Marietta City Schools
District Unit Planner

Third Grade

Unit Name	Unit 1: Building a Strong Foundation	Unit duration (Days)	2-3 weeks

GA K-12 Standards

The first weeks of school are focused on setting up the classroom culture for the year and developing routines that support the Mathematical Practices. This unit will allow teachers to build upon previous learning as they get to know their students, and students get to know themselves as math learners through statistical investigative activities. Students will strengthen their understanding of place value, addition, and subtraction up to 1,000 through meaningful tasks and number sense routines.

3.NR.1: Use place value understanding to represent, read, write, and compare numerical values up to 10,000 and round whole numbers up to 1,000.
- **3.NR.1.1** Read and write multi-digit whole numbers up to 10,000 to the thousands using base-ten numerals and expanded form. *Up to 1,000 in Unit 1*
- **3.NR.1.2** Use place value reasoning to compare multi-digit numbers up to 10,000, using >, =, and < symbols to record the results of comparisons. *Up to 1,000 in Unit 1*

3.PAR.2: Use part-whole strategies, represent and solve real-life problems involving addition and subtraction with whole numbers up to 10,000. *Up to 1,000 in Unit 1*
- **3.PAR.2.1** Fluently add and subtract within 1,000 to solve problems.

3.MDR.5: Solve real-life, mathematical problems involving length, liquid volume, mass, and time
- **3.MDR.5.1** Ask questions and answer them based on gathered information, observations, and appropriate graphical displays to solve problems relevant to everyday life.
- **3.MDR.5.4** Use rulers to measure lengths in halves and fourths (quarters) of an inch and whole inch. *Unit 1 only focuses on length to the whole inch.*
- **3.MDR.5.5** Estimate and measure liquid volumes, lengths and masses of objects using customary units. Solve problems involving mass, length, and volume given in the same unit, and reason about the relative sizes of measurement units within the customary system.

3.MP.1-8 Display perseverance and patience in problem-solving. Demonstrate skills and strategies needed to succeed in mathematics, including critical thinking, reasoning, and effective collaboration and expression. Seek help and apply feedback. Set and monitor goals. *(It is important to note that MPs 1, 3 and 6 should support the learning in every lesson.)*
- **MP.1** Make sense of problems and persevere in solving them.
- **MP.2** Reason abstractly and quantitatively.
- **MP.3** Construct viable arguments and critique the reasoning of others.
- **MP.4** Model with mathematics.
- **MP.5** Use appropriate tools strategically.
- **MP.6** Attend to precision.

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- **MP.7** Look for and make use of structure.
- **MP.8** Look for and express regularity in repeated reasoning.

The [Framework for Statistical Reasoning](#) and the [Mathematical Modeling Framework](#) should be taught throughout the units. The [K-12 Mathematical Practices](#) should be evidenced at some point throughout each unit depending on the tasks that are explored. It is important to note that MPs 1, 3 and 6 should support the learning in every lesson.

Essential Questions/ I CAN Statements

- (3.NR.1 Why is place value important?
- (3.NR.1) How can we effectively estimate numbers?
- (3.NR.1) How does estimation help us see whether our answers are reasonable?
- (3.PAR.2) How are addition and subtraction related?
- (3.MDR.5) What strategies can be used to solve real world problems?
- (3.MDR.5) How can graphs be used to organize and compare data?
- (3.MDR.5) How can I use tools to measure length, volume, and mass?
- (3.MDR.5) What happens when your units of measure change?
- (3.MDR.5) Why is it important to know the mass of an object?
- (3.MDR.5) In what ways can we determine the mass of an object?
- (3.MDR.5) What units are appropriate to measure mass?
- (3.MDR.5) How are units in the same system of measurement related?
- (3.MDR.5) What strategies could you use to figure out the mass of multiple objects?
- (3.MDR.5) What are some ways I can measure the liquid volume?

Tier II Vocabulary Words- High Frequency Multiple Meaning	Tier III Vocabulary Words- Subject/ Content Related Words
difference, data, cup, mass, measure, length, liquid volume, mass, unit, ruler, compare, greater than, less than, equal to, compose, place value, ones, tens, hundred, thousands, numerical value, expanded form, key	bar model/diagram, dot/line plot, equal =, estimate, fluid ounce (fl oz) gallon, greater than >, less than <, liquid volume, ounce (oz), pint (pt), pound (lb), quart (qt), sum, bar graph, picture graph [K-12 Mathematics Glossary](#)

Assessments

Formative Assessments:	Summative Assessments:
- MCS K-5 Activity & Assessment Collection - 3.MDR.5.1 MCS Mini - 3.MDR.5.1 MIP Module 13, Formative Assessment, p.284 (Creating Graphs)	

- 3.MDR.5.4 MCS Mini
- 3.MDR.5.5 MCS Mini
- 3.PAR.2 MCS Mini
- 3.PAR.2 MCS Mini
- 3.PAR.2 MIP Module 6, Formative Assessment, p.168 (Addition)
- 3.PAR.2 MIP Module 7, Formative Assessment, p. 188 (Subtracting)

It is the responsibility of each schools' grade level PLC to identify appropriate instructional lessons and resources, based on data and student needs, using the suggested pacing duration. The following learning tasks have been vetted to align to the standards included in this unit. The GA Dept. of Education strongly recommends that any additional tasks, resources, and/or assessments used for instruction should be vetted using the Quality Assurance Rubric, to ensure alignment to the state standards.

Objective or Content	Learning Experiences		Differentiation Considerations
3.NR.1 Use place value understanding to represent, read, write, and compare numerical values up to 10,000 and round whole numbers up to 1,000.	**GA DOE Learning Plans** **Base Ten Robots** *In this learning plan, students will work together to build a deeper understanding of our base ten system through a variety of engaging activities. (Suggested Timeframe: 2 days)* - Teacher Guidance - Student Reproducibles **Counting Collections** ***Also included 3.PAR.2, 3.PAR.2.1, 3.MDR.5 , 3.MDR.5.5*** *In this learning plan, students will engage in counting collections, a structured opportunity for children to count a collection of objects. After students count the objects in their collection, they record how they counted. (Suggested Timeframe: 1-2 days)* - Teacher Guidance - Student Reproducibles **Guess My Number** *In this learning plan, students will have an opportunity to gain familiarity with reading, writing, and comparing numerical values on a number line. (Suggested Timeframe: 1-2 days)*	**MCS Curriculum Resources** **SAVVAS enVision Intervention** - Lesson A42: Place Value Patterns - Lesson F8: Place Value Patterns - Lesson F9: Place Value through Thousands	Number Fans: Identifying numbers in the range 0- 10,000 Number Hangman: Identify all of the numbers in the range 0-10,000 Place Value Houses: Identify all of the numbers in the range 0-1,000,000

	● Teacher Guidance ● Student Reproducibles	
3.PAR.2 Use part-whole strategies, represent and solve real-life problems involving addition and subtraction with whole numbers up to 10,000. **While the focus of this standard includes whole numbers to 10,000, <mark>Unit 1 focuses on whole numbers up to 1,000 as a foundation of the work in future units in third grade.</mark>	**Mental Mathematics** *In this learning plan, students are presented with a variety of problems to solve mentally. Due to the amount of discussion required from students, this task is suggested to last multiple days. This task builds on the idea of various mental math strategies that could easily be addressed in Number Talks and continued throughout the year (Suggested Timeframe: 2-3 days)* ● Teacher Guidance ● Student Reproducibles **CGI Problem Types** *In this learning plan, students will be presented with a variety of addition and subtraction problem structures to solve for the result, change, and start unknown. Students will solve problems involving addition and subtraction within 1,000 with unknowns in all positions. (Suggested Timeframe: 2-3 days)* ● Teacher Guidance ● Student Reproducibles	**SAVVAS enVision Topic 8: Use Strategies and Properties to Add and Subtract** *Students use strategies based on place value and properties of operations to add and subtract within 1,000 and to multiply a one digit number by a multiple of 10.* ● Lesson 8-3: Mental Math: Addition ● Lesson 8-4: Mental Math: Subtraction **SAVVAS enVision Topic 9: Fluently Add and Subtract Within 1,000** *Students use strategies based on place value and properties of operations to add and subtract within 1,000 and to multiply a one digit number by a multiple of 10.* ● Lesson 9-1: Use Partial Sums to Add ● Lesson 9-2: Use Regrouping to Add ● Lesson 9-3: Add 3 or More Numbers ● Lesson 9-4: Use Partial Differences to Subtract ● Lesson 9-5: Use Regrouping to Subtract ● Lesson 9-6: Use Strategies to Add and Subtract ● Lesson 9-7: Problem-Solving: Construct Arguments **MIP Module 6: Fluently Adding Within 1,000** *The key idea focused on in this module is using place value strategies to add 3-digit numbers.* ● Base-Ten Block Addition, p.157-158 ● Addition Open Number Line, p.159-160 ● Expanded Form Addition, p.160 ● Addition with Partial Sums, p. 161-163 ● Chunking Addition & Using Landmark Numbers, p.163-164 ● Regrouping with Understanding, p.165-167 **MIP Module 7: Fluently Subtracting Within 1,000** *The key idea focused on in this module is using place value strategies to subtract 3-digit numbers.* ● Base-Ten Block Subtraction, p. 177-178	Who is going to win: Choose critically from a range of mental strategies to solve addition and subtraction problems Checking Addition and Subtraction by Estimation: Choose critically from a range of mental strategies to solve addition and subtraction problems

		● Using Drawings to Represent Subtraction, p. 178-179 ● Decompose and Subtract, p. 180 ● Subtraction with Open Number Lines, p. 181-183 ● Subtraction Using Friendly Numbers, p. 183-184 ● Renaming and Subtracting, p. 185 ● Connecting to a Standard Algorithm, p. 186-188 ● Additional Ideas for Support and Practice, p. 189-190	
3.MDR.5 Solve real-life, mathematical problems involving length, liquid volume, mass, and time	**What's in a Name?** *In this learning plan, students will get to know each other by analyzing and graphing numerical data. This activity introduces students to dot/line plots as a tool for representing numerical data. Students will analyze given data as well as generate their own data, based on questions that they have. (Suggested Timeframe: 2-3 days)* ● Teacher Guidance ● Student Reproducibles **How Does It Measure?** *In this learning plan, students will begin by posing a question. They will then measure, collect, display, and interpret data. Once students collect the data, they will need to determine the most appropriate graph to use to display the data. Students will also collect and display data using dot plots and bar graphs. (Suggested Timeframe: 2-3 days)* ● Teacher Guidance ● Student Reproducibles **It's a Data Party!** *In this learning plan, students will collect data on different types of party foods and create several different graphs to analyze the data. (Suggested Timeframe: 2-3 days)* ● Teacher Guidance ● *Student Reproducibles* **Fill It Up**	**SAVVAS enVision Topic 7: Represent and Interpret Data** *Students represent data on picture graphs and bar graphs. They analyze and interpret data on graphs to solve problems.* ● Lesson 7-1: Read picture graphs and bar graphs ● Lesson 7-2: Make Picture graphs ● Lesson 7-3: Make Bar Graphs **SAVVAS enVision Topic 14: Solve Time, Capacity, and Mass Problems** *Students learn to tell and write time to the nearest minute. They estimate and measure liquid volumes and masses, using appropriate units and tools* ● Lesson 14-4: Estimating Liquid Volumes ● Lesson 14-5: Measure Liquid Volume ● LEsson 14-6: Estimating Mass ● Lesson 14-7: Measuring Mass **MIP Topic 12: Exploring Mass and Volume** *The key ideas focused in this module include understanding units of measure for mass and volume, estimating and measuring mass and volume, and solving one-step problems involving mass or volume using any operation.* ● How Much Does your Container Hold? P. 259 ● Problem Solving with Mass and Volume, p. 267-268 <mark>(add & sub to 1,000 only, same unit, and reason about the relative sizes of measurement units within the customary system.</mark> ● Focus on the Question, p. 270	True and False: Conduct investigations using the framework for statistical reasoning: ask, collect, analyze and interpret results using whole number data Getting to School: Conduct investigations using the framework for statistical reasoning: ask, collect, analyze and interpret results using whole number data Weights: Create and use appropriate units and tools to measure length, area, volume and capacity, weight, angle, temperature, and time Big Teeth: Create and use appropriate units and tools to measure length, area, volume and capacity, weight, angle, temperature, and time. Making Benchmarks: Create and use appropriate units and tools to measure length, area, volume and

	In this learning plan, students estimate and compare liquid volume making connections to everyday items to build an understanding of customary measurement units (fl. oz, cups, pints, quarts, gallons). (Suggested Timeframe 1-2 days)
	
	   ● Teacher Guidance
	   ● Student Reproducibles
		MIP Topic 13: Representing and Interpreting Data and Exploring Linear Measurement
		The key ideas focused on in this module include drawing a scaled picture graph, drawing a scaled bar graph, solving one and two step problems using data from graphs, measuring to the nearest half and fourth of an inch, and creating line plots with the horizontal scale marked in wholes, halves and fourths.
		   ● Picture graph and Bar Graph, p. 276-279
		   ● Tally Graph Part 2, p. 279-281
		   ● Displaying Data on Line Plots, p. 288
		      (*only to whole inch on rulers in Unit 1, measure & plot)
		   ● Basket of Stuff, p. 290
		      (*only to whole inch on rulers in Unit 1, measure & plot)
			capacity, weight, angle, temperature, and time.

Content Resources

MCS Links:
● MCS Math Curriculum Map
● MCS Math Instructional Framework
 	
GA DOE Links:
Access all GADOE Curriculum Resources at the following site: GaDOE Inspire*.*
	Additional Resources:
	   ● Toy theater (Virtual manipulatives)
	   ● K5 Math Learning (Number and Operations in Base Ten)
	   ● K5 Math Learning (Represent and Interpret Data)
	   ● Greg Tang Math
	
	Possible Number Sense and Strategy-Development Routine
	   ● Number Corner or Calendar Time
	   ● Number Talks
	   ● Estimation 180
	   ● Which one Doesn't Belong
	   ● Same or Different
	   ● Same or Different (Place Value)
	   ● Splat
	   ● Visual patterns https://www.visualpatterns.org
	   ● ESOL Math Talk Starters
	   ● Sentence Stems