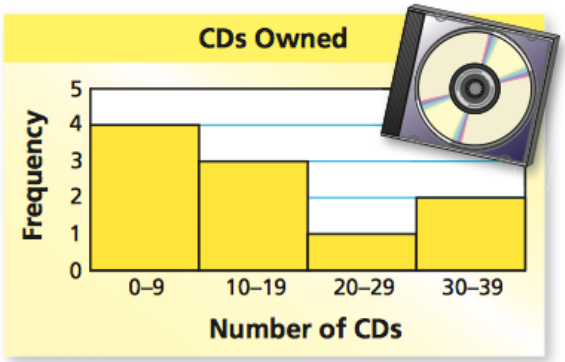
10.2 HISTOGRAMS
Guided Notes

Key Idea

Histograms

A **histogram** is a _____ that shows the _____ of data values in _____ of the _____ size.

The _____ of a bar represents the _____ of the values in the _____



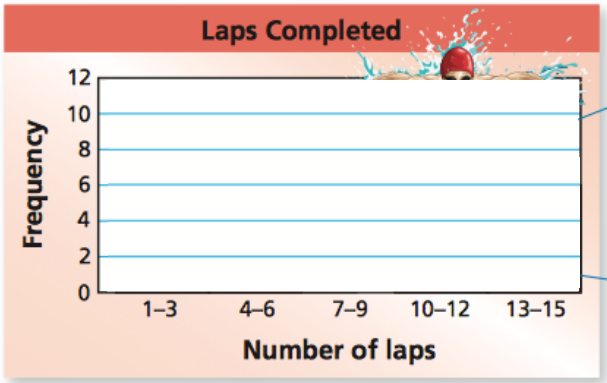
EXAMPLE 1 Making a Histogram

The frequency table shows the numbers of laps that people in a swimming class completed today. Display the data in a histogram.

Number of Laps	Frequency
1–3	11
4–6	4
7–9	0
10–12	3
13–15	6

Step 1:

Step 2:



EXAMPLE 2 Using a Histogram

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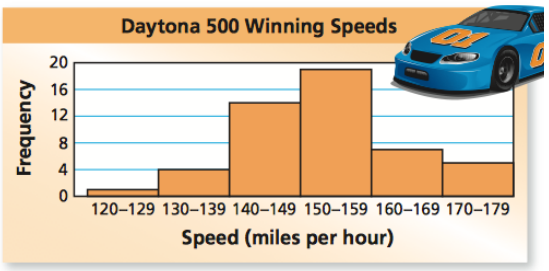
The histogram shows the winning speeds at the Daytona 500. (a) Which interval contains the most data values? (b) How many of the winning speeds are less than 140 miles per hour? (c) How many of the winning speeds are at least 160 miles per hour?



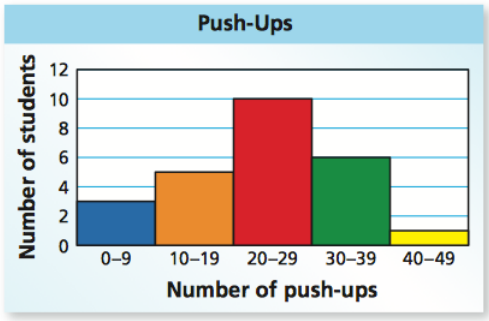
a. The interval with the contains the data values.

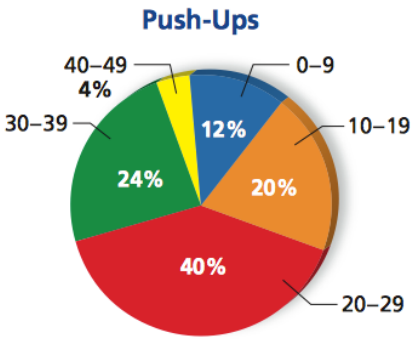
b. winning speed is in the miles per hour interval, and winning speeds are in the miles per hour interval.

c. winning speeds are in the miles per hour interval, and winning speeds are in the miles per hour interval.

EXAMPLE 3 Comparing Data Displays

The data displays show how many push-ups students in a class completed for a physical fitness test. Which data display can you use to find how many students are in the class? Explain.





EXAMPLE 4 **Making Conclusions from Data Displays**

Which statement *cannot* be made using the data displays in Example 3?

(A) Twelve percent of the class completed less than 10 push-ups.

(B) Five students completed at least 10 and at most 19 push-ups.

(C) At least one student completed more than 39 push-ups.

(D) Twenty-nine percent of the class completed 30 or more push-ups.

The circle graph shows that completed push-ups.
So, Statement A

In the histogram, the bar height for the interval is and the bar height for the interval is So, Statements B and C

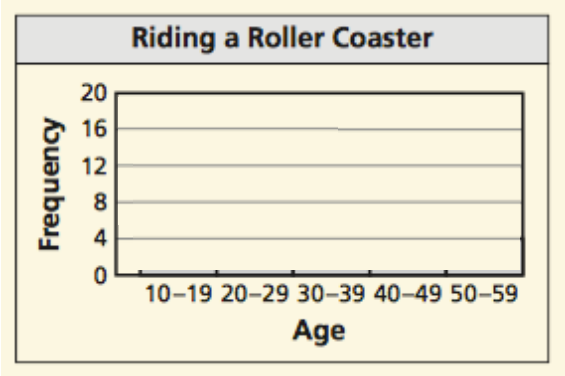
The circle graph shows that completed push-ups, and completed push-ups. So, + = completed or more push-ups. Statement D

∴ The correct answer is

On Your Own 10.2

1. The frequency table shows the ages of people riding a roller coaster. Display the data in a histogram.

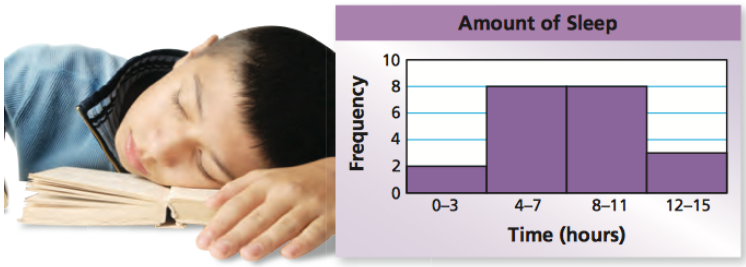
Age	10–19	20–29	30–39	40–49	50–59
Frequency	16	11	5	2	4



2. The histogram shows the numbers of hours that students in a class slept last night.

a. How many students slept at least 8 hours?

b. How many students slept less than 12 hours?



3. In Example 3, which data display should you use to describe the portion of the entire class that completed 30–39 push-ups?

4. Make two more conclusions from the data displays in Example 3.