

Learning Targets

Data Sets and Distributions

Lesson 1: Representing Data Graphically

- I can describe the information presented in tables, dot plots, and bar graphs.
- I can use tables, dot plots, and bar graphs to represent distributions of data.

Lesson 2: Using Dot Plots to Answer Statistical Questions

- I can use a dot plot to represent the distribution of a data set and answer questions about the real-world situation.
- I can use center and spread to describe data sets, including what is typical in a data set.

Lesson 3: Interpreting Histograms

- I can use a histogram to describe the distribution of data and determine a typical value for the data.
- I can use a histogram to get information about the distribution of data and explain what it means in a real-world situation.

Lesson 4: The Mean

- I can describe what the mean tells us in the context of the data.
- I can find the mean for a numerical data set.

Lesson 5: Variability and MAD

- I can use means and MADs to compare groups.
- I know what the mean absolute deviation (MAD) measures and what information it provides.

Lesson 6: The Median

- I can determine when the mean or the median is more appropriate to describe the center of data.
- I can find the median for a set of data.

Lesson 7: Box Plots and Interquartile Range

- I can use IQR to describe the spread of data.
- I know what information a box plot shows and how it is constructed.

Lesson 8: Larger Populations

- I can explain why it may be useful to gather data on a sample of a population.
- When I read or hear a statistical question, I can name the population of interest and give an example of a sample for that population.

Lesson 9: What Makes a Good Sample?

- I can determine whether a sample is representative of a population by considering the shape, center, and spread of each of them.
- I know that some samples may represent the population better than others.
- I remember that when a distribution is not symmetric, the median is a better estimate of a typical value than the mean.

Lesson 10: Sampling in a Fair Way

- I can describe ways to get a random sample from a population.
- I know that selecting a sample at random is usually a good way to get a representative sample.

Lesson 11: Estimating Population Measures of Center

- I can consider the variability of a sample to get an idea for how accurate my estimate is.
- I can estimate the mean or median of a population based on a sample of the population.

Lesson 12: More about Sampling Variability

- I can use the means from many samples to judge how accurate an estimate for the population mean is.
- I know that as the sample size gets bigger, the sample mean is more likely to be close to the population mean.

Lesson 13: What Are Probabilities?

- I can use the sample space to calculate the probability of an event when all outcomes are equally likely.
- I can write out the sample space for a simple chance experiment.

Lesson 14: Estimating Probabilities Through Repeated Experiments

- I can estimate the probability of an event based on the results from repeating an experiment.
- I can explain whether certain results from repeated experiments would be surprising or not.

Lesson 15: Keeping Track of All Possible Outcomes

- I can write out the sample space for a multi-step experiment, using a list, table, or tree diagram.

Lesson 16: Multi-step Experiments

- I can use the sample space to calculate the probability of an event in a multi-step experiment.

Lesson 17: Designing Simulations

- I can design a simulation to estimate the probability of a multi-step real-world situation.