8 Algebra 1 Unit 11: Data Analysis and Displays

Content Area: **Mathematics**
Course(s):
Time Period: **Marking Period 4**
Length: **11 days**
Status: **Published**

Unit Overview

Students are expected to work together on explorations, make conjectures, construct viable arguments, and critique the reasoning of others.

Focus on Major Work Chapter 11:

- interpreting qualitative and quantitative data
- including summarizing, representing, interpreting and analyzing data, noting any patterns or deviations from patterns.
- the center and spread of a data set
- what the results of a comparison might mean.

Students will be able to...

- understand data
- interpret data displays
- describe the shapes of data distributions
- represent data in different ways
- analyze data

Standards

S.ID.A.1	Represent data with plots on the real number line (dot plots, histograms, and box plots).
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.
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).
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.
N.Q.A.1	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.

Materials

- Algebra 1
- 11.1 Measures of Center and Variation

- 11.2 Box-and-Whisker Plots
- 11.3 Shapes of Distributions
- 11.4 Two-Way Tables
- 11.5 Choosing a Data Display

- ST Math
- 3 Act Lessons
- Brainingcamp Manipulatives
- Desmos
- Brainpop Resources
- Delta Math

Technology

8.1.12.DA.5	Create data visualizations from large data sets to summarize, communicate, and support different interpretations of real-world phenomena.
8.1.12.AP.2	Create generalized computational solutions using collections instead of repeatedly using simple variables.
8.1.12.AP.5	Decompose problems into smaller components through systematic analysis, using constructs such as procedures, modules, and/or objects.

Assessment

Formative Assessment

- Teacher Observation
- Daily Quick Check
- Quizzes
- Exit Tickets

Summative Assessment

- Topic Tests
- Benchmark Tests
- Alternative Assessments: Performance Tasks & Projects

Accommodations & Modifications

Special Education

- Follow IEP Plan which may contain some of the following examples…
- In class/pull out support with special ed teacher
- Additional time during intervention time
- Preferred seating
- Questions read aloud
- Extended time for completing tasks
- Graphic organizers
- Vocabulary support
- Mnemonic devices
- Songs/videos to reinforce concepts
- Limit number of questions
- Scribe
- Manipulatives
- Calculators
- Reteach pages
- Leveled homework
- Lesson intervention activities
- Math Diagnosis & Intervention System
- Another look homework video
- Practice buddy

504

- In class/pull out support with special ed teacher Additional time during intervention time
- Preferred seating
- Questions read aloud
- Extended time for completing tasks Graphic organizers
- Vocabulary support Mnemonic devices
- Songs/videos to reinforce concepts Limit number of questions
- Scribe Manipulatives Calculators Reteach pages Leveled homework
- Lesson intervention activities
- Math Diagnosis & Intervention System Another look homework video
- Practice buddy

ELL

- Translation device/dictionary
- In class/pull out support with ESL teacher
- Preferred seating
- Questions read aloud
- Extended time for completing tasks
- Graphic organizers
- Vocabulary support
- Mnemonic devices
- Songs/videos to reinforce concepts
- Manipulatives
- Math Diagnosis & Intervention System

At-risk of Failure

- Additional time during intervention time
- Questions read aloud

- Graphic organizers
- Vocabulary support
- Mnemonic devices
- Songs/videos to reinforce concepts
- Manipulatives
- Calculators
- Reteach pages
- Leveled homework
- Lesson intervention activities
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Gifted & Talented

- Independent projects
- Enrichment pages
- Online games
- Leveled Homework
- Extension Activities
- Today's Challenge

Interdisciplinary Connections

ELA: NJSLSA.R1. Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

Science: MS-ETS1-1. Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.

Climate Change:

- Climate Change: Students may represent geoscience data, with plots on the real number line, as they analyze results from global climate models.

- Climate Change: Students may represent geoscience data on two quantitative variables on a scatter plot and describe how the variables are related in order to analyze the data and the results from global climate models.

21st Century Life Literacies & Key Skills

9.4.12.CI.1	Demonstrate the ability to reflect, analyze, and use creative skills and ideas (e.g., 1.1.12prof.CR3a).
9.2.12.CAP.5	Assess and modify a personal plan to support current interests and post-secondary plans.
9.4.12.CT.1	Identify problem-solving strategies used in the development of an innovative product or practice (e.g., 1.1.12acc.C1b, 2.2.12.PF.3).
9.1.12.CDM.8	Compare and compute interest and compound interest and develop an amortization table using business tools.
9.4.12.TL.1	Assess digital tools based on features such as accessibility options, capacities, and utility for accomplishing a specified task (e.g., W.11-12.6.).
9.1.12.PB.1	Explain the difference between saving and investing.

Career Ready Practices

- CRP1. Act as a responsible and contributing citizen and employee.
- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP12. Work productively in teams while using cultural global competence.