



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.