

TOPIC 6

Represent and Interpret Data

In this topic, students extend their understanding of data and data analysis. They analyze both numerical and categorical data sets and determine the appropriate way to display a data set.

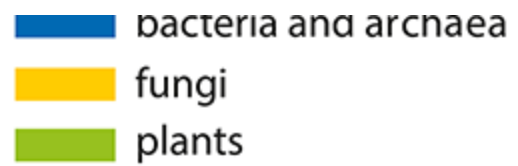
CONNECT THE MATH

The world is full of data, much of it shared on a daily basis. This topic gives students tools with which to analyze and interpret some of that information. This is particularly important because data can be misused and misrepresented.

When information is shared visually, as in a graph, it can be easier to interpret than when it is shared as a list. A list of individual pieces of data gives very specific information, while a graph displays more general information. Measures of center (averages) and variability (ranges) give information about the data set as a whole.

Look for data displays in media to discuss with your family.





LESSON 6-1

Populations and Samples

Representative samples reflect the characteristics of the entire population. The best way to determine a representative sample is to make sure the sample is randomly chosen.

LESSON OBJECTIVES

- Understand the difference between a population and a sample.
- Establish whether a sample is representative of a population.
- Generate random samples that represent the entire population.

HOW CAN YOU HELP WITH HOMEWORK

Review Lesson Content

Watch and share these video tutorials with your student:

- [What Is a Survey?](#)
- [How Do You Figure Out if a Sample is Biased or Unbiased?](#)

Review Key Vocabulary

Review key vocabulary from this lesson in your student's glossary:

- [random sample](#)
- [representative sample](#)

You can use these search terms and phrases to help your student find additional help online:

- understanding populations and samples
- representative samples
- random samples

LESSON 6-2

Draw Inferences From Data

Data from random samples can be used to make valid inferences about a population by looking for patterns or trends in the distribution of the data, using measures of center and variability, and using proportional reasoning.

LESSON OBJECTIVES

- Make qualitative and quantitative inferences from a sample data set.
- Make estimates about a population based on a sample data set, and assess whether the inferences are valid.

HOW CAN YOU HELP WITH HOMEWORK

Review Lesson Content

Watch and share these video tutorials with your student:

- [How Do You Interpret a Line Plot?](#)
- [How Do You Interpret a Box-and-Whisker Plot?](#)

Review Key Vocabulary

Review key vocabulary from this lesson in your student's glossary:

- [valid inference](#)

You can use these search terms and phrases to help your student find additional help online:

- qualitative inferences
- quantitative inferences
- box plots
- line plots
- measures of center
- measures of variability

LESSON 6-3

Make Comparative Inferences About Populations

Box plots and other data displays can be used to visually compare, and make inferences about, two populations. Measures of center and variability, such as median and IQR can also be used to compare populations.

LESSON OBJECTIVES

- Use box plots to compare and make inferences about populations.
- Use the median and interquartile range (IQR) of datasets to informally compare and make inferences about two populations.

HOW CAN YOU HELP WITH HOMEWORK

Review Lesson Content

Watch and share these video tutorials with your student:

- [How Do You Interpret a Box-and-Whisker Plot?](#)
- [What Is the Interquartile Range?](#)

You can use these search terms and phrases to help your student find additional help online:

- interpreting a box plot
 - comparing data distributions
 - comparing measures of center
 - comparing measure of variability
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LESSON 6-4

Make More Comparative Inferences About Populations

Dot plots and other data displays can be used to visually compare, and make inferences about two populations. Measures of center and variability, such as mean and MAD, can also be used to compare populations.

LESSON OBJECTIVES

- Use the mode, range, mean, and mean absolute deviation (MAD) to compare populations.
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HOW CAN YOU HELP WITH HOMEWORK

Review Lesson Content

Watch and share these video tutorials with your student:

- [How Do You Interpret a Line Plot?](#)
- [How Do You Summarize Data Using Measures of Variability?](#)

You can use these search terms and phrases to help your student find additional help online:

- interpreting a dot plot
- comparing data distributions
- comparing measures of center
- comparing measure of variability
- using statistical measures to make predictions

