Marietta City Schools
District Unit Planner

Kindergarten

Unit Name	*Unit 5: Numerical Reasoning: Using Numbers within 20*	**Unit duration (Days)**	*5- 6 weeks*

GA K-12 Standards

In this unit, students will continue to explore numbers and develop an understanding of numbers (number sense). They will use place value as they compose (put together) and decompose (break apart) numbers into ten and some more. Students will represent the numbers as ten ones and some more ones using objects and drawings. They will count to 100 by tens and ones and count backward from 20 by ones. For numbers 11 to19, Kindergarten students choose, combine, and apply strategies for answering quantitative questions. This includes composing and decomposing numbers from 11 to 19 into ten ones and some further ones by writing and representing the numbers, counting and producing sets of given sizes, counting the number of objects in combined sets, or counting the number of objects that remain in a set after some are taken away.

K.NR.1: Demonstrate and explain the relationship between numbers and quantities up to 20; connect counting to cardinality (the last number counted represents the total quantity in a set).

- **K.NR.1.1** Count up to 20 objects in a variety of structured arrangements and up to 10 objects in a scattered arrangement.
- **K.NR.1.2** When counting objects, explain that the last number counted represents the total quantity in a set (cardinality), regardless of the arrangement and order.

K.NR.2 Use count sequence within 100 to count forward and backwards in sequence.

- **K.NR.2.1** Count forward to 100 by tens and ones and backward from 20 by ones.
- **K.NR.2.2** Count forward beginning from any number within 100 and count backward from any number within 20.

K.NR.3 Use place value understanding to compose and decompose numbers from 11-19.

- **K.NR.3.1** Describe numbers from 11 to 19 by composing (putting together) and decomposing (breaking apart) the numbers into ten ones and some more ones.

K.NR.4: Identify, write, represent, and compare numbers up to 20.

- **K.NR.4.1** Identify written numerals 0 – 20 and represent a number of objects with a written numeral 0 – 20 (with 0 representing a count of no objects).
- **K.NR.4.2** Compare two sets of up to 10 objects and identify whether the number of objects in one group is more or less than the other group using the words greater than, less than, the same as.

K.MDR.7: **Observe, describe, and compare the physical and measurable attributes of objects and analyze graphical displays of data.**

- **MDR.7.3** Ask questions and answer them based on gathered information, observations, and appropriate graphical displays to solve problems relevant to everyday life.

K.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.)*

- **K.MP.1** Make sense of problems and persevere in solving them.
- **K.MP.2** Reason abstractly and quantitatively.
- **K.MP.3** Construct viable arguments and critique the reasoning of others.
- **K.MP.4** Model with mathematics.
- **K.MP.5** Use appropriate tools strategically.
- **K.MP.6** Attend to precision.

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 count to 100 by ones and by tens. • I can recognize numbers from 0 to 20. • I can count the objects in a set or group up to 20. • I can match numbers, ten frames, and objects to 20. • I can count to find out how many objects are in a set or group. • I can compare sets of objects up to 10. • I can use dot patterns to recognize quantities to 20.	• I can recognize numerals from 0 to 20. • I can count twenty objects. • I can count forward to 100 by ones. • I can count backwards from 20 by ones. • I can ask and answer questions to get information for making decisions. • I can use pictures and graphical displays to show the data I collect. • I can make decisions based on analyzing the data I collect.
Tier II Vocabulary Words- High Frequency Multiple Meaning	**Tier III Vocabulary Words-** Subject/ Content Related Words
Combine, equal, more, count, estimate, same amount as, greater, efficient, less	Tens, digits

Assessments
Formative Assessment(s): • Unit 5 Common Formative Assessment • MCS K-5 Activity & Assessment Collection • MIP Module 3 Formative Assessment, p. 58 • MIP Module 4 Formative Assessment, p. 94

***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 Menu		Differentiation Considerations
K.NR.1: Demonstrate and explain the relationship between numbers and quantities up to 20; connect counting to cardinality (the last number counted represents the total quantity in a set).	**GA DOE Learning Plan: Numerals and Pictures to 20** ***Also includes K.NR2, K.NR3, K.NR4** *In this learning plan, students will make the connection between quantities, numerals, pictures, and representations for quantities up to 20. They will have multiple opportunities to count various objects and identify and write numerals to represent sets of objects up to 20 in their world. Students will aldo have opportunities to practice counting forward and backward in a number of tasks.* ● Teacher Guidance ● Student Reproducibles		Caterpillar Legs: Count, identify and form groups of items to 20.
K.NR.2 Use count sequence within 100 to count forward and backwards in sequence.	**GA DOE Learning Plans** **Counting Forward from 1 - 100 and Backward from 20 – 0** *In this learning plan, students will demonstrate their rote counting skills to count forward from 1 to 100 and backward from 20 to 0. Students will apply this understanding through various games and activities to deepen their understanding.* ● Teacher Guidance ● Student Reproducibles	**MCS Curriculum Resources** **SAVVAS enVision Topic 11: Count Numbers to 100** *Students extend their understanding of counting to 100 starting from any numbers.* ● Lesson 11-1: Count Using Patterns to 30 ● Lesson 11-2: Count by Ones and Tens to 50 ● Lesson 11-3: Skip Count by Tens to 100 ● Lesson 11-4: Count by Ones to 100 **MIP Module 4: Counting Numbers** *The key ideas focused on in this module include: counting to 100 by ones, counting to 100 by tens, and counting beginning at any number.* ● Clothesline Number Tents, p. 87 ● Build a Class 100 Chart, p. 82 ● What Comes Next, p. 84	Number Line Flips: Order and say the forwards and backwards number word sequences in the range 0-10, 0-20. Clapping: Say the forwards and backwards number word sequence in the range 0-10, 0-20, 0-100. Outdoor Counting 0-100: Say the forwards and backwards number word sequence in the range 0-100.

K.NR.3 Use place value understanding to compose and decompose numbers from 11-19.	**Investigating Counting** ***Also includes K.NR.1, K.NR.2, K.NR4** *In this learning plan, students will practice counting and recognizing numbers 0-20. Students will use dot patterns to recognize quantities to 20. Students will also count objects to 20 and write numerals to 20. Students will practice counting forward and backward as they participate in a variety of tasks.* ● Teacher Guidance ● Student Reproducibles	**MIP Module 3: Counting and Cardinality and Place Value** *The key ideas focused on in this module include: counting and naming the number of objects in a group of 20 or fewer recognizing and writing the written numerals to 20 recognizing that 11–19 are 10 and 1, 2, 3, 4, 5, 6, 7, 8, or 9 more.* ● 10 and Some More on a Ten Frame, p. 60 ● May I Have Some More, p. 63 ● Double Ten Frames, p. 64 ● Towers of Ten and Some More, p. 68 ● 10 and Some More on Double Ten Frames, p. 74 ● 10 and Some More Links, p.75 ● Making and Drawing Trains, p. 76	Teen Numbers: Describe numbers from 11 to 19 as ten and some more. Building Teens: Describe numbers from 11 to 19 as ten and some more. Ten Frames Teen Numbers: Describe numbers from 11 to 19 as ten and some more.
K.NR.4: Identify, write, represent, and compare numbers up to 20.	**GA DOE Learning Plan: Counting With Friends** ***Also includes K.NR2, K.NR3, K.NR4** *In this learning plan, students will engage in counting and using different representations of numbers. Students will extend their understanding beyond numbers 0-10 to the numbers 11-20.* ● Teacher Guidance ● Student Reproducibles		Comparing Small Collections: Comparing two sets in the range 0-10.
K.MDR.7: Observe, describe, and compare the physical and measurable attributes of objects and analyze graphical displays of data.	**GA DOE Learning Plan: Asking Questions and Collecting Data to Plan a Party** ***Also includes K.NR1, K.NR.4** In this learning plan, students will ask questions and collect data for a situation relevant to them. They will use their knowledge of counting cardinality, numeral recognition, and comparison to collect data and answer questions as well as represent and explain their data. ● Teacher Guidance ● Student Reproducibles		

Content Resources

MCS Links: ● MCS Math GRK Curriculum Map ● MCS Math Instructional Framework **GA DOE Links:** *Access all GADOE Curriculum Resources at the following site: https://inspire.gadoe.org.*	**Additional Resources:** ● Number Corner or Calendar Time ● Number Talks ● Estimation Activities/Estimation 180 ● Collecting Activities ● Notice and Wonder ● Which One Doesn't Belong? ● Same or Different? ● Splat!