Unit 5 - Statistics and Probability

Content Area: **Mathematics**
Course(s):
Time Period: **May**
Length: **6-8 weeks**
Status: **Published**

Unit Overview

This unit focuses on the Statistics and Probability (SP) domain.

Essential Questions

“Why is learning mathematics important?”

"How are the mean, median, and mode helpful in describing data?"

"Why is it important to carefully evaluate graphs?"

Content

Mean

Median and Mode

Measures of Variation

Mean Absolute Deviation

Appropriate Measures

Line Plots

Histograms

Box Plots

Shape of Data Distributions

Interpret Line Graphs

Select an Appropriate Display

Skills

Find the mean of a data set

Find and interpret the median and mode of a set of data

Find the measures of variation

Find and interpret the mean absolute deviation for a data set

Choose an appropriate measure of central tendency

Construct and analyze line plots

Construct and analyze histograms

Display and interpret data in box plots

Describe a data distribution by its center, spread, and overall shape

Draw and interpret line graphs

Select an appropriate display for a set of data

Assessments

Self-Check Quiz

Chapter Tests

Online Standardized Test Practice

Chapter Project

Teacher Observation

Lessons/Learning Scenarios

Glencoe Math Course 1 Text

Chapter 11: Statistical Measures (11 Days)

Inquiry Lab: Statistical Questions (1 Day)

SWBAT recognize a statistical question as one that anticipates and accounts for a variety of answers

Lesson 1: Mean (1 Day)

SWBAT find the mean of a data set

Lesson 2: Median and Mode (2 Day)

SWBAT find and interpret the median and mode of a set of data

Problem-Solving Investigation: Use Logical Reasoning (1 Day)

SWBAT use logical reasoning to solve problems

Lesson 3: Measures of Variation (2 Days)

SWBAT find the measures of variation

Lesson 4: Mean Absolute Deviation (2 Days)

SWBAT find and interpret the mean absolute deviation for a data set

Lesson 5: Appropriate Measures (2 Days)

SWBAT choose an appropriate measure of central tendency

Chapter 12: Statistical Displays (12 Days)

Lesson 1: Line Plots (1 Day)

SWBAT construct and analyze line plots

Lesson 2: Histograms (1 Day)

SWBAT construct and analyze histograms

Lesson 3: Box Plots (1 Day)

SWBAT display and interpret data in a box plot

Problem-Solving Investigation: Use a Graph (1 Day)

SWBAT solve problems by using a graph

Lesson 4: Shape of Data Distribution (2 Days)

SWBAT describe a data distribution by its center, spread, and overall shape

Inquiry Lab: Collect Data (1 Day)

SWBAT collect and display data

Lesson 5: Interpret Line Graphs (1 Day)

SWBAT draw and interpret line graphs

Lesson 6: Select an Appropriate Display (2 Days)

SWBAT select an appropriate display for a set of data

Inquiry Lab: Use Appropriate Units and Tools (2 Days)

SWBAT choose an appropriate unit and tool to measure an object

Standards

CCSS.Math.Content.6.SP.A.1	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers.
CCSS.Math.Content.6.SP.A.2	Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.
CCSS.Math.Content.6.SP.A.3	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.
CCSS.Math.Content.6.SP.B.4	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
CCSS.Math.Content.6.SP.B.5.a	Reporting the number of observations.
CCSS.Math.Content.6.SP.B.5.b	Describing the nature of the attribute under investigation, including how it was measured

	and its units of measurement.
CCSS.Math.Content.6.SP.B.5.c	Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.
CCSS.Math.Content.6.SP.B.5.d	Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.

Resources

Glencoe Math, Course 1, McGraw-Hill, 2013

Statistical Measures

Click on Response to Intervention/Lesson Tutorials

StudyJams Surface Area

StudyJams Volume

Learn Zillion Analyze rectangular prisms to find surface area - Part 1

Learn Zillion Analyze rectangular prisms to find surface area - Part 2

LearnZillion Determine whether to find area, surface area, or volume in a given situation

LearnZillion Find the volume of a rectangular prism by filling it with unit cubes

LearnZillion Find the volume of a rectangular prism by developing a formula

LearnZillion Find the volume of a rectangular prism with fractional edge lengths

Data Displays

Click on Response to Intervention/Lesson Tutorials

LearnZillion line plots

Learnzillions box,lineplots, and histograms

LearnZillions IQR

StudyJams line plots

StudyJams stem and leaf

StudyJams histograms

StudyJams choose the correct graph