



# Bees are Buzzing

Let's investigate insect populations.

## Warm-up

### Estimation Exploration: Bees

How many bees are in the image?



Record an estimate that is:

| too low | about right | too high |
|---------|-------------|----------|
|         |             |          |

## Activity 1

### Termites, Ants, and Bees

Here are some facts about insects.

#### Termites

- Size of a colony: 100–1,000,000
- A queen lives for 30–50 years.
- There are 3,000–3,500 species of termites.
- The length of a termite is 4 to 15 millimeters.
- In some species, the mature queen may produce around 40,000 eggs a day.



#### Odorous House Ants

- Size of colony: up to 100,000
- A queen lives for 300–1,800 days.
- The length of an ant is 1.5–3.2 millimeters.
- Foraging ants travel up to 700 feet from their nests.
- There are 12,000–22,000 possible species.



#### Honey Bees

- Size of a hive: 10,000–60,000
- There are around 500 drones in a hive.
- A queen can lay about 1,500–2,000 eggs each day.
- A hive produces 7–40 liters of honey in a season.
- The length of a bee is 10–20 millimeters.



1. Here are some numbers that could represent facts about termites, house ants, and honey bees. What might each number represent?

| number  | what it might represent |
|---------|-------------------------|
| 2.4     |                         |
| 8       |                         |
| 487     |                         |
| 1,794   |                         |
| 6,905   |                         |
| 20,799  |                         |
| 530,097 |                         |

2. Add another number to the list. What fact about the insects might this number represent?

3. Discuss your answers with your partner. Explain or show your reasoning.



## Activity 2

### Bee Population

An entomologist records the number of bees in their beehive over the course of several months. They record:

- The number of bees at the beginning of the month.
- How many bees left, and didn't return, during the month.
- How many new bees were added to the hive during the month.

Unfortunately, some of the entries in the table are missing.

1. Complete the missing information in the table.

| month     | bees in the hive at the beginning of the month | new bees | bees that left the hive |
|-----------|------------------------------------------------|----------|-------------------------|
| May       | 20,000                                         | 9,378    | 342                     |
| June      |                                                | 15,870   | 970                     |
| July      |                                                | 14,965   |                         |
| August    | 58,107                                         |          | 28,980                  |
| September | 30,017                                         | No data  | No data                 |

2. Discuss your responses with your partner. Explain or show your reasoning.