One Colony, Many Jobs

How shared work helps insect colonies survive

ZOO.5.8 "Explain the importance of eusociality in insects, such as ants, bees, and termites."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline the one sentence beginning "As a result" in each paragraph. In each underlined sentence, circle the workers' shared action and draw a box around how that action helps the young.

Who Keeps the Colony Going?

1. At the edge of a sidewalk, an ant worker carries a crumb twice its size toward a nest. Inside, a queen lays eggs while other workers feed larvae, search for food, and guard the entrance. Ants are eusocial: adults of different generations live together, many workers help raise young, and reproduction is concentrated in queens rather than shared equally among adults. A lone ant could not gather food, protect the nest, and tend larvae all at once. As a result, workers sharing these jobs keep more larvae fed and sheltered until they develop into adults. The colony can continue even when some workers die.

2. On a warm day, honeybee workers visit flowers and carry nectar and pollen back to their hive. Other workers clean cells, feed larvae, and fan their wings to help control hive temperature. The queen lays most of the eggs, and male bees called drones can mate with queens. Young workers often tend the hive before taking on trips outside. This shift in tasks lets workers cover needs that change as bees age and the season changes. As a result, workers dividing food collection, feeding, and fanning give larvae food and a suitable hive temperature for development.

3. A termite colony lives inside a mound of soil or a tunnel in wood. Its king and queen reproduce; workers maintain the nest and care for young, while soldiers help defend the colony. Unlike honeybee workers, termite workers may be male or female. Many termites rely on microbes in their guts to digest wood, a food rich in cellulose. Workers can share processed food with nestmates, including young termites that cannot forage on their own. As a result, workers feeding young and repairing the nest help young termites grow in a protected home. Eusociality links reproductive adults with helpers whose work supports the colony's next generation.

2 ANSWER WITH EVIDENCE

Use the passage

1. Why does an ant colony benefit when workers split tasks instead of each ant trying to do everything?

2. How do honeybee workers' jobs inside and outside the hive work together to help larvae develop?

3. How does repairing the nest add to the benefit of termite workers feeding young?

4. Ants, honeybees, and termites use different foods and nests. What shared arrangement helps all three colonies raise the next generation?

3 YOUR TURN

Your own words

Imagine that heavy rain has washed away several foragers from an ant colony, but larvae still need food and protection. In four sentences, propose how the surviving ants could divide jobs and explain how this helps the next generation survive.

ANSWER KEY

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PART 1 · READ AND MARK

Underline the one sentence beginning "As a result" in each paragraph. In each underlined sentence, circle the workers' shared action and draw a box around how that action helps the young. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	Why does an ant colony benefit when workers split tasks instead of each ant trying to do everything?	**Workers can gather food, guard the nest, and tend larvae at the same time, keeping more young fed and sheltered.**
2	How do honeybee workers' jobs inside and outside the hive work together to help larvae develop?	**Foragers bring back food, while workers inside feed larvae and help control hive temperature.**
3	How does repairing the nest add to the benefit of termite workers feeding young?	**Feeding helps young termites grow, while nest repair gives them a protected place to grow.**
4	Ants, honeybees, and termites use different foods and nests. What shared arrangement helps all three colonies raise the next generation?	**Reproductive adults produce young, while other colony members share jobs such as finding food, caring for young, and protecting the nest.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

After the rain, some surviving workers search for food while others stay with the larvae. Guards protect the nest entrance, and workers inside feed the larvae with food brought back by foragers. The queen continues laying eggs while the workers handle these other jobs. Sharing the jobs keeps young ants fed and protected even after the colony loses workers.

Accept plans that assign food collection and care or protection to different ants and explain how those jobs support the young. The plan should account for the loss of foragers without suggesting that workers replace the queen's egg-laying role.