5 Math Unit 12: Measurement & Data

Content Area: **Mathematics**
Course(s):
Time Period: **Marking Period 4**
Length: **12 Days**
Status: **Published**

Unit Overview

Measurement & Data

In this unit, students will build on their understanding of data to create line plots for a variety of data sets and solve problems by analyzing data. Line plots are efficient ways to display, compare, and interpret data.This unit has connections to the fraction expectations for 5th grade since it includes problem solving with fractions and mixed numbers. Students also learn that the same measure can be expressed in different units. Students learn to convert between units within a measurement system using multiplication and division skills.

What Students Are Learning

- Students convert measurements within a given system.
- Students solve problems using measurment conversions.
- Students make a line plot of measurement data expressed in fractional units.
- Students operate with fractions to solve problems involving information presented in a line plot.
- Students collect, organize, and represent data of various types and from various sources.

Number Routines

- Problem Strings
- Would you rather?
- Which one doesn't belong?
- What's another way to write it?
- Where does it go?
- Notice & Wonder
- About how much?
- Numberless Word Problem

Standards

5.M.A.1	Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.
5.DL.A.2	Develop strategies to collect, organize and represent data of various types and from various sources. Communicate results digitally through a data visual (e.g., chart, storyboard, video presentation).
5.DL.A.3	Collect and clean data to be analyzable (e.g., make sure each entry is formatted correctly,

	deal with missing or incomplete data).
5.DL.A.4	Using appropriate visualizations (i.e., double line plot, double bar graph), analyze data across samples.
5.DL.B.5	Make a line plot to display a data set of measurements in fractions of a unit (½, ¼, ⅛). Use operations on fractions for this grade to solve problems involving information presented in line plots.

Materials

Core Materials:

Reveal Math

12.1 Convert Customary Units

12.2 Convert Metric Units

12.3 Solve Multi-step Problems Involving Measurement

12.4 Represent Measurement Data on a Line Plot

12.5 Solve Problems Involving Measuremen Data on Line Plots

Collect, organize and represent data and communicate results digitally

Supplemental Materials:

- ST Math
- Happy Numbers
- 3 Act Lessons
- Building Fact Fluency Kit
- Brainingcamp Manipulatives
- Nearpod Lessons
- Brainpop Resources
- Online Resources

Technology

DA	Data & Analysis
	Data can be organized, displayed, and presented to highlight relationships.
8.1.5.DA.1	Collect, organize, and display data in order to highlight relationships or support a claim.
	Individuals can select, organize, and transform data into different visual representations and communicate insights gained from the data.
8.1.5.DA.3	Organize and present collected data visually to communicate insights gained from different views of the data.

8.1.5.DA.4	Organize and present climate change data visually to highlight relationships or support a claim.
8.2.5.ED.2	Collaborate with peers to collect information, brainstorm to solve a problem, and evaluate all possible solutions to provide the best results with supporting sketches or models.
8.2.5.ED.3	Follow step by step directions to assemble a product or solve a problem, using appropriate tools to accomplish the task.

Assessment

Formative Assessment

- Unit Readiness Diagnostics
- Lesson Checks
- Exit Tickets
- Teacher Observation

Summative Assessment

- Unit Assessment Performance Task
- Benchmark Tests
- Alternative Assessments: Performance Tasks & Projects

Accommodations & Modifications

Special Education

Differentiated Instruction			
Accommodate Based on Students Individual Needs: Strategies			
Time/General • Extra time for assigned tasks • Adjust length of assignment • Timeline with due dates for reports and projects • Communication system between home and school • Provide lecture	**Processing** • Extra response time • Have students verbalize steps • Repeat, clarify, or reword directions • Mini-breaks between tasks • Provide a warning for transitions • Reading partners	**Comprehension** • Precise step-by-step directions • Short manageable tasks • Brief and concrete directions • Provide immediate feedback • Small group	**Recall** • Teacher-made checklist • Use visual graphic organizers • Reference resources to promote independence • Visual and

notes/outline		instruction • Emphasize multi-sensory learning • Manipulatives	verbal reminders • Graphic organizers
Assistive Technology • Computer/whiteboard • Calculator • Screen reader	**Tests/Quizzes/Grading** • Extended time • Study guides • Focused/chunked tests • Read directions aloud	**Behavior/Attention** • Consistent daily structured routine • Simple and clear classroom rules • Frequent feedback	**Organization** • Individual daily planner • Display a written agenda • Note-taking assistance • Color code materials

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
- Anchor Charts
- Vocabulary support
- Mnemonic devices
- Songs/videos to reinforce concepts
- Manipulatives

At-risk of Failure

- Additional time during intervention period
- Questions read aloud
- Graphic organizers
- Anchor Charts
- Vocabulary support
- Mnemonic devices
- Songs/videos to reinforce concepts
- Manipulatives
- Calculators
- Reteach pages
- Leveled homework
- Lesson intervention activities
- Math Fluency Kits
- Bridges Intervention Kit

Gifted & Talented

- Independent projects
- Enrichment pages
- Online games
- Leveled Homework
- Extension Activities

Interdisciplinary Connections

3-5-ETS1-1	Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
RI.MF.5.6	Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, timelines, animations, or interactive elements on web pages) and explain how the information contributes to an understanding of the text in which it appears.
SL.PE.5.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly.

Career Readiness, Life Literacies, and Key Skills

9.2.5.CAP.3	Identify qualifications needed to pursue traditional and non-traditional careers and occupations.
9.2.5.CAP.4	Explain the reasons why some jobs and careers require specific training, skills, and certification (e.g., life guards, child care, medicine, education) and examples of these requirements.
9.4.5.CT	Critical Thinking and Problem-solving
9.4.5.CT.1	Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).
9.4.5.CT.4	Apply critical thinking and problem-solving strategies to different types of problems such

	as personal, academic, community and global (e.g., 6.1.5.CivicsCM.3).
	People can choose to save money in many places such as home in a piggy bank, bank, or credit union.
9.1.5.FI.1	Identify various types of financial institutions and the services they offer including banks, credit unions, and credit card companies.
9.1.5.PB.1	Develop a personal budget and explain how it reflects spending, saving, and charitable contributions.

Career Ready Practices

STEM CAREER: Construction Manager Student discusses aspirations to be a construction manager. Student buys drywall. Students see how Finn uses a line plot to keep track of drywall thickness.

- 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.