Lesson 22
NAME:

Histograms and Bar Graphs

Start by navigating to the Online Lesson for instructions.

Objectives

- Determine if data is categorical or quantitative
- Construct a histogram with appropriate labels
- Construct a bar graph with appropriate labels

Why?

Understanding the difference between histograms and bar graphs teaches you to select the right tool for visually representing the data based on the data type. You can uncover insights from tables and sets in a clear visual summary that reveals patterns and outliers. Both histograms and bar graphs are methods for presenting data to all types of audiences.

Explore

Histograms and Bar Graphs

Fill in the notes as you watch the video in the Online Lesson.

- _____ is a collection, or set, of information that can be quantitative or categorical.
    - _____ data is numerical.
    - _____ data is data that is divided into categories or groups.

Histograms are used to compare quantitative data.

- The horizontal axis has _____ intervals of data.
- Intervals on a histogram _____ but never overlap.
- Each element of the data set will fit into only _____.
- The _____ axis of a histogram identifies the number of elements in each interval.

- Histograms can compare the intervals for the data set, but _____ to find the exact mean or median for the data set.

Bar graphs are used to compare categorical data.

- The horizontal axis will represent the distinct _____ of the data.
- Each bar is separated by a _____ to show distinctness.
- The vertical axis identifies the _____, or number, of elements in each category.

Example 1

Complete the example as you watch the video in the Digital Toolbox.

Determine if the data is quantitative or categorical.

A) Rhoda surveyed ten people to list the type of pets they owned.

B) Amelia surveyed ten people to determine the number of pets they each had.

Example 2

Complete the example as you watch the video in the Digital Toolbox.

Construct a histogram.

Abigail listed the daily temperature in Fahrenheit for fifteen days.

Temperature = {63, 65, 74, 71, 82, 81, 72, 87, 79, 83, 85, 90, 91, 83, 82}

Temperature	Number of Days

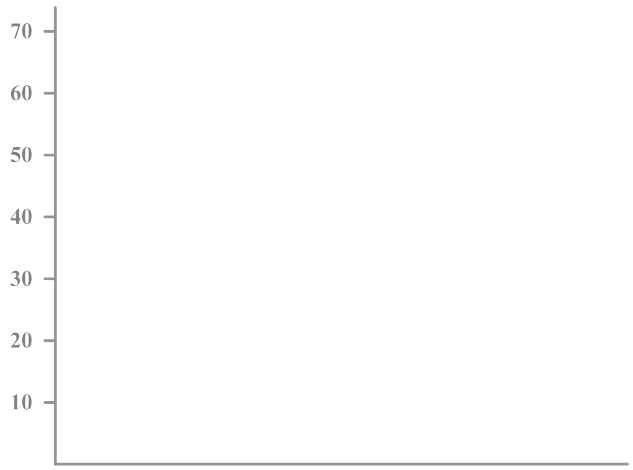
Example 3

Complete the example as you watch the video in the Digital Toolbox.

Construct a bar graph.

A local theater company listed the attendance of their newest production for opening week.

Day of the Week	Total Attendance
Monday	45
Tuesday	40
Wednesday	38
Thursday	50
Friday	65
Saturday	70



Practice

Determine if the data is quantitative or categorical.

1) Arrow Academy offers apparel for purchase: t-shirts, long-sleeved shirts, sweat shirts, and hoodies. They surveyed the first 100 people that came to the store to see which kind of apparel was their favorite.

2) Tami's Trees and Shrubs asked customers to rate their satisfaction: very dissatisfied, dissatisfied, neutral, satisfied, very satisfied.

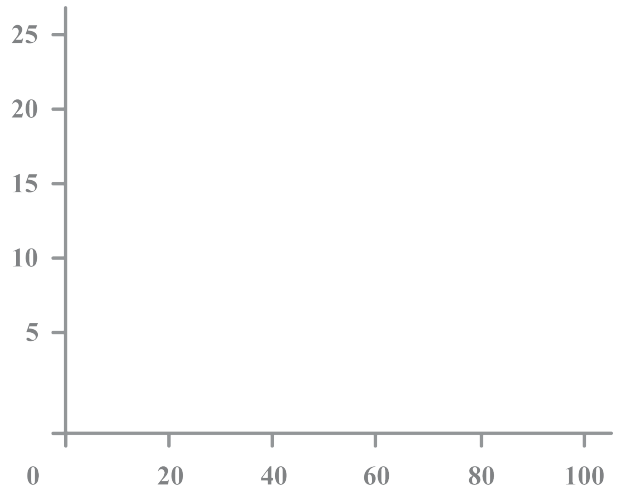
3) The annual "Beat the Heat 5K" listed the age of each racer.

4) The annual "Beat the Heat 5K" gave medals for racers finishing first, second and third in each age range.

Construct a histogram using the given intervals.

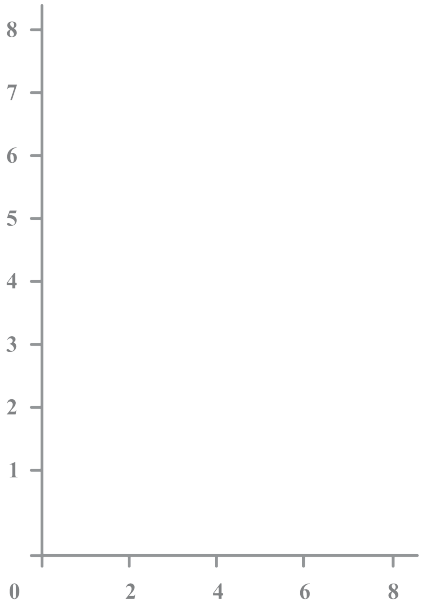
5) Garfield Elementary had a jump rope contest. The school determined how many times the typical student could jump rope without missing. They collected the following data:

Number of Jumps	Number of Students
0–9	14
20–39	11
40–59	18
60–79	9
80–99	6



6) Dave's Delivery Service made 15 deliveries this month and recorded the number of days it took to deliver each order. Construct a histogram.

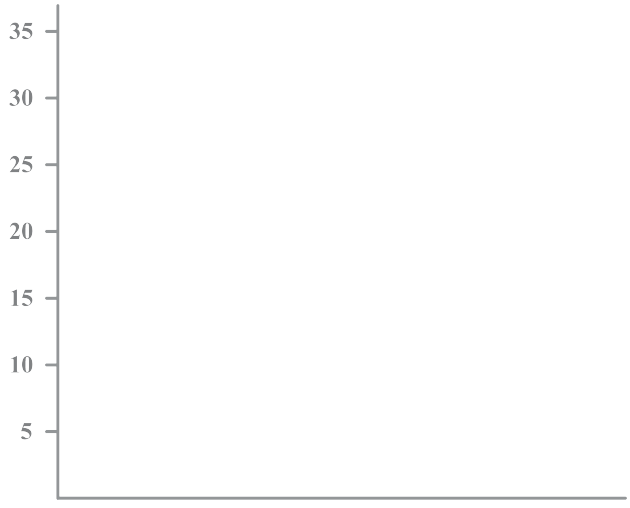
Days = {1, 2, 2, 3, 4, 3, 5, 6, 4, 1, 2, 4, 5, 1, 2}



Construct a bar graph.

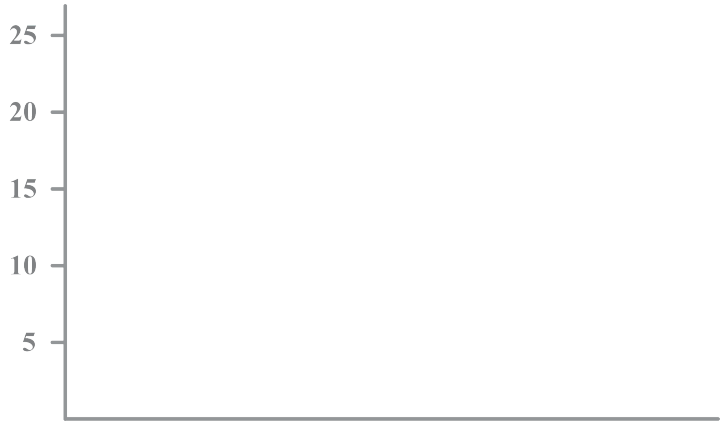
7) Emerson Jr. High listed the number of balls a sport had in storage in the following table. Construct a bar graph.

Type	Number of balls
Basketballs	30
Footballs	20
Soccer balls	18
Volleyballs	24



8) A local community center listed the attendance for different summer activities. Construct a bar graph.

Activity	Attendance
Hiking	12
Painting	20
Sewing	9
Sports	16



To continue, return to the Online Lesson.