## Lesson 23: Bees are Buzzing

* Let’s investigate insect populations.

### Warm-up: Estimation Exploration: Bees



Record an estimate that is:

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

### 23.1: Termites, Ants, and Bees

Here is some information 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 |  |

1. Add another number to the list. What about the insects might this number represent?
2. Discuss your answers with your partner. Be prepared to show or explain your reasoning.

### 23.2: 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 |

1. Discuss your responses with your partner. Be prepared to show or explain your reasoning.



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