7 Math Unit 08: Statistics

Content Area: **Mathematics**
Course(s):
Time Period: **May**
Length: **12 days**
Status: **Published**

Unit Overview

Chapter 8 builds on prior work with single data distributions. Two dat distributions are compared to answer questions about the difference between the populations. Collecting data through the process of random sampling is a big idea in this chapter.

Standards

MA.7.SP.A.1	Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.
MA.7.SP.A.2	Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions.
MA.7.SP.B.3	Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability.
MA.7.SP.B.4	Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations.

Materials

Big Ideas Math

- 8.1 Samples and Populations
- 8.2 Using Random Samples to Describe Populations
- 8.3 Comparing Populations
- 8.4 Using Random Samples to Compare Populations

Desmos

Unit 8: Samplinjg

Other Resources:

- ST Math
- Delta Math
- 3 Act Lessons
- Brainingcamp Manipulatives
- Nearpod Lessons

- Brainpop Resources
- Online Resources

Technology

• 8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development.

- 8.1.8.DA.1: Organize and transform data collected using computational tools to make it usable for a specific purpose.

• 8.1.8.DA.5: Test, analyze, and refine computational models.

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
- Math Diagnosis & Intervention System
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Gifted & Talented

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

Interdisciplinary Connections

Topic 8 STEM Project - Upscale Design

In this project, students apply the results of the Topic 6 STEM Project to develop a scale drawing of an existing or new bike path or walking path that will enhance the quality of life for users.

Science Connection -

Students consider the impact on Earth's systems and resources as they develop plans for new or improvements to existing walking pathways or bikeways.

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.

21st Century Life Literacies & Key Skills

- 9.4.8.GCA.2: Demonstrate openness to diverse ideas and perspectives through active discussions to achieve a group goal
- 9.4.8.IML.3: Create a digital visualization that effectively communicates a data set using formatting techniques such as form, position, size, color, movement, and spatial grouping
- 9.4.8.IML.4: Ask insightful questions to organize different types of data and create meaningful visualizations.
- 9.4.8.TL.1: Construct a spreadsheet in order to analyze multiple data sets, identify

relationships, and facilitate data-based decision-making
- 9.4.8.TL.3: Select appropriate tools to organize and present information digitally.

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.