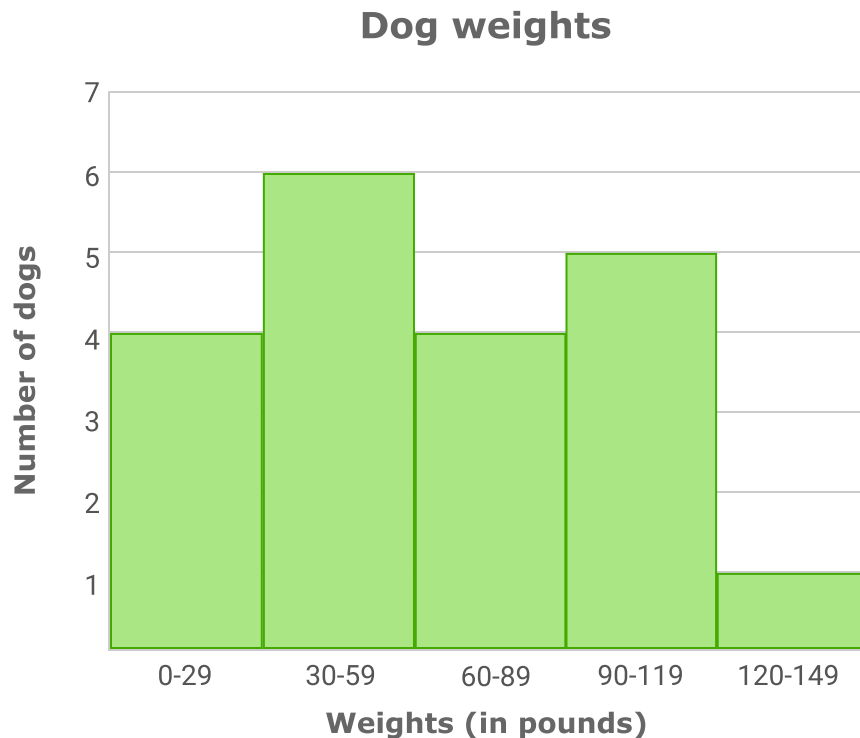


# Histograms

A **histogram** is a type of graph that uses bars to represent data. A histogram is similar to a bar graph. However, unlike bar graphs, histograms always display numerical data grouped into equal ranges, or **bins**.

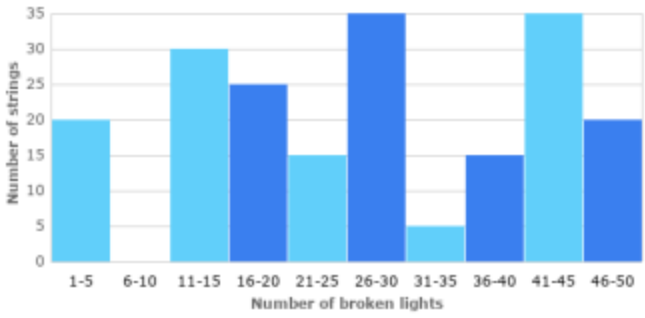
The histogram below shows the weights of dogs seen in Dr. Romero's office over the last day. Notice the bins along the x-axis. Each bar on the histogram shows how many dogs have a weight that falls within the bin below it. For example, six of the dogs weighed between 30 and 59 pounds.



Go to IXL to try some practice problems!

While hanging Christmas lights for neighbors, Vincent counted the number of broken lights on each string.

**Broken lights per string**



Number of broken lights	Number of strings
1-5	20
6-10	30
11-15	25
16-20	15
21-25	35
26-30	5
31-35	15
36-40	35
41-45	20
46-50	20


Which range of broken lights per string occurred least frequently?

6-10 broken lights

11-15 broken lights

31-35 broken lights

41-45 broken lights

 Interpret histograms CBF

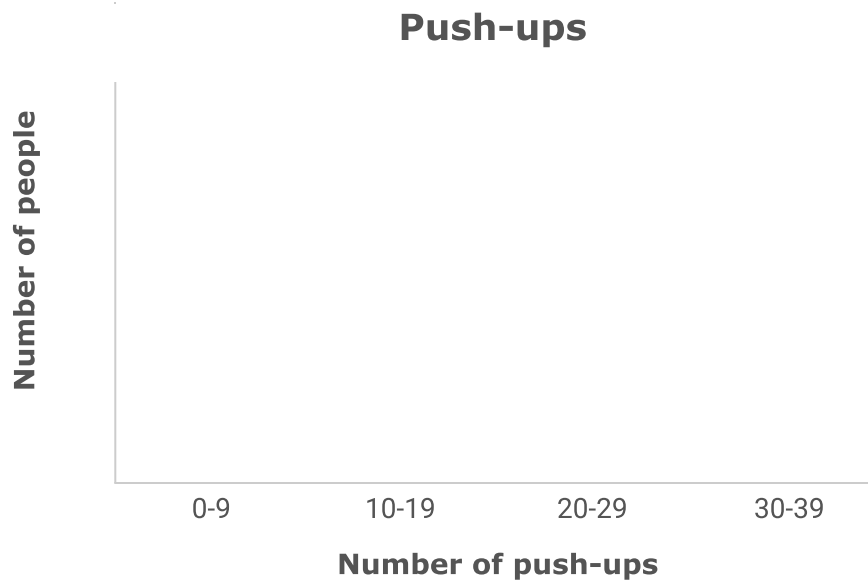
## Creating histograms

You can create a histogram from a data set. Let's try it!

A group of friends had a competition to see who could do the most push-ups. The data set below shows how many push-ups each person could do.

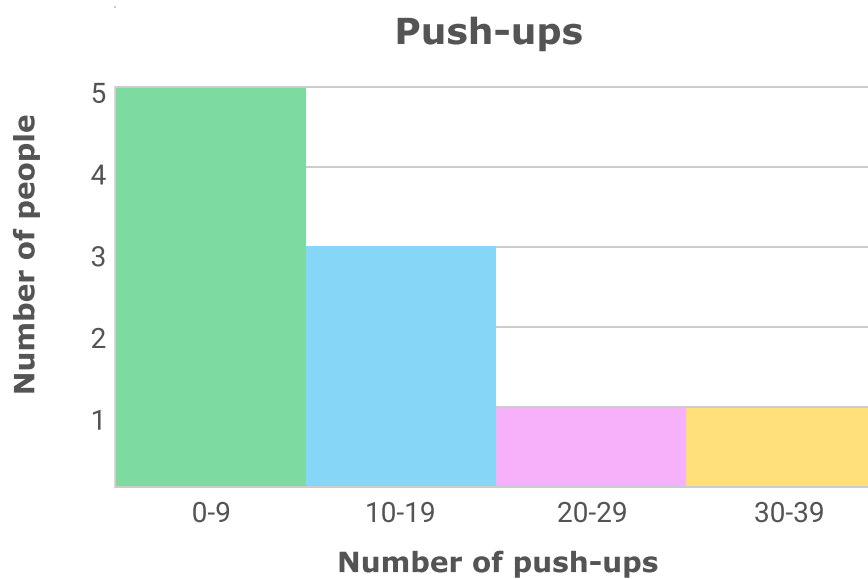
9 8 19 4 17 38 3 6 12 25

First, set up the histogram. Give the histogram a title, and then draw and label the axes. Then, label the x-axis with appropriate bins. The bins should be equal in size and include all values in the data set. For this data set, you can make the following bins: 0–9, 10–19, 20–29, and 30–39.



Now, determine the number of values in each bin and label the y-axis with an appropriate scale. Draw bar heights to match the number of values in each bin.

- Five people completed 0–9 push-ups.
- Three people completed 10–19 push-ups.
- One person completed 20–29 push-ups.
- One person completed 30–39 push-ups.



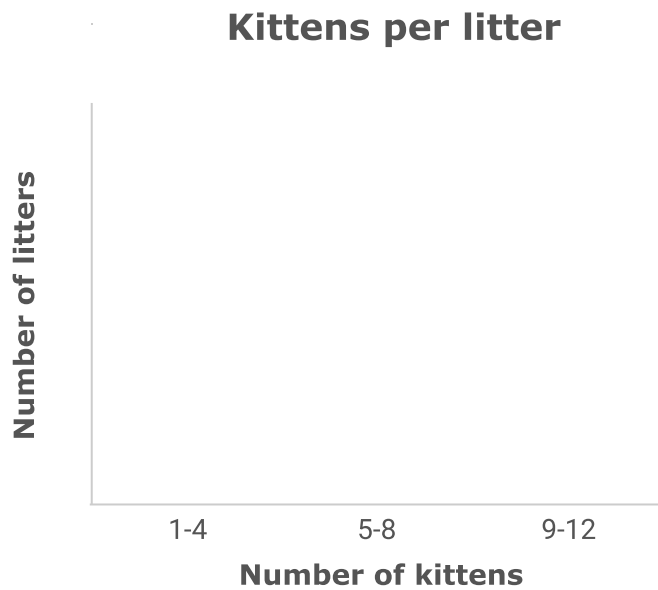
## Creating histograms from frequency tables

You can follow the same steps to create a histogram from a [frequency table](#). Let's try it!

The frequency table below shows the number of kittens born in each litter at the Brockton Animal Shelter over the past year.

Kittens per litter	
Number of kittens	Number of litters
1	1
2	2
3	2
4	5
5	3
6	0
7	2
8	1
9	0
10	1
11	0
12	1

First, set up the histogram. For this data set, you can make the following bins: 1–4, 5–8, 9–12.



Now, determine the number of values in each bin and label the y-axis with an appropriate scale. Draw bar heights to match the number of values in each bin.

Kittens per litter	
Number of kittens	Number of litters
1	1
2	2
3	2
4	5
5	3
6	0
7	2
8	1
9	0
10	1
11	0
12	1

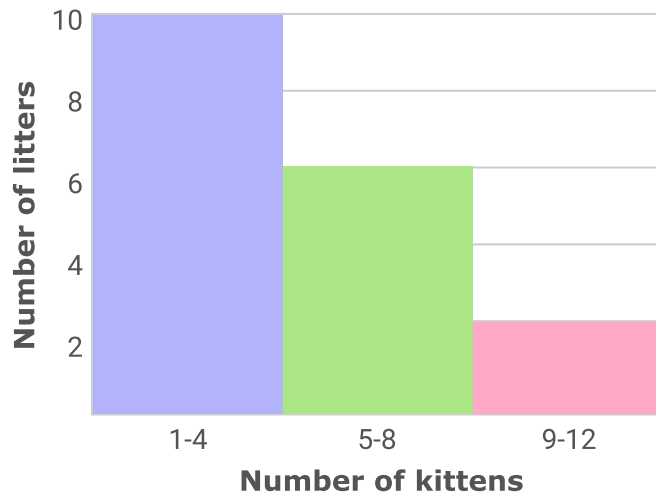
$1 + 2 + 2 + 5 = 10$

$3 + 0 + 2 + 1 = 6$

$0 + 1 + 0 + 1 = 2$

You can use a scale of 2 on the  $y$ -axis to better fit the data on the graph.

### Kittens per litter



Go to IXL to try some practice problems!

The staff of a game show tracked the performance of all the contestants during the past season.

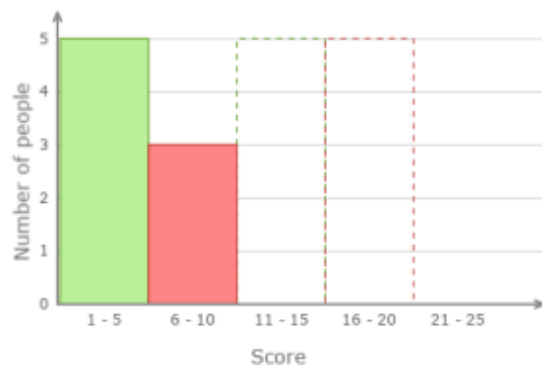
Use the data to complete the histogram below.

#### Game show scores

1 1 4 4 5 6 8 10 11 12 12 13 14 18

Click to set the height of a missing bar.

#### Game show scores



Create histograms 7NG

**Visit IXL for more related skills and lessons!**

**Skills**

[Interpret histograms](#) CBF

[Create histograms](#) 7NG

**Lessons**

[Frequency tables](#)