

Unit 1 Describing, Exploring and Comparing Data

Content Area: **Math**
Course(s):
Time Period: **Marking Period 1**
Length: **6**
Status: **Published**

Unit Overview

This unit allows students to master how to gather, organize, and interpret data in order to answer questions or support an argument.

Enduring Understandings

Technology can be used to explore patterns and trends within data sets. The result can be used to draw conclusions regarding the sets of data.

Essential Questions

- Students will be able to create and analyze a graphical display of data.
- Students will recognize the difference between quantitative and categorical variables.
- Students will find and discuss measures of center and spread.
- Students will use numerical measures of spread and center to describe a distribution.
- Students will discuss the shape of a distribution of data.
- Students will find percentiles and quartiles.

New Jersey Student Learning Standards (No CCS)

MA.S-ID	Interpreting Categorical and Quantitative Data
MA.S-ID.A.1	Represent data with plots on the real number line (dot plots, histograms, and box plots).
MA.S-ID.A.2	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.
MA.S-ID.A.3	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).
MA.S-ID.A.4	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas

under the normal curve.

MA.S-ID.B.5

Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.

Interdisciplinary Connections

LA.W.9-10.6

Use technology, including the Internet, to produce, share, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.

SCI.HS-ETS1-2

Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.

TECH.8.1.12.C.CS4

Contribute to project teams to produce original works or solve problems.

Technology Standards

TECH.8.1.12.C.CS4

Contribute to project teams to produce original works or solve problems.

TECH.8.1.12.D.CS3

Exhibit leadership for digital citizenship.

TECH.8.1.12.E.CS4

Process data and report results.

TECH.8.1.12.F.CS3

Collect and analyze data to identify solutions and/or make informed decisions.

TECH.8.1.12.F.CS4

Use multiple processes and diverse perspectives to explore alternative solutions.

TECH.8.2.12.C.CS2

The application of engineering design.

21st Century Themes/Careers

CAEP.9.2.12.C.3

Identify transferable career skills and design alternate career plans.

Financial Literacy Integration

PFL.9.1.12.C.1

Compare and contrast the financial benefits of different products and services offered by a variety of financial institutions.

PFL.9.1.12.C.2

Compare and compute interest and compound interest and develop an amortization table using business tools.

PFL.9.1.12.C.3

Compute and assess the accumulating effect of interest paid over time when using a variety of sources of credit.

Instructional Strategies & Learning Activities

- Use graphing calculator to explore tables.
- Spend time with modeling activities.
- Spend at least one day dedicated to modeling problems

- Use problems and activities from book involving modeling problems
- Provide access to online book
- Provide access to book pages and problems through Canvas and Twitter
- Provide access to review keys
- Assign ExamView Questions to provide practice and assessment.

Formative Assessments

- Daily homework checks
- ExamView Questions
- Exit Tickets
- Warm-ups
- Quizzes

Summative Assessment

- Unit Tests