



Marietta City Schools
District Unit Planner

Fourth Grade

Unit Name

Unit 1: Making Relevant Connections with Place Value Understanding, Addition and Subtraction of Whole Numbers

Unit duration (Days)

4-5 weeks

[GA K-12 Standards](#)

In this unit students will build on previous understandings of place value, addition, and subtraction within 10,000 to add, subtract, and round numbers within 100,000. This unit also incorporates problem solving with money, intervals of time, and metric measurements for liquid volume, distance, and weight. Students will also engage in the framework for statistical reasoning to ask and answer questions in order to solve problems.

4.NR.1 Recognize patterns within the base ten place value system with quantities presented in real-life situations to compare and round multi-digit whole numbers through the hundred-thousands place.

- **4.NR.1.1** Read and write multi-digit whole numbers to the hundred-thousands place using base-ten numerals and expanded form.
- **4.NR.1.2** Recognize and show that a digit in one place has a value ten times greater than what it represents in the place to its right and extend this understanding to determine the value of a digit when it is shifted to the left or right, based on the relationship between multiplication and division.
- **4.NR.1.3** Use place value reasoning to represent, compare, and order multi-digit numbers, using $>$, $=$, and $<$ symbols to record the results of comparisons.
- **4.NR.1.4** Use place value understanding to round multi-digit whole numbers.

4.NR.2 Using part-whole strategies, solve problems involving addition and subtraction through the hundred-thousands place, as well as multiplication and division of multi-digit whole numbers presented in real-life, mathematical situations.

- **4.NR.2.1** Fluently add and subtract multi-digit numbers to solve real-life, mathematical problems using place value understanding, properties of operations, and relationships between operations.
- **4.NR.2.5** Solve multi-step problems using addition, subtraction, multiplication, and division involving whole numbers. Use mental computation and estimation strategies to justify the reasonableness of solutions.

**Students will not work with multiplication or division in Unit 1. This will occur in Unit 3.*

4.MDR.6 Measure time and objects that exist in the world to solve real-life, mathematical problems and analyze graphical displays of data to answer relevant questions

- **4.MDR.6.2** Ask questions and answer them based on gathered information, observations, and appropriate graphical displays to solve problems relevant to everyday life.

4.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.
- **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

- How does our base ten number system work?
- How does understanding the base-ten number system help us add and subtract?
- How does the value of a digit change if its location is changed in a large number?
- What determines the value of a digit?
- How does estimation help us understand large numbers?
- How are large numbers estimated?
- What conclusions can I make about the places within our base ten number system?
- What happens to a digit when it is multiplied and divided by 10?
- What effect does the location of a digit have on the value of the digit?
- How can we compare large numbers?
- What determines the value of a number?
- Why is it important for me to be able to compare numbers?
- What is a sensible answer to a real problem?
- What information is needed in order to round a whole number to any place?
- How can I ensure my answer is reasonable?
- How can rounding help me compute numbers?
- What effect does a remainder have on my rounded answer?
- What strategies can I use to help me make sense of a written algorithm?

Tier II Vocabulary Words- High Frequency Multiple Meaning

analyze, relationship, solve, determine, recognize, period, difference

Tier III Vocabulary Words- Subject/ Content Related Words

place value, estimate, rounding, expanded form, base ten numerals, sum, digit, standard form, digits

[K-12 Mathematics Glossary](#)

Assessments

Formative Assessment(s):

- MCS K-5 Activity & Assessment Collection
- MIP Formative Assessment p. 53 (Place Value)
- MIP Formative Assessment p. 56 (Multiplying by 10, 100, 1000-ten times greater)
- MIP Formative Assessment p. 59 (Comparing)
- MIP Formative Assessment p. 68 (Rounding)
- MIP Formative Assessment p. 78 (Addition)
- MIP Formative Assessment p. 81 (Subtraction)
- MIP Formative Assessment p. 84 (Subtracting Across Zeros)
- 4.NR.1.2 MCS Mini Assessment
- 4NR.1.2 MCS Mini Assessment
- 4.NR.1.3 MCS Mini Assessment
- 4.NR1.4 MCS Mini Assessment
- 4.NR1.4 MCS Mini Assessment
- 4.NR1.4 MCS Mini Assessment
- 4.NR 1.1 and 4.NR 1.3 MCS Mini Assessment

Summative Assessment:

- [Unit 1 Summative Assessment](#)
- Unit 1 Blueprint

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
<p>4.NR.1 Recognize patterns within the base ten place value system with quantities presented in real-life situations to compare and round multi-digit whole numbers through the hundred-thousands place.</p>	<p><u>GA DOE Learning Plans</u></p> <p><u>Number Comparison</u> <i>In this learning plan, fourth grade students will identify the place value locations for multi-digit whole numbers, round multi-digit whole numbers to any place, and compare multi-digit whole numbers based on place value.</i> (Suggested Time Frame: 1-2 Days)</p> <ul style="list-style-type: none"> ● Teacher Guidance ● Student Reproducibles 	<p><u>MCS Curriculum Resources</u></p> <p><u>SAVVAS Topic 1: Generalize Place Value Understanding</u> <i>Students extend their understanding of place value from 1,000 to 1,000,000. Relationships between the values of digits in different places are developed and used to compare and round numbers.</i></p> <ul style="list-style-type: none"> ● Lesson 1-1: Numbers Through One Million <i>(Be aware that the lesson has pieces that fall outside of the standard. Focus on reading numbers to the hundred-thousands in standard and expanded forms.)</i> ● Lesson 1-2: Place Value Relationships ● Lesson 1-3: Compare Whole Numbers ● Lesson 1-4: Round Whole Numbers 	<p>Number Fans to the Millions: Identify all of the numbers in the range 0 - 1,000,000.</p> <p>Number Hangman: Identify all of the numbers in the range 0 - 1,000,000.</p> <p>Place Value House to the Millions: Identify all of the numbers in the range 0 - 1,000,000.</p>

		<ul style="list-style-type: none"> ● Topic 1 3-Act Task <p><u>MIP Module 3: Understanding the Place Value System</u> <i>Students extend their place value understanding to read and write multi-digit numbers using base-ten numerals, number names, and expanded form, explore the relationship between the values of digits, and then use this understanding to compare and order multidigit numbers.</i></p> <ul style="list-style-type: none"> ● How Much, how Many, how Far, how heavy, how long, how tall is 1,000? pp. 46-47 ● Reading Numbers to the Millions pp. 47-49 ● Making Numbers- pp. 50-52 ● Exploring Place Value with Base-Ten Blocks pp. 52-53 ● Multiplying by 10, 100, 1000 pp. 53-54 ● Exploring Place Value pp. 54-55 ● Comparing Multi-Digit Numbers pp. 57-58 ● Place Value Folded Books p. 61 ● Say It, Write It p. 61 ● Roll and Expand p. 62 ● More or Less p. 62 ● Which Digit p. 62 ● Multi-Digit Organizer p. 63 ● Talk About It/Write About It p. 63 ● Agree or Disagree p. 64 ● Greater Number Wins p. 64 ● Comparing Numbers pp. 64-65 ● Is the Blue Whale the Biggest Thing There Is? p. 65 ● Rounding Multi-Digit Numbers pp. 65-67 ● Extending Rounding to Other Places pp. 67-68 ● Roll and Round It p. 69 ● What Number Could It Be? p. 69 ● Talk About It/Write About It p. 69 	<p>To a Million and Beyond: Count a set of objects in the range 1-10</p>
<p>4.NR.2 Using part-whole strategies, solve problems involving addition and subtraction through the</p>	<p><u>Adding and Subtracting Using Place Value to 10,000</u> <i>In this learning plan, fourth grade students will explore adding and subtracting within 10,000 and learn to reason with place value and part whole strategies when adding and subtracting within both 10,000 and 100,000. (Suggested Time Frame: 3-4 Days)</i></p>	<p><u>SAVVAS Topic 2: Fluently Add and Subtract Multi-Digit Whole Numbers</u> <i>Students develop fluency with the standard algorithms for addition and subtraction.</i></p> <ul style="list-style-type: none"> ● Lesson 2-1: Finding Sums and Differences with Mental Math 	<p>When One Number is Near a Hundred: Solve addition and subtraction problems by compensating with tidy numbers.</p>

<p>hundred-thousands place, as well as multiplication and division of multi-digit whole numbers presented in real-life, mathematical situations.</p> <p><i>*Students will not work with multiplication or division in Unit 1. This will occur in Unit 3.</i></p>	<ul style="list-style-type: none"> • Teacher Guidance • Student Reproducibles <p><u>Adding and Subtracting Using Place Value to 100,000</u> <i>In this learning plan, fourth grade students will reason with place value and part whole strategies when adding and subtracting within 100,000. Students will use part-whole reasoning and estimation strategies to engage with larger numbers. (Suggested Time Frame: 2-3 Days)</i></p> <ul style="list-style-type: none"> • Teacher Guidance • Student Reproducibles <p><u>Statistical Reasoning</u> <i>In this learning plan, fourth grade students will engage in the statistical problem solving process to make sense of number and quantity through graphical displays of data. Students will be able to make sense of statistical, investigative questions by asking and answering relevant statistical questions, gathering information, creating graphical displays of data, and making decisions based on data given and collected. (Suggested Time Frame: 4-5 Days)</i></p> <ul style="list-style-type: none"> • Teacher Guidance • Students Reproducibles 	<ul style="list-style-type: none"> • Lesson 2-2: Estimate Sums and Differences • Lesson 2-3: Add Whole Numbers • Lesson 2-4: Add Greater Numbers • Lesson 2-5: Subtract Whole Numbers • Lesson 2-6: Subtract Greater Numbers • Lesson 2-7: Subtract Across Zeros <p><u>MIP Module 4-Fluently Adding and Subtracting</u> <i>Students have been using place value–based strategies to add and subtract multi-digit numbers, including open number lines and bar models, and working with numbers in expanded form. Students’ conceptual understanding of addition and subtraction has been emphasized, and they are now ready to explore the standard algorithms.</i></p> <ul style="list-style-type: none"> • Connecting Addition Strategies to Standard Algorithm pp. 74-76 • Multiple Regrouping for Addition pp. 76-77 • Adding Larger Numbers pp.77-78 • Exploring the Standard Algorithm for Subtraction pp. 78-80 • Multiple Regrouping for Subtraction pp. 80-81 • Subtracting With Zeros pp. 81-83 • Reasonable Answers p. 83 • Add It Up pp. 84-85 • Talk About It/Write About It p. 85 • Missing Digit p. 85 • Sums and Differences p. 86 • Digit Challenge p. 86 • Missing Addends pp. 86-87 • MIP Challenge Problem p. 87 	<p>Reversing Addition: Say the forwards and backwards number word sequence in the range 0-10, 0-20, 0-100.</p> <p>Checking Addition and Subtraction by Estimation: Choose critically from a range of mental strategies to solve addition and subtraction problems.</p> <p>Mental or Written: Solve addition and subtraction problems using decomposition, leading to a written algorithm.</p> <p>A Standard Written Form for Addition: Solve addition and subtraction problems using decomposition, leading to a written algorithm.</p>
<p>4.MDR.6 Measure time and objects that exist in the world to solve real-life, mathematical problems and analyze graphical displays of data to answer relevant</p>	<p><u>Statistical Reasoning</u> <i>In this learning plan, fourth grade students will engage in the statistical problem solving process to make sense of number and quantity through graphical displays of data. Students will be able to make sense of statistical, investigative questions by asking and answering relevant statistical questions, gathering information, creating graphical displays of data, and making decisions based on</i></p>	<p><u>SAVVAS Topics 1 & 2: Generalize Place Value Understanding and Fluently Add and Subtract Multi-Digit Whole Numbers</u> <i>Students will construct arguments using knowledge of place-value relationships.</i></p> <ul style="list-style-type: none"> • Lesson 1-5: Problem Solving: Construct Arguments <p><i>Students will make sense of quantities and relationships in problem situations.</i></p> <ul style="list-style-type: none"> • Lesson 2-8: Problem Solving: Reasoning 	<p>Paper Planes: Plan and conduct investigations using the framework for statistical reasoning.</p>

questions	<i>data given and collected. (Suggested Time Frame: 4 -5 days)</i> <ul style="list-style-type: none"> • Teacher Guidance • Students Reproducibles 		
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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:

- Number Corner or Calendar Time
- Number Talks
- Estimation Activities/Estimation 180
- [Which One Doesn't Belong?](#)
- [Same or Different?](#)
- [Splat](#)