Unit 2 Normal Probability Distributions

Content Area: **Math**
Course(s):
Time Period: **Marking Period 1**
Length: **4**
Status: **Published**

Unit Overview

This unit allows students to master the main ideas of normal distributions and to answer questions about data sets that are normally distributed

Enduring Understandings

When data can be described as roughly normal we know more regarding the distribution. Once we know data is normal, how can we answer questions regarding the distribution?

Essential Questions

- Students will recognize a normal distribution.

- Students will compare the area under a normal curve to a non normal curve using Chebyshev's Rule.

- Students will use the Emperical Rule to estimate area under a curve.

- Students will find and interpret the z values of data.

- Students will find the area under a normal curve.

- Students will find the value at which a specific area occurs under a normal curve.

New Jersey Student Learning Standards (No CCS)

MA.S-ID.A	Summarize, represent, and interpret data on a single count or measurement variable
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.

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