1 Math Unit 12: Measurement and Data

Content Area: **Mathematics**
Course(s):
Time Period: **Marking Period 4**
Length: **16 days**
Status: **Published**

Unit Overview

Measurement and Data

In this unit, students learn about measuring and comparing length, about telling time to the nearest hour and half-hour, and about collecting, organizing, representing, and displaying data. The use of data, both provided and collected, provides students with real-world contexts for solving comparison problems.

- **Measuring and Comparing Length:** In this unit, students explore tools and units for measuring and comparing length, building on their work from Kindergarten where they determined which object was longer or shorter through direct comparisons (without using tools). Here, students directly and indirectly measure and compare lengths of objects, using nonstandard units of measurement.
- **Read, Write, and Tell Time:** In this unit, students read, write, tell, and show time to the hour and half hour. In Grade 2, students extend these topics when they learn how to tell time to the quarter hour and to the nearest five minutes.
- **Organizing, Representing, and Interpreting Data:** In this unit, students use surveys to collect data, recording it in tally charts. They interpret data by solving problems about it. The work students do in this unit lays the foundation for their future work with data analysis and statistics.

What Students Are Learning

- Students compare and order objects by length.
- Students tell time using analog and digital clocks and write time to the hour and half hour.
- Students organize data with up to three categories.
- Students organize and interpret data using tally charts.

Number Routines

- Where Does It Go?
- Greater Than or Less Than
- Find the Pattern, Make a Pattern
- What's Another Way to Write It?
- Which Doesn't Belong?
- Notice & Wonder
- Numberless Word Problem

Standards

MATH.1.M.A.1	Order three objects by length; compare the lengths of two objects indirectly by using a third object.
MATH.1.M.A.2	Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.
MATH.1.M.B.3	Tell and write time in hours and half-hours using analog and digital clocks.
MATH.1.DL.A.1	Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.

Materials

Core Materials:

Reveal Math

12.1 Compare and Order Lengths

12.2 More Ways to Compare Lengths

12.3 Strategies to Measure Lengths

12.4 More Strategies to Measure Lengths

12.5 Tell Time to the Hour

12.6 Tell Time to the Half Hour

12.7 Organize Data

12.8 Represent Data

12.9 Interpret Data

12.10 Solve Problems Involving Data

Supplemental Materials:

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

Technology

CS.K-2.8.1.2.AP.1	Model daily processes by creating and following algorithms to complete tasks.
CS.K-2.8.1.2.AP.2	Model the way programs store and manipulate data by using numbers or other symbols to represent information.
CS.K-2.8.1.2.AP.4	Break down a task into a sequence of steps.
CS.K-2.8.1.2.DA.1	Collect and present data, including climate change data, in various visual formats.
CS.K-2.8.1.2.DA.4	Make predictions based on data using charts or graphs.
CS.K-2.8.2.2.ED.2	Collaborate to solve a simple problem, or to illustrate how to build a product using the design process.

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 notes/outline	**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 instruction • Emphasize multi-sensory learning	**Recall** • Teacher-made checklist • Use visual graphic organizers • Reference resources to promote independence • Visual and verbal reminders • Graphic organizers
Assistive Technology • Computer/whiteboard • Tape recorder • Spell-checker • Audio-taped books	**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
- 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
- Another look homework video
- Practice buddy

Gifted & Talented

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

Interdisciplinary Connections

SCI.K-2-ETS1-2	Develop a simple sketch, drawing, or physical model to illustrate how the shape of an

	object helps it function as needed to solve a given problem.
SCI.K-2.ETS1.B	Developing Possible Solutions
	Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions, such as climate change, to other people.
ELA.RI.MF.1.6	With prompting and support, use text features (e.g., diagrams, tables, animations) to describe key ideas.
ELA.W.IW.1.2.B	Develop the topic with facts or other information and examples related to the topic.
HE.K-2.2.2.2.PF	Physical Fitness

Career Readiness, Life Literacies & Key Skills

Creativity and Innovation: Brainstorming can create new, innovative ideas.

- **9.4.2.CI.1:** Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2).

Example: Students will share ideas of multiple strategies and draw models to illustrate their perspective to the solution path they utilize to solve word problems.

Critical Thinking and Problem-Solving: Critical thinkers must first identify a problem then develop a plan to address it to effectively solve the problem.

- **9.4.2.CT.2:** Identify possible approaches and resources to execute a plan (e.g., 1.2.2.CR1b, 8.2.2.ED.3).

Example: Students will work in small groups and collaborate to identify possible solutions paths to word problems, utilizing the strategies they have learned to solve addition and subtraction operations, such as place value charts, number lines, hundred chart, ten frames, etc., that could best illustrate the solution to the problem.

Digital Citizenship: Individuals should practice safe behaviors when using the Internet.

- **9.4.2.DC.3:** Explain how to be safe online and follow safe practices when using the Internet (e.g., 8.1.2.NI.3, 8.1.2.NI.4).

Example: Students will model appropriate use of all digital platforms and share examples of their work that exhibit proper use of various platforms.

Interaction of Technology and Humans: Technology has changed the way people live and work. Various tools can improve daily tasks and quality of life.

- **8.2.2.ITH.3:** Identify how technology impacts or improves life.

Example: Students will track their progress using Reveal Math or other math programs often utilized in class. Students will discuss the pros and cons of using the program with the teacher. Students will use analog and digital clocks.

Career Ready Practices

STEM Career: Sound Engineer- Students talk about the work of a sound engineer.

Students examine data in a picture graph after a survey was conducted about favorite musical instruments.

- 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.