

Name: \_\_\_\_\_

# Box Plots

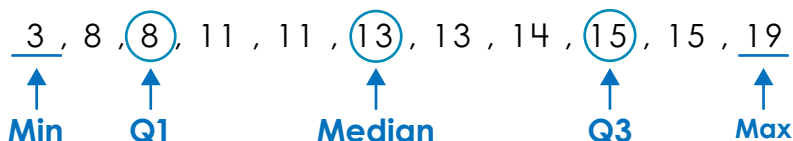
Box plots, often called box-and-whisker plots, use a number line and special numbers called quartiles to show how data is distributed.

**Quartiles** split a data set into 4 equal segments, each containing 25% of the data. They let you quickly see the overall spread and center of the data set.

**Step 1:** Order your data points from least to greatest.

8, 13, 14, 13, 8, 11, 15, 19, 15, 3, 11 → 3, 8, 8, 11, 11, 13, 13, 14, 15, 15, 19

**Step 2:** Complete a 5-number summary.



## 5-Number Summary

Min = 3

Q1 = 8

Median = 13

Q3 = 15

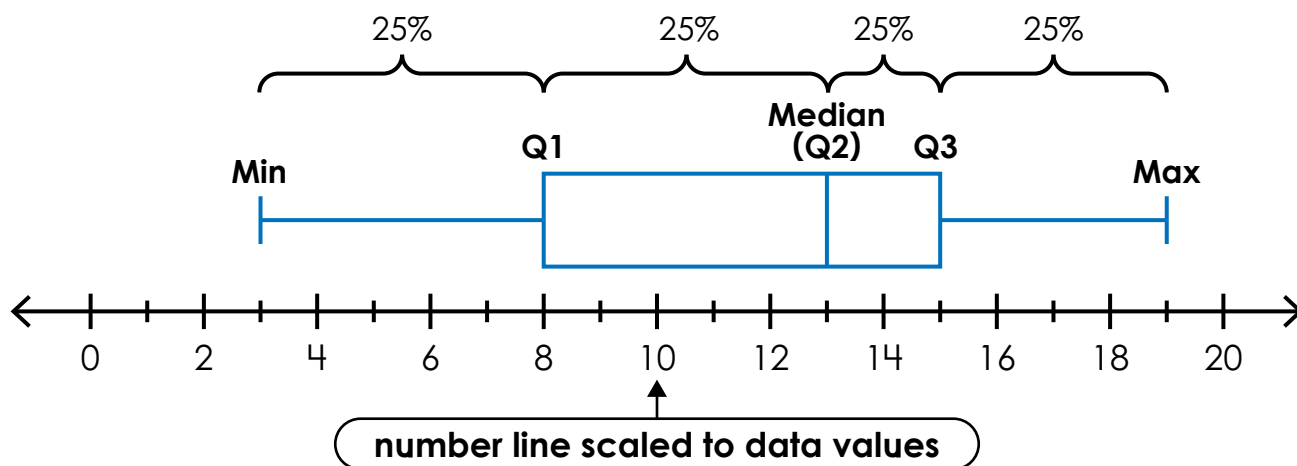
Max = 19

- Note the minimum and maximum values.
- Find the median of the whole data set, Q2.
- Find the medians of the lower half of the data (Q1, or lower quartile) and upper half of the data (Q3, or upper quartile).

**Remember:** If a median falls between two numbers, find the mean of those numbers.

**Step 3:** Draw a number line. Don't forget the arrows at the ends! Label a scale that makes sense for your data values. Give a title if there is context.

**Step 4:** Plot the 5-number summary to form a box and extending whiskers.



The difference between the upper and lower quartiles ( $Q3 - Q1$ ) is called the **interquartile range**. It represents the spread of the middle 50% of data.