# **Unit 8 Lesson 3: Representing Data Graphically**

### 1 Curious about Caps (Warm up)

#### **Student Task Statement**

Clare collects bottle caps and keeps them in plastic containers.



Write one statistical question that someone could ask Clare about her collection. Be prepared to explain your reasoning.

# 2 Estimating Caps

Images for Launch



#### **Student Task Statement**

- 1. Write down the statistical question your class is trying to answer.
- 2. Look at the dot plot that shows the data from your class. Write down one thing you notice and one thing you wonder about the dot plot.
- 3. Use the dot plot to answer the statistical question. Be prepared to explain your reasoning.

### 3 Been There, Done That!

#### **Student Task Statement**

Priya wants to know if basketball players on a men's team and a women's team have had prior experience in international competitions. She gathered data on the number of times the players were on a team before 2016.

men's team

| 3   | 0          | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
|-----|------------|---|---|---|---|---|---|---|---|---|---|
| wom | ien's teai | m |   |   |   |   |   |   |   |   |   |
| 2   | 3          | 3 | 1 | 0 | 2 | 0 | 1 | 1 | 0 | 3 | 1 |

- 1. Did Priya collect categorical or numerical data?
- 2. Organize the information on the two basketball teams into these tables.

Men's Basketball Team Players

| number of prior competitions | frequency<br>(number) |
|------------------------------|-----------------------|
| 0                            |                       |
| 1                            |                       |
| 2                            |                       |
| 3                            |                       |
| 4                            |                       |

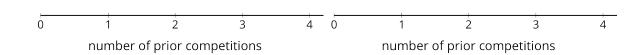
Women's Basketball Team Players

| number of prior competitions | frequency<br>(number) |
|------------------------------|-----------------------|
| 0                            |                       |
| 1                            |                       |
| 2                            |                       |
| 3                            |                       |
| 4                            |                       |

3. Make a dot plot for each table.

Men's Basketball Team Players

Women's Basketball Team Players



- 4. Study your dot plots. What do they tell you about the competition participation of:
  - a. the players on the men's basketball team?
  - b. the players on the women's basketball team?
- 5. Explain why a dot plot is an appropriate representation for Priya's data.

## **4 Favorite Summer Sports (Optional)**

#### **Student Task Statement**

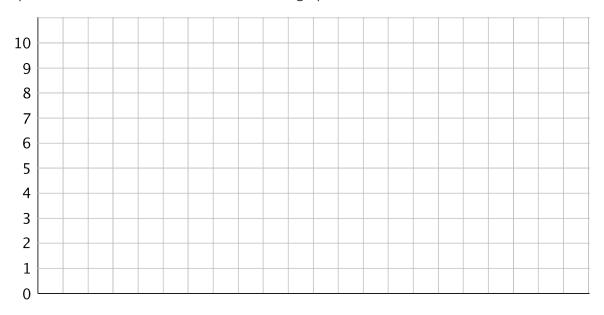
Kiran wants to know which three summer sports are most popular in his class. He surveyed his classmates on their favorite summer sport. Here are their responses.

| swimming        | gymnastics      | track and field | volleyball      |
|-----------------|-----------------|-----------------|-----------------|
| swimming        | swimming        | diving          | track and field |
| gymnastics      | basketball      | basketball      | volleyball      |
| track and field | track and field | volleyball      | gymnastics      |
| diving          | gymnastics      | volleyball      | rowing          |
| track and field | track and field | soccer          | swimming        |
| gymnastics      | track and field | swimming        | rowing          |
| diving          | soccer          |                 |                 |

- 1. Did Kiran collect categorical or numerical data?
- 2. Organize the responses in a table to help him find which summer sports are most popular in his class.

| sport | frequency |
|-------|-----------|
|       |           |
|       |           |
|       |           |
|       |           |
|       |           |
|       |           |
|       |           |
|       |           |

3. Represent the information in the table as a bar graph.



- 4. a. How can you use the bar graph to find how many classmates Kiran surveyed?
  - b. Which three summer sports are most popular in Kiran's class?
  - c. Use your bar graph to describe at least one observation about Kiran's classmates' preferred summer sports.
- 5. Could a dot plot be used to represent Kiran's data? Explain your reasoning.