1st Grade

Unit Name	**Unit 2:** *Building and Explaining the Relationship Between Addition and Subtraction*	Unit duration (Days)	*6-7 weeks*

GA K-12 Standards

In this unit, students will consider 10 as a useful organizer, begin to see numbers in relation to 10, and see large numbers as groups of 10 and some more. Students will use number relationships to develop addition and subtraction strategies as they engage in real world problem-solving. Students will continue to investigate real-life situations via inquiry. They will ask questions for investigation and answer them based on gathered information, observations, and appropriate graphical displays to compare and the whole numbers.

1. NR.2 Explain the relationship between addition and subtraction and apply the properties of operations to solve real-life addition and subtraction problems within 20.
- **1.NR.2.1** Use a variety of strategies to solve addition and subtraction problems within 20.
- **1.NR.2.2** Use pictures, drawings, and equations to develop strategies for addition and subtraction within 20 by exploring strings of related problems.
- **1.NR.2.3** Recognize the inverse relationship between subtraction and addition within 20 and use this inverse relationship to solve authentic problems.
- **1.NR.2.4** Fluently add and subtract within 10 using a variety of strategies.
- **1.NR.2.5** Use the meaning of the equal sign to determine whether equations involving addition and subtraction are true or false.
- **1.NR.2.6** Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers.
- **1.NR.2.7** Apply properties of operations as strategies to solve addition and subtraction problem situations within 20.

1.MDR.6 Use appropriate tools to measure, order, and compare intervals of length and time, as well as denominations of money to solve real-life, mathematical problems and analyze graphical displays of data to answer relevant questions.
- **1.MDR.6.1** Estimate, measure, and record lengths of objects using non-standard units, and compare and order up to three objects using the recorded measurements. Describe the objects compared.
- **1.MDR.6.4** Ask questions and answer them based on gathered information, observations, and appropriate graphical displays to compare and order whole numbers.

1.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.
- **1.MP.1** Make sense of problems and persevere in solving them.
- **1.MP.2** Reason abstractly and quantitatively.
- **1.MP.3** Construct viable arguments and critique the reasoning of others.

- **1.MP.4** Model with mathematics.
- **1.MP.5** Use appropriate tools strategically.
- **1.MP.6** Attend to precision.
- **1.MP.7** Look for and make use of structure.
- **1.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

- I can solve problems with two addends.
- I can organize data using charts and graphs.
- I can ask and answer questions about data.
- I can count on to add.
- I can count back to subtract.
- I can solve problems with two addends.
- I can solve word problems with three addends. (within 20)

Tier II Vocabulary Words- High Frequency Multiple Meaning	**Tier III Vocabulary Words-** Subject/ Content Related Words
Counting on, numeral, equation, addends, sum, greater than (>), less than (<), equal to (=), comparison, interpret, fluently/fluency, inequality, estimate, measure, sum, tally,	Data, table, tally/tallies, number line, compose, decompose, pictograph, bar graph K-12 Mathematics Glossary

Assessments

Formative Assessment(s):
- MCS K-5 Activity & Assessment Collection
- MCS Mini
- MCS Mini
- MCS Mini

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
1. NR.2 Explain the relationship between addition and subtraction and apply the properties of operations to solve real-life addition and subtraction problems within 20.	**GADOE Learning Plans** **What Number Can You Make?** *In this learning plan, students will use manipulatives to create new quantities within 20 by combining connecting cubes to make new numbers. (Suggested Timeframe 4-5 days)* ● Teacher Guidance ● Student Reproducibles ● Blackline Masters **Lots of Dots** *In this learning plan, students will explore finding sums, forming equations, expressions, and the Commutative Property. (Suggested Timeframe 4-5 days)* ● Teacher Guidance ● Student Reproducibles ● Blackline Masters **Addition and Subtraction Relationships within 10** *In this learning plan, students will solve an authentic problem to explore addition/subtraction relationships within 10. (Suggested Timeframe 5-6 weeks)* ● Teacher Guidance ● Student Reproducibles **Domino Relationships** *In this learning plan, students will explore the relationship between addition and subtraction using dominoes. (Suggested timeframe 4-5 days)* ● Teacher Guidance ● Student Reproducibles **Data Discoveries** *Also includes 1.MDR.6* *In this learning plan, students will collect, organize, and represent data. Students will use their collected data to ask and*	**MCS Curriculum Resources** **SAVVAS enVision Topic 2: Fluently Add and Subtract within 10** *Students develop fluency for addition and subtraction within 10. They explore strategies to add within 20.* ● Lesson 2-1: Count On to Add ● Lesson 2-2: Doubles ● Lesson 2-3: Near Doubles ● Lesson 2-4: Facts with 5 on a Ten-Frame ● Lesson 2-5: Add in Any Order ● Lesson 2-6: Count Back to Subtract ● Lesson 2-7: Think Addition to Subtract ● Lesson 2-8: Solve Word Problems with Facts to 10 **SAVVAS enVision Topic 3: Addition Facts to 20: Use Strategies** *Students develop fluency for addition and subtraction within 10. They explore strategies to add within 20.* ● Lesson 3-1: Count On to Add ● Lesson 3-2: Count On to Add Using an Open Number Line ● Lesson 3-3: Doubles ● Lesson 3-4: Doubles Plus ● Lesson 3-5: Make Ten to Add ● Lesson 3-7: Explain Addition Strategies ● Lesson 3-8: Solve Addition Word Problems with Facts to 20 **SAVVAS enVision Topic 4: Subtraction Facts to 20: Use Strategies** *Students use strategies based on the properties of operations and the relationship between addition and subtraction to solve subtraction facts to 20.* ● Lesson 4-1: Count to Subtract ● Lesson 4-2: Make Ten to Subtract ● Lesson 4-4: Fact Families		Make Ten - Further develop part/whole mental methods of making a ten. Adding and Subtracting with Counters - Solve addition problems to 20 by joining sets and counting all the objects. Finger Patterns to Ten - Instantly recognize patterns to 10, including doubles. Compatible Numbers to Ten - Instantly recognize patterns to 10, including doubles. Teens and Fingers - Solving subtraction problems from 20 separating sets and counting all the objects. Lady Bug Friends - Solving addition problems to 20 by joining sets and counting all the objects.

answer questions, as well as practice addition and subtraction strategies. (Suggested timeframe 4-5 days)
- [Teacher Guidance](#)
- [Student Reproducibles](#)

Atlanta Zoo
In this learning plan, students will develop strategies for adding more than two addends. Students will develop fluency using manipulatives, such as unifix cubes. (Suggested timeframe 4-5 days)
- [Teacher Guidance](#)
- [Student Reproducibles](#)

- Lesson 4-5: Use Addition to Subtract
- Lesson 4-7: Explain Subtraction Strategies
- Lesson 4-8: Solve (Subtraction) Word Problems with Facts to 20

SAVVAS enVision Topic 5: Work with Addition and Subtraction Equations
Students work with addition and subtraction equations. They learn how to find a missing number in an equation and determine if an equation is true or false.
- Lesson 5-1: Find the Unknown Numbers
- Lesson 5-2: True or False Equations
- Lesson 5-3: Make True Equations
- Lesson 5-4: Add Three Numbers
- Lesson 5-5: Word Problems with Three Addends
- Lesson 5-6: Solve Addition and Subtraction Word Problems

MIP Module 1: Exploring Addition Word Problems with Sums to 20
The key ideas focused on in this module include understanding the story structures that show addition ,using strategies like retelling and modeling to comprehend addition word problems, building equations to represent addition word problems , and finding the unknown in a variety of addition word problems (solving for unknowns in different places).

- Putting Together, p. 17
- Act It- Show It- Draw It, p. 22-23
- Solving Unknowns Different Positions, p. 24-26
- Putting Together Three Addends, p.21-22

MIP Module 2: Connecting Subtraction and Addition to Solve Word Problems
The key ideas focused on in this module include understanding the problem structures that indicate the operation of subtraction, using strategies like retelling and modeling to comprehend subtraction word problems, building equations to represent subtraction word problems, exploring the connections between addition and subtraction situations

(inverse) , solving for unknowns in different places in subtraction word problems.

- Comparing Towers, p. 51-52
- Part Part Whole Mats, p. 40
- Counters on the Floor, p.46-47

MIP Module 3: Building Understanding and Fluency with Basic Math Facts: Expanding on +/-1, +/-0
The key ideas focused on in this module include understanding all +1/−1 facts, gaining fluency with +1/−1 facts •understanding all +0/−0 facts, gaining fluency with +0/−0 facts

- Walking the Number Line, p. 73-74

MIP Module 4: Building Understanding and Fluency with Basic Math Facts: +/-2
The key ideas focused on in this module include exploring strategies for adding 2 to a quantity, gaining fluency with +2 facts, exploring strategies for subtracting 2 from a quantity or finding a difference of 2, gaining fluency with −2 facts.

- Counting on With Counters, p. 76
- Balancing Equations, p. 96 -97

MIP Module 6: Building Understanding and Fluency with Basic Math Facts: Doubles
The key ideas focused on in this module include understanding the concept of doubles, gaining fluency with addition doubles facts, exploring strategies for finding the difference when subtracting doubles facts (e.g., 10 − 5 or 16 − 8), gaining fluency with subtraction doubles facts.

- Two of Everything, p. 131-133

MIP Module 7: Building Understanding and Fluency with Basic Math Facts: Making Ten
The key ideas focused on in this module include exploring addend pairs that combine to make ten , gaining fluency with making-ten addition facts, exploring strategies for finding the

difference when subtracting a number from ten (e.g., 10 − 3 or 10 − 8), and gaining fluency with facts that show subtracting from ten.

- Shake and Spill, p. 155

MIP Module 10: Measuring Lengths with Indirect Comparisons
The key ideas focused on in this module include comparing and ordering three objects by length, comparing the length of two objects based on a third object, measuring length by lining up objects end to end, understanding that the measurement of an object differs when different-size units are lined up.

- Shorter or Longer, p. 234
- Comparing Measurement with String, p. 239
- Measuring with Square Color Tiles, p. 241-242

MIP Module 12: Working with Money
The key ideas focused on in this module include recognizing coins, knowing the value of each coin , counting sets of like coins (pennies, nickels, dimes).

- Coin Frames, p. 271-272
- Counting Pennies and Dimes, p. 274
- Exploring the Hour Hand, p. 249-251
- Match the Clocks, p. 263
- Digital and Analog: Predict and Check, p. 259-261

1.MDR.6
Use appropriate tools to measure, order, and compare intervals of length and time, as well as denominations of money to solve real-life, mathematical problems and answer relevant questions

GADOE Learning Plans

Data Discoveries
==*Also includes 1.NR.2*==
In this learning plan, students will collect, organize, and represent data. Students will use their collected data to ask and answer questions, as well as practice addition and subtraction strategies. (Suggested timeframe 4-5 days)
- Teacher Guidance
- Student Reproducibles

MCS Curriculum Resources

SAVVAS enVision Topic 12: Measure Lengths
Students use indirect measurement to compare two lengths. They measure length using nonstandard units.
- Lesson 12-1: Compare and Order by Length

SAVVAS enVision Topic 13: Time and Money
Students are introduced to the hour and minute hands on a clock. They tell time to the hour and half

Playing Favorites - Pose, plan, analyze data

		hour. Students also tell the value of coins and find the value of a group of coins. ● Lesson 13-1: Tell the value of coins ● Lesson 13-2: Find the value of a group of coins ● Lesson 13-3: Understand the hour and minute hands ● Lesson 13-4: Tell and write time to the hour	

Content Resources

GA DOE Links: ● GA DOE Grade 1 Unit 2: Building and Explaining the Relationship Between Addition and Subtraction ● GA DOE Grade Comprehensive Grade Level Overview ● GA DOE Grade Level Guide for Effective Mathematics Instruction ● K-5 Georgia Mathematics Strategies Toolkit ● Mathematics to Support English Language Learners ● Georgia Numeracy Project ● K-12 Mathematical Modeling Framework ● K-12 Statistical Reasoning Framework ● K-12 Mathematical Practices	**Additional Resources:** ● Suggested Tools: counters, graphic organizers, number lines, base ten blocks, nonstandard measurement tools