social bees like honey bees is called a 115 hive. Honey bees fill their hive with honeycomb. It's made of wax with little cells shaped 131 like hexagons. In the wild, bees make their own hives, but people make hives for bees, too." 148

Josh frowned. "Why would people do that?" 155

"So they can harvest the honey, the wax or even the honeycomb and the bees can pollinate 172 their crops or gardens." 176

"Where does the honey come from?" 182

"First," Jocelyn explained, "the older worker bees collect nectar from flowers. They swallow 195 the nectar, fly back to the hive, and spit it up into the mouth of a younger worker bee. That's 215 called **trophallaxis** (tro-ful-AK-sis)." 218

"EWWWW!" Josh responded. "That's disgusting!" 223

"No kidding!" Jocelyn said. "But that's not all! The younger bee swallows the nectar, then 238 travels to an open section of honeycomb and spits it out again. Bees' spit has chemicals called 255 **enzymes**. As the nectar sits in the honeycomb, the enzymes make its sugars easier to digest." 271

Josh was impressed. "How do you know all this?" 280

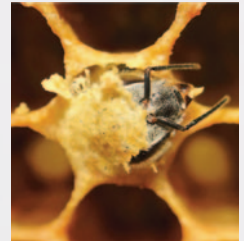
Jocelyn giggled. "By BEE-ing an excellent listener in Mrs. Moran's class! But there's more. 294 Other bees take turns fanning the nectar with their wings. This makes the water in the nectar 311 **evaporate**—it dries up and changes to gas. The nectar gets stickier and sweeter and, in a few 329 days, it turns into honey! And if the honey doesn't get wet, it stays good to eat for a long time. 350 That's why worker bees cover the honey in the honeycombs with wax." 362

"What do you mean?" Josh asked. 368

"The wax keeps water out of the honey. Bees eat their stored honey when it's too cold to go 387 outside. It helps them survive the winter. They may also come out of their hive to look for food 406 any day with the temperature above 55° F, even in December! 416

"Wow!" Josh exclaimed. "Bees really are superheroes. Even if they don't have capes!" 429

"Honey bees don't fight crime," Jocelyn said. "But now you know why they're superheroes! 443 They make honey and help plants make our food!" 452



A brand new bee emerging from her cell.

Fluency Tracker

Day 1 _____, Day 2 _____, Day 3 _____, Day 4 _____, Day 5 _____



Honey bee



Winter heath, an Oregon plant that flowers in early winter