Grade 2 Math Curriculum Map



2018 - 2019

Content Area:	Mathematics	Grade: 2	Pacing:	Beg. Quarter 1- Mid-Quarter 1
Domain(s): Numbers & Operations in Base Ten		Understan	d Place Va	alue

MAFS.2.NBT.1.1 Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases: a. 100 can be thought of as a bundle of ten tens — called a "hundred." b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).

MAFS.2.NBT.1.3 Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.

MAFS.2.NBT.1.4 Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.

<u>Supporting Standard(s):</u>

MAFS.2.NBT.1.2 Count within 1000; skip-count by 5s, 10s, and 100s.

MAFS.2.NBT.2.8 Mentally add 10 or 100 to a given number 100-900, and mentally subtract 10 or 100 from a given number 100-900.

Essential Question(s):	Knowledge: Students will
Prerequisites Required to Master Standards How do you know the value of a digit? How do you describe a 2-digit number as tens and ones? What are different ways to write a 2-digit number? How do you show the value of a number in different ways? How does making a list help you solve a problem? How do you compare and order numbers? How are tens grouped as hundreds? How do you show and write a 3-digit number using blocks? How do you know the value of the digits in numbers? What are the three ways to write a number? How can you use blocks or quick pictures to show a number? How can you use place value to count by 10s or 100s? How does place value help you identify counting patterns? How can you make a model to solve a problem? How do you compare numbers?	Prerequisites Required to Master Standards Count, read, and show numbers to 1,000. Use place value to describe the values of digits in numbers. Use place value and expanded form to describe numbers. Apply place value concepts to write numbers in various ways. Apply place value concepts to find equivalent representations of numbers. Solve problems by using the strategy make a list. Use symbols to compare and order numbers. Understand grouping tens as hundreds. Show and write 3-digit numbers using base-ten blocks Identify the values of digits in 3-digit numbers. Write numbers in different ways by composing and decomposing hundreds. Count on or count back by 10s or 100s beginning with any number. Count by tens and hundreds to extend number patterns. Solve problems using the strategy, make a model. Use words and symbols to compare numbers Order numbers up to 1000 from least to greatest and from greatest to least.
Essential Vocabulary:	Rigor:
Digit, place value, equal sign ones, tens, hundreds, thousand, compare, equal to, greater than, less than	MAFS.2.NBT.1.1 - Conceptual Understanding MAFS.2.NBT.1.3 - Conceptual Understanding MAFS.2.NBT.1.4 - Conceptual Understanding MAFS.2.NBT.1.2 - Procedural Skill & Fluency MAFS.2.NBT.2.8 - Procedural Skill & Fluency
Assessments:	Resources:
Mid-Quarter (Standards Mastery- Form A) MAFS.2.NBT.1.1 MAFS.2.NBT.1.3 MAFS.2.NBT.1.4	iReady- Unit 2, Lessons 10-12 Go Math- Chapter 1, Lessons 1.3-1.9 Chapter 2, Lessons 2.1-2.6, Illustrative Mathematics, Looking at Numbers Every Which Way, 2.7-2.12

Notes: After 2 weeks of place value review, begin two digit addition and subtraction allowing for review of place value throughout to prepare for mid-term assessment.

Content Area: Mathematics	Grade: 2	Pacing:	Mid-Quarter 1 - End-of-Quarter 1
Domain(s): Operations & Algebraic Thinking	Addition 8	t Subtract	ion

MAFS.2.OA.1.1 Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

MAFS.2.OA.1.a Determine the unknown whole number in an equation relating four or more whole numbers. For example, determine the unknown number that makes the equation true in the equations $37 + 10 + 10 = \underline{} + 18$, ? - 6 = 13 - 4, and 15 - 9 = 6 + .

MAFS.2.OA.2.2-1 Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.

MAFS.2.OA.3.3 Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.

Essential Question(s):	Knowledge: Students will		
What are some ways to remember sums? How does knowing fact families help you find sums and differences? How can writing a number sentence help you solve a problem? How can you use bar models to help you solve addition and subtraction problems? What are some ways to remember differences? How are addition and subtraction related? How can you find missing addends? How do you know if the two sides of a number sentence are equal or unequal? How are even and odd numbers different?	Recall sums for basic facts using properties and strategies. Use fact families to find sums and differences. Solve problems using the strategy write a number sentence. Use bar models to represent different addition and subtraction problems. Use the inverse relationship of addition and subtraction to recall basic facts. Recall differences for basic facts. Apply the concept of equality to solve for the missing number in addition sentences. Compare expressions using the = and ≠ signs. Classify numbers as odd or even.		
Essential Vocabulary:	Rigor:		
Fact family, add, subtract, equation, equal sign, Even, odd, unknown number Sums, addends, differences	MAFS.2.OA.1.1 - Application MAFS.2.OA.1.a - Application MAFS.2.OA.2.2 - Procedural Skill and Fluency MAFS.2.OA.3.3 - Conceptual Understanding		
Assessments:	Resources:		
End-of-Quarter (Standards Mastery- Form A) MAFS.2.OA.1.a (Unknown #) MAFS.2.OA.1.1-1 (Solve one-step word problems) MAFS.2.OA.1.1-2 (2-Step WP w/in 20) MAFS.2.OA.1.1-3 (1-Step 2-digit #s) MAFS.2.OA.2.2-1 (Fact Families) MAFS.2.OA.3.3 (Even & Odd)	iReady- Unit 1, Lessons 1-2, 4, 6, 9 Go Math- Chapter 1, Lessons 1.1, 1.2 Chapter 3, Lessons 3.1-3.9		

Notes: End-of-Quarter Assessments will have to be broken apart into 2 tests (open to your discretion on how to break them up).

Content Area:	Mathematics	Grade: 2	Pacing:	Quarter 2
` '	& Operations in Base Ten ons & Algebraic Thinking	Addition & So	ubtraction	

MAFS.2.OA.2.2-2 Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.

MAFS.2.NBT.2.5 Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.

MAFS.2.NBT.2.6 Add up to four two-digit numbers using strategies based on place value and properties of operations.

Supporting Standard(s):

MAFS.2.OA.1.1 Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

MAFS.2.NBT.2.9 Explain why addition and subtraction strategies work, using place value and the properties of operations.

Essential Question(s):	Knowledge: Students will			
How is the make-a-ten strategy used to find sums? How can you add up to 4 2-digit numbers? How does breaking apart a number make adding easier? How can you make an addend a ten to help solve an addition problem? How do you break apart addends to add tens and then add ones? When do you regroup in addition? What are two different ways to write addition problems? How can drawing a diagram help you solve a problem? How can you write a number sentence to represent a problem?	Recall sums for addition facts using the make-a-ten strategy. Use properties and strategies to find the sum of up to 4 addends. Find a sum by breaking apart a 1-digit addend to make a 2-digit addend a multiple of ten. Develop flexible thinking for two-digit addition using compensation. Solve problems using the strategy draw a diagram. Apply place value concepts for a non-standard addition algorithm. Model 2-digit addition with regrouping. Record 2-digit addition using the standard algorithm. Practice 2-digit addition with and without regrouping. Rewrite horizontal addition exercises vertically using the standard algorithm format. Estimate sums for two digit addition using the benchmarks of 20, 50, 100 Find sums for up to 4 2-digit numbers. Represent addition situations using number sentences.			
Essential Vocabulary:	Rigor:			
Sum regroup	MAFS.2.OA.2.2 - Procedural Skill and Fluency MAFS.2.NBT.2.5 - Procedural Skill and Fluency MAFS.2.NBT.2.6 - Conceptual Understanding MAFS.2.OA.1.1 - Application MAFS.2.NBT.2.9 - Conceptual Understanding			
Assessments:	Resources:			
Mid-Quarter (Standards Mastery- Form A) MAFS.2.OA.2.2-2 (Make-a-Ten) MAFS.2.NBT.2.5-1 (Add 2-Digit #s) End-of-Quarter (Standards Mastery- Form A) MAFS.2.NBT.2.5-2 (Subtract 2-Digit #s) MAFS.2.NBT.2.6	iReady- Unit 1, Lesson 3			

Content Area:	Mathematics	Grade: 2	Pacing:	BegQuarter 3 - Mid-Quarter 3
Domain(s): Measurem	nent & Data	Measuring Le	ength	

MAFS.2.MD.1.1 Measure the length of an object to the nearest inch, foot, centimeter, or meter by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.

MAFS.2.MD.1.2 Describe the inverse relationship between the size of a unit and number of units needed to measure a given object. Example: Suppose the perimeter of a room is lined with one-foot rulers. Now, suppose we want to line it with yardsticks instead of rulers. Will we need more or fewer yardsticks than rulers to do the job? Explain your answer.

MAFS.2.MD.1.3 Estimate lengths using units of inches, feet, yards, centimeters, and meters.

MAFS.2.MD.1.4 Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.

MAFS.2.MD.2.5 Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.

<u>Supporting Standard(s):</u>

MAFS.2.MD.2.6 Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram.

Essential Question(s):	Knowledge: Students will		
How can you compare the length of two objects that you cannot place side by side? How do you compare the length of three objects? How can you use inch models to measure length? Why is using a ruler similar to using a row of colored tiles to measure length? How can you estimate the length of objects in inches? How do you use an inch ruler to measure length? How do you use an inch mark to estimate length in inches? Why is measuring in feet different from measuring in yards? (vice versa) How can you use a centimeter model to measure length? How do you use a centimeter ruler to measure length? How can you use known lengths to estimate unknown lengths? Why is measuring in meters different from measuring in centimeters?	Compare the length of two objects by an indirect method. Use concrete models for measuring length in inches. Use a ruler as a measurement tool. Estimate length by mentally partitioning the length into units. Measure lengths to the nearest inch using a ruler. Estimate and then measure length in inches. Measure length in both inches and feet to explore the inverse relationships between size and number of units. Use a concrete model to measure length in centimeters. Measure length to the nearest centimeter using a centimeter ruler. Estimate lengths of objects by comparing them to known lengths. Measure lengths in both centimeters and meters to explore the inverse relationship between size and number of units.		
Essential Vocabulary:	Rigor:		
Standard unit, length, measure, foot, yard, estimate Foot, inch, line plot, measuring tape, yardstick, centimeter, meter	MAFS.2.MD.1.1 - Procedural Skill and Fluency MAFS.2.MD.1.2 - Conceptual Understanding MAFS.2.MD.1.3 - Conceptual Understanding MAFS.2.MD.1.4 - Procedural Skill and Fluency MAFS.2.MD.2.5 - Application MAFS.2.MD.2.6 - Conceptual Understanding		
Assessments:	Resources:		
Mid-Quarter(Standards Mastery- Form A) MAFS.2.MD.1.1 MAFS.2.MD.1.2 MAFS.2.MD.1.3 MAFS.2.MD.1.4 MAFS.2.MD.2.5	iReady- Unit 3, Lessons 16-21 Go Math- Chapter 8, Lessons 8.1-8.9 LearnZillion, Unit 3, Lesson 1 Chapter 9, Lessons 9.1-9.7 EngageNY, Module 2, Lesson 8		

Notes: Go Math CH 8, Lessons 8.4 & 9.4 (Add lessons connecting number lines and measurement). Mid-Quarter Assessments will have to be broken apart into 2 tests (open to your discretion on how to break them up).

Content Area:	Mathematics	Grade: 2 Pacing: Mid-Quarter 3 - End-of-Quarter		Mid-Quarter 3 - End-of-Quarter 3
Domain(s): Numbers & Operations in Base Ten		3-Digit Addition & Subtraction		
Mathematics Florida Standards (MAFS)				

MAFS.2.NBT.2.7 Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.

Supporting Standard(s):

MAFS.2.NBT.2.8 Mentally add 10 or 100 to a given number 100-900, and mentally subtract 10 or 100 from a given number 100-900.

MAFS.2.NBT.2.9 Explain why addition and subtraction strategies work, using place value and the properties of operations.

Essential Question:	Knowledge: Students will			
How do you break apart addends to add hundreds, tens, and ones? When do you regroup ones & tens in addition? How do you know when to regroup in addition? When do you regroup ones & tens in subtraction? How can you use concrete models, drawing, or make a model to solve a problem?	Apply place value concepts to explore 3-digit addition. Practice 3-digit regrouping. Solve problems utilizing the strategy make-a-model. Record 3-digit addition using the standard algorithm. Solve 3-digit addition problems that may involve regrouping twice. Record 3-digit subtraction using the standard algorithm with regrouping hundreds			
Essential Vocabulary:	Rigor:			
Regroup, sum	MAFS.2.NBT.2.7 - Conceptual Understanding			
addends, difference, hundred	MAFS.2.NBT.2.8 - Procedural Skill and Fluency MAFS.2.NBT.2.9 - Procedural Skill and Fluency			
Assessments:	Resources:			
End-of-Quarter (Standards Mastery- Form A)	Donder Unit 2 Language 9, 42,44			
MAFS.2.NBT.2.7-1 (3-digit +) MAFS.2.NBT.2.7-2 (3-digit -) (MAFS.2.NBT.2.8 & MAFS.2.NBT.2.9 are included within the above 2.7 standards mastery	Go Math- Chapter 6, Lessons 6.1-6.2, 6.5, EngageNY, Module 5, Lesson 9, LearnZillion, Unit 11, Lesson 4, LearnZillion, Unit 11, Lesson 5, LearnZillion, Unit 11, Lesson 6, EngageNY, Module 5, Lesson 10, EngageNY,			

Notes: Go Math lessons 6.4-6.10 just focus on the standard algorithm, so use iReady lessons and other resources to incorporate the use of other models, drawing, or strategies.

Content Area:	Mathematics	Grade: 2	Pacing:	BegQuarter - Mid-Quarter 4
Domain(s): Measure	ment & Data	Time & Mor	ney	

MAFS.2.MD.3.7 Tell and write time from analog and digital clocks to the nearest five minutes.

MAFS.2.MD.3.8 Solve one- and two-step word problems involving dollar bills (singles, fives, tens, twenties, and hundreds) or coins (quarters, dimes, nickels, and pennies) using \$ and \$\epsilon\$ symbols appropriately. Word problems may involve addition, subtraction, and equal groups situations 1 . Example: The cash register shows that the total for your purchase is 59\$\epsilon\$. You gave the cashier three quarters. How much change should you receive from the cashier?

- a. Identify the value of coins and paper currency.
- b. Compute the value of any combination of coins within one dollar.
- c. Compute the value of any combinations of dollars (e.g., If you have three ten-dollar bills, one five-dollar bill, and two one-dollar bills, how much money do you have?).
- d. Relate the value of pennies, nickels, dimes, and quarters to other coins and to the dollar (e.g., There are five nickels in one quarter. There are two nickels in one dime. There are two and a half dimes in one quarter. There are twenty nickels in one dollar).

Supporting Standards:

MAFS.2.NBT.1.2 Count within 1000; skip-count by 5s, 10s, and 100s.

MAFS.2.OA.1.1 Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

Essential Question:	Knowledge: Students will
Time How do you tell time to the hour and half hour on a clock that has only an hour hand? How do you tell time to the hour and half hour on an analog clock? How do you tell and show time to five minutes? How do you tell and show time to the minute? How do you compare days, weeks, months, and years? Money How can you find the total value of a group of coins? How does ordering coins help find the total value? How can finding a pattern help you solve a problem? How can you show the value of one dollar with coins?	Time Write times to the hour and half hour shown on analog clocks. Tell and show time to five minutes. Tell and show time to the minute. Understand relationships of units of time. Money Count collections of dimes, nickels, and pennies. Count collections of coins that include half dollars and quarters. Order coins by value and then find the total value. Solve problems using the strategy find a pattern. Show one dollar in a variety of ways. Count the amount of money represented by a set of coins and bills. Solve word problems involving money.
Essential Vocabulary:	Rigor:
Time A.M.midnight, minute, noon, nickel, P.M., quarter past, hour, hour hand, minute hand, analog clock, digital clock Money cent sign, decimal point, dime, dollar, dollar sign, penny, quarter, nickel, half dollar	MAFS.2.MD.3.7 - Conceptual Understanding & Procedural Skill/Fluency MAFS.2.MD.3.8 - Application MAFS.2.NBT.1.2 - Procedural Skill and Fluency MAFS.2.OA.1.1 - Application
Assessments:	Resources:
Mid-Quarter (Standards Mastery- Form A) MAFS.2.MD.3.7 MAFS.2.MD.3.8 (Common Quiz)	iReady- Unit 3, Lessons 24-25 Go Math- Chapter 7, Lessons 7.1-7.5, 7.7-7.11

Content Area:	Mathematics	Grade: 2	Pacing:	Mid-Quarter 4 - End-of-Quarter 4
Domain(s): Measurement & Data Geometry Operations & Algebraic Thinking		Represent & Interpret Data Shapes & Fractions Arrays		

- MAFS.2.MD.4.9 Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole number units.
- MAFS.2.MD.4.10 Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.
- MAFS.2.G.1.1 Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes
- MAFS.2.G.1.2 Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.
- MAFS.2.G.1.3 Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.
- MAFS.2.OA.3.4 Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.

Supporting Standard:

- **MAFS.2.MD.1.1** Measure the length of an object to the nearest inch, foot, centimeter, or meter by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
- MAFS.2.OA.1.1 Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
- MAFS.2.OA.2.2 Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.

Essential Question:	Knowledge: Students will		
Graphs How do you record data when you take a survey? How can making a list help you solve a problem? How does a key on a pictograph help you read the data? How do you make a bar graph to show data? How do you use a bar graph/pictograph to help you answer questions? How do you use a chart or graph to help you solve problems? Geometry What is one way you can sort 2-dimensional shapes? How do you know if a shape has a line of symmetry? What are the names of some 3-dimensional shapes? What shapes can you name just by knowing the number of sides and vertices?	Graphs Take a survey and record the results in a tally & frequency chart. Solve problems using the strategy make a list. Make pictographs and interpret data in pictographs. Make bar graphs and interpret data in bar graphs. Interpret data in tables, charts, bar graphs, and pictographs. Geometry Sort 2-dimensional shapes according to their attributes. Identify and draw a line of symmetry for a shape. Describe and name 3-dimensional shapes. Name 3, 4, 5, and 6-sided shapes according to the number of sides and vertices.		
Essential Vocabulary:	Rigor:		
Arrays Array, row, column Data Survey, data, tally chart, tally marks, picture	MAFS.2.MD.4.9 - Procedural skill and fluency MAFS.2.MD.4.10 - Procedural skill and fluency MAFS.2.G.1.1 - Conceptual Understanding MAFS.2.G.1.2 - Conceptual Understanding & Procedural Skill/Fluency		

graph, bar graph, key, line plot

Two-Dimensional

Side, angle, quadrilateral, square, rectangle, rhombus, pentagon, triangle, hexagon, partition

Three-Dimensional

Rectangular prism, cone, cube, cylinder, edge(side), face, vertices

Fractions

Halves, thirds, fourths, one half, one third, one

fourth

 $\begin{tabular}{ll} MAFS.2.G.1.3 - Conceptual Understanding \& Procedural Skill/Fluency \\ MAFS.2.OA.3.4 - Conceptual Understanding \\ \end{tabular}$

MAFS.2.MD.1.1 - Procedural Skill and Fluency

MAFS.2.OA.1.1 - Application

MAFS.2.OA.2.2 - Procedural Skill and Fluency

Assessments:	Resources:
End-of-Quarter (Standards Mastery- Form A) MAFS.2.MD.4.9	iReady- Unit 3, Lessons 22-23, 26-28, 5
MAFS.2.MD.4.10 MAFS.2.G.1.1 MAFS.2.G.1.2	Go Math- Chapter 10, Lessons 10.1-10.6 Chapter 11, Lessons 11.2, 11.4-11.7, Illustrative Mathematics, Partitioning a Rectangle into Unit Squares 11.8-11.11
MAFS.2.G.1.3 (Common Quiz) MAFS.2.OA.3.4	Chapter 3, Lesson 3.11, EngageNY, Module 6, Lesson 6

Notes: End-of-Quarter Assessments will have to be broken apart into 2 tests (open to your discretion on how to break them up).

End-of-Year- Review 2nd grade skills

Step Up to 3rd Grade- Go Math Online Review Projects, Go Math Practice Book, pages P261-P305.