Revised 6/22/21

First Grade Math Pacing Guide

ES = Essential Skill

Strands
N&NS = Number & Number Sense
C&E = Computation & Estimation
M&G = Measurement & Geometry
P&S = Probability & Statistics

Note: Additional time has been added into the pacing to allow for review of kindergarten SOL's that correlate to number and number sense. The areas of number/number sense were the lowest on kindergarten PMAP data for the 2020-2021 school year. Number Sense activities and Number talks/3 Act tasks will be spiraled into daily lessons to reinforce skills and build on this SOL.

Strand	SOL	Envision Unit	Standards and Essential Skills (ES = Essential Skill)	Time
N&NS	**1.1**	**Numbers to 12** **1-1** **1-2** **1-3** **1-4** **1-5** **1-6**	**The student will** **a) count forward orally by ones to 20, starting at any number between 0 and 20;** ES1. Count forward orally, by ones, from 0 to 20 starting at any number between 0 and 20. ES2. Use the oral counting sequence to tell how many objects are in a set. **b) write the numerals 0 to 20 in sequence and out-of-sequence;** ES3. Write numerals 0-20 in sequence and out of sequence. **INVESTIGATIONS GAMES: Compare Dots (unit 1, M12) *Extend: Compare (Unit 1, M17) - It's the same game but with the real numbers instead of the dots**	***To be practiced & assessed @ different intervals throughout the year**
N&NS	**1.2**	**Compare and order to 12 and Ordinals** **2.1-2.4** **Unit 2** **Supplement Ordinal**	**b) compare two numbers between 0 and 20 represented pictorially or with concrete objects, using the words *greater than, less than* or *equal to*; and** ES5. Compare two numbers between 0 and 20 represented pictorially or with concrete objects, using the words *greater than, less than* or *equal to.* **c) order three or fewer sets from least to greatest and greatest to least.** ES6. Order three or fewer sets, each set containing up to 20 objects, from least to greatest and greatest to least. **INVESTIGATIONS GAMES: Double Compare Dots (unit 1, M24) *Extend: Double Compare (Unit 1, M25)**	**10 days**

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	1.3	**Positions in Unit 2**	**The student, given an ordered set of ten objects and/or pictures, will indicate the ordinal position of each object, first through tenth.** ES1. Identify the ordinal positions first through tenth using ordered sets of 10 objects and/or pictures of such sets presented from: – left to right; – right to left; – top to bottom; and/or – bottom to top.	
C&E	**1.7**	**5 and 10 Relations** **Unit 5**	**The student will** **a) recognize and describe with fluency part-whole relationships for numbers up to 10;** ES1. Recognize and describe with fluency part-whole relationships for numbers up to 10 in a variety of configurations. **INVESTIGATIONS GAMES: Make 10 (Unit 6, M17) & Tens Go Fish (Unit 8, M35) *Extend: Tens Go Fish w/ the Wild Cards - they can be used for any number**	**7 days**
C&E	**1.6** **Supplement 1.15**	**Understanding Addition to 12** **Unit 3 and Unit 6**	**The student will create and solve single-step story and picture problems using addition ~~and subtraction~~ within 12.** ES1. Create and solve single-step oral or written story and picture problems, using addition ~~and subtraction~~ within 12. ES2. Identify a number sentence to solve an oral or written story and picture problem, selecting from among addition ~~and/or subtraction~~ equations (e.g., number sentences). ES3. Combine parts contained in larger numbers up to 12 by using related combinations (e.g., 9 + 7 can be thought of as 9 broken up into 2 and 7; using doubles, 7 + 7 = 14; 14 + 2 = 16 or 7 broken up into 1 and 6; making a ten, 1 + 9 = 10; 10 + 6 = 16). ES4. Explain strategies used to solve addition ~~and subtraction~~ problems within 12 using spoken words, objects, pictorial models, and number sentences. **1.15 The student will demonstrate an understanding of equality through the use of the equal symbol.** ES1. Describe the concept of equality. ES2. Identify equivalent values and represent equalities through the use of objects, words, and the equal (=) symbol. ES3. Identify and describe expressions that are not equal (e.g., 4 + 3 is not equal to 3 + 5).	**18 days**

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			ES4. Recognize that equations can be used to represent the relationship between two expressions of equal value (e.g., 4 + 2 = 2 + 4 and 6 + 1= 4 + 3). ES5. Model an equation that represents the relationship of two expressions of equal value. **INVESTIGATIONS GAMES: Counters in a Cup (Unit 6, M21) and Make 10 (Unit 6, M17)** **INVESTIGATIONS GAMES: How Many Am I Hiding? (Unit 6, M23), Counters in a Cup (Unit 6, M20)** ***Extend: Counters in a Cup - with greater number of counters in the cup, Cover Up (2nd grade game)**	
N&NS	**1.1**	**1-1/1-2 1-3 1-4 1-5 1-6**	**The student will** **a) count forward orally by ones to 55, starting at any number between 0 and 55;** ES1. Count forward orally, by ones, from 0 to 55 starting at any number between 0 and 55. ES2. Use the oral counting sequence to tell how many objects are in a set. **b) write the numerals 0 to 55 in sequence and out-of-sequence;** ES3. Write numerals 0-55 in sequence and out of sequence. **INVESTIGATIONS GAMES: Compare Dots (unit 1, M12) *Extend: Compare (Unit 1, M17) - It's the same game but with the real numbers instead of the dots** ***Assess to 20**	***To be practiced & assessed @ different intervals throughout the year**
C&E	**1.6** **Supplement 1.15**	**Understanding Addition and Subtraction to 12** **Units 4 and 7** **test units separately**	**The student will create and solve single-step story and picture problems using addition and subtraction within 12.** ES1. Create and solve single-step oral or written story and picture problems, using addition and subtraction within 12. ES2. Identify a number sentence to solve an oral or written story and picture problem, selecting from among addition and/or subtraction equations (e.g., number sentences). ES3. Combine parts contained in larger numbers up to 12 by using related combinations (e.g., 9 + 7 can be thought of as 9 broken up into 2 and 7; using doubles, 7 + 7 = 14; 14 + 2 = 16 or 7 broken up into 1 and 6; making a ten, 1 + 9 = 10; 10 + 6 = 16).	**19 days**

Strand	SOL	Envision Unit	Standards and Essential Skills (ES = Essential Skill)	Time
			ES4. Explain strategies used to solve addition and subtraction problems within 12 using spoken words, objects, pictorial models, and number sentences. **1.15 The student will demonstrate an understanding of equality through the use of the equal symbol.** ES1. Describe the concept of equality. ES2. Identify equivalent values and represent equalities through the use of objects, words, and the equal (=) symbol. ES3. Identify and describe expressions that are not equal (e.g., 4 + 3 is not equal to 3 + 5). ES4. Recognize that equations can be used to represent the relationship between two expressions of equal value (e.g., 4 + 2 = 2 + 4 and 6 + 1= 4 + 3). ES5. Model an equation that represents the relationship of two expressions of equal value. **INVESTIGATIONS GAMES: Tens Go Fish (Unit 8, M35) *Extend: Dot Addition (equivalent ways to make sums), Five-in-a-Row with Three Cards (Unit 6, M43), Tens Go Fish (use the teens number cards and play "Twenty Go Fish")** **INVESTIGATIONS GAMES: Five-in-a-Row Subtraction (Unit 6, M45), Roll & Record: Subtraction (Unit 3, M29) *Extend: Cover Up (2nd grade game)**	
M&G	**1.11**	**Geometry Unit 8**	**a) Identify, trace, describe, and sort plane figures (triangles, squares, rectangles, and circles) according to number of sides, vertices, and angles; and** ES1. Identify the name of the plane figure when given information about the number of sides, vertices, and angles. ES2. Trace triangles, squares, rectangles, and circles. ES3. Describe a circle using terms such as *round* and *curved*. ES4. Describe triangles, squares, and rectangles by the number of sides, vertices, and angles. ES5. Recognize that rectangles and squares have special types of angles called right angles. ES6. Sort plane figures based on their characteristics (number of sides, vertices, angles, curved, etc.). **b) identify and describe representations of circles, squares, rectangles, and triangles in different environments, regardless of orientation, and explain reasoning.** ES7. Identify and describe representations of circles, squares, rectangles, and triangles, regardless of orientation, in different environments and explain reasoning **INVESTIGATIONS GAMES: Guess My Rule (alter directions from buttons to various shapes/shape cards (Unit 4, M5)**	**7 days**

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PF&A	**1.13**	**Classify Supplement during Unit 9**	**The student will sort and classify concrete objects according to one or two attributes.** ES1. Sort and classify concrete objects into appropriate subsets (categories) based on one or two attributes, such as size, shape, color, and/or thickness (e.g., sort a set of objects that are both red and thick). ES2. Label attributes of a set of objects that has been sorted. Name multiple ways to sort a set of objects.	**7 days**
PF&A	**1.14**	**Patterns Unit 9**	**The student will identify, describe, extend, create, and transfer growing and repeating patterns.** ES1. Identify the pattern in a given rhythmic, color, geometric figure, or numerical sequence. ES2. Describe the pattern in a given rhythmic, color, geometric figure, or numerical sequence in terms of the core (the part of the sequence that repeats). ES3. Extend a repeating or growing pattern, using manipulatives, geometric figures, numbers, or calculators. ES4. Create a repeating or growing pattern, using manipulatives, geometric figures, numbers, or calculators (e.g., the growing patterns 2, 3, 2, 4, 2, 5, 2, 6, 2, ¼). ES5. Transfer a pattern from one form to another. **INVESTIGATIONS GAMES: Make a Train - w/ colored cube cards (Unit 7, M9-14) or directions for game w/ just colored unifix cubes (Unit 7, M11-12), Pattern Block Fill-In Shapes (Unit 2, M12), Two Shapes/Three Shapes (Unit 7, M21 & 29) *Extend: How Many Squares? (Unit 8, M27) - skip counting number patterns**	

N&NS	**1.2a** **1.1**	**Tens and Ones and Compare and Order to 100** **Unit 11** **Unit 10**	**The student, given up to 110 objects, will** **a) group a collection into tens and ones and write the corresponding numeral;** ES1. Group a collection of up to 110 objects into sets of tens and ones. ES2. Write the numeral that corresponds to the total number of objects in a given collection of up to 110 objects that have been grouped into sets of tens and ones. ES3. Identify the place and value of each digit in a two-digit numeral (e.g., in the number 23, the 2 is in the tens place and the value of the 2 is 20). ES4. Identify the number of tens and ones that can be made from any number up to 100 (e.g., 47 is 47 ones or can also be grouped into 4 tens with 7 ones left over).	**8 days (unit 11)** **9 days (unit 10)** **9 days**

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		Unit 12	**INVESTIGATION GAMES: Roll Ten (Unit 8, M39), Three Towers of 10 (Unit 1, M34), Tens Turns (Unit 8, M2) *Extend: Use the same games but with a 200's chart and build 20 Towers** **INVESTIGATION GAMES: Start With/Get To Cards (use # line, pull out 2 cards and make one a "start with card" and one a "get to card" and use the # line (Cards - Unit 3, M26), Missing Number (Unit 8, M14) *Extend: Missing Numbers game with a 200's chart and have students explain HOW they knew what the missing numbers were** **The student will** **a) count forward orally by ones to 110, starting at any number between 0 and 110;** ES1. Count forward orally, by ones, from 0 to 110 starting at any number between 0 and 110. ES2. Use the oral counting sequence to tell how many objects are in a set. **b) write the numerals 0 to 110 in sequence and out-of-sequence;** ES3. Write numerals 0-110 in sequence and out of sequence. **c) count backward orally by ones when given any number between 1 and 30; and** ES4. Count backward orally by ones when given any number between 1 and 30. **d) count forward orally by ones, twos, fives, and tens to determine the total number of objects to 110.** ES5. Count forward orally by ones, twos, fives, and tens to determine the total number of objects to 110. **INVESTIGATIONS GAMES: Roll Ten (Unit 8, M39), Three Towers of 10 (Unit 1, M34), Tens Turns (Unit 8, M2) *Extend: Use the same games but with a 200's chart and build 20 Towers**	**(unit 12)**

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M&G	**1.8**	**Money Unit 13 & Supplement: Identify the number of pennies equivalent to a nickel, a dime, and a quarter**	**The student will determine the value of a collection of like coins (pennies, nickels, or dimes) whose total value is 100 cents or less.** ES1. Count by ones to determine the value of a collection of pennies whose total value is 100 cents or less. ES2. Group a collection of pennies by fives and tens as a way to determine the value. The total value of the collection is 100 cents or less. ES3. Count by fives to determine the value of a collection of nickels whose total value is 100 cents or less. ES4. Count by tens to determine the value of a collection of dimes whose total value is 100 cents or less. *ID ALL COINS & PENNIES EQUIVALENT TO N/D/Q INVESTIGATION GAMES: Heads & Tails (Unit 1, M36), Collect 25 Cents (Unit 1, M13), How Many Pennies? (Unit 1, M14) *Extend: Race to a Dollar (2nd grade game)	**9 days**
M&G	**1.10**	**Measurement Unit 14**	**The student will use nonstandard units to measure and compare length, weight, and volume.** ES1. Measure the length of objects, using various nonstandard units (e.g., connecting cubes, paper clips, erasers). ES2. Compare the length of two objects, using the terms *longer/shorter, taller/shorter,* or *same as*. ES3. Measure the weight of objects, using a balance or pan scale with various nonstandard units (e.g., paper clips, bean bags, cubes). ES4. Identify a balance scale or a pan scale as a tool for measuring weight. ES5. Compare the weight of two objects, using the terms *lighter, heavier*, or *the same*, using a balance scale. ES6. Measure the volume of objects, using various nonstandard units (e.g., connecting cubes, blocks, rice, water). ES7. Compare the volumes of two containers to determine whether the volume of one is *more*, *less*, or *equivalent to* the other, using nonstandard units of measure (e.g., a spoonful or scoopful of rice, sand, jelly beans). ES8. Compare the volumes of two containers to determine whether the volume of one is *more*, *less*, or *equivalent to* the other by pouring the contents of one container into the other. **INVESTIGATION GAMES: Measuring with Different Units (Unit 5, M33)**	**9 days**

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M&G	**1.9**	**Time and Calendar Unit 15 & Supplement: Days of the week and months of the year**	**The student will** **a) tell time to the hour and half-hour, using analog and digital clocks; and** ES1. Identify different types of clocks (analog and digital) as instruments to measure time. ES2. Tell time shown on an analog clock to the hour and half-hour. ES3. Tell time shown on a digital clock to the hour and half-hour. ES4. Match a written time (e.g., 1:00, 3:30, 11:00) to the time shown on a digital and analog clock to the hour and half-hour. **b) read and interpret a calendar.** ES1. Read a calendar to locate a given day or date (e.g., What day of the week is the 10th? What date is Saturday?). ES2. Determine the day/date before and after a given day/date (e.g., Today is the 30th, so yesterday must have been the __?). ES3. Given a calendar, determine the number of any day of the week (e.g., How many Fridays are in the month of October?) INVESTIGATION GAMES: Use a timer and set it for every hour. When it goes off, discuss what hour it is/what the students are doing etc. - Discussion idea from Investigations "Classroom Routines")	**7 days**
P&S	**1.12**	**Data And Graphing** **Unit 18**	**The student will** **a) collect, organize, and represent various forms of data using tables, picture graphs, and object graphs; and** ES1. Collect and organize data using various forms of data collection (e.g., counting and tallying, informal surveys, observations, voting). Data points, collected by students, should be limited to 16 or fewer for no more than four categories. ES2. Represent data in tables, picture graphs, and object graphs. **b) read and interpret data displayed in tables, picture graphs, and object graphs, using the vocabulary *more, less, fewer, greater than, less than,* and *equal to*.** ES3. Analyze information displayed in tables, picture graphs, and object graphs (horizontally or vertically represented): – Read the graph to determine the categories of data and the data as a whole (e.g., the total number of responses) and its parts (e.g., 15 people are wearing sneakers); and Interpret the data that represents numerical relationships, to include using the words *more, less, fewer, greater than, less than,* and *equal to*.	**7 days**

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			INVESTIGATION GAMES: N/A (but Unit 4 has lessons that ask them to do "quick surveys" that can be turned into a tally/graphing lesson)	
N&NS	**1.4**	**Fractions** **Unit 19& Supplement**	**The student will** **a) represent and solve practical problems involving equal sharing with two or four sharers;** ES1. Share a whole equally with two or four sharers, when given a practical situation. ES2. Represent fair shares pictorially, when given a practical situation. ES3. Describe shares as equal pieces or parts of the whole (e.g., halves, fourths), when given a practical situation. **b) represent and name fractions for halves and fourths, using models.** ES4. Represent halves and fourths of a whole, using a region/area model (e.g., pie pieces, pattern blocks, paper folding, and drawings). ES5. Name fractions represented by drawings or concrete materials for halves and fourths. INVESTIGATION GAMES: N/A	**6 days**
C&E/ PF&A	**1.6 & 1.15**	**Addition and Subtraction to 20** **Unit 16 and Unit 17** ***Only goes to 18. Supplement to 20**	**The student will create and solve single-step story and picture problems using addition and subtraction within 20.** ES1. Create and solve single-step oral or written story and picture problems, using addition and subtraction within 20. ES2. Identify a number sentence to solve an oral or written story and picture problem, selecting from among addition and/or subtraction equations (e.g., number sentences). ES3. Combine parts contained in larger numbers up to 20 by using related combinations (e.g., 9 + 7 can be thought of as 9 broken up into 2 and 7; using doubles, 7 + 7 = 14; 14 + 2 = 16 or 7 broken up into 1 and 6; making a ten, 1 + 9 = 10; 10 + 6 = 16). ES4. Explain strategies used to solve addition and subtraction problems within 20 using spoken words, objects, pictorial models, and number sentences. **The student will demonstrate an understanding of equality through the use of the**	**15 days**

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			equal symbol. ES1. Describe the concept of equality. ES2. Identify equivalent values and represent equalities through the use of objects, words, and the equal (=) symbol. ES3. Identify and describe expressions that are not equal (e.g., 4 + 3 is not equal to 3 + 5). ES4. Recognize that equations can be used to represent the relationship between two expressions of equal value (e.g., 4 + 2 = 2 + 4 and 6 + 1= 4 + 3). ES5. Model an equation that represents the relationship of two expressions of equal value. **INVESTIGATIONS GAMES: Tens Go Fish (Unit 8, M35) *Extend: Dot Addition (equivalent ways to make sums), Five-in-a-Row with Three Cards (Unit 6, M43), Tens Go Fish (use the teens number cards and play "Twenty Go Fish")** **INVESTIGATIONS GAMES: Five-in-a-Row Subtraction (Unit 6, M45), Roll & Record: Subtraction (Unit 3, M29) *Extend: Cover Up (2nd grade game)**	