2nd Grade Mathematics Map/Pacing Guide
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Topics & Standards	
Quarter 1 ***Time Frame Weeks 1-8***	**UNIT 1** **OPERATIONS AND ALGEBRAIC THINKING** **Represent and solve problems involving addition and subtraction.** • **2.OA.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. Add and subtract within 20. • **2.OA.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. Work with equal groups of objects to gain foundations for multiplication. • **2.OA.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. • **2.OA.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. **NUMBERS & OPERATIONS IN BASE TEN** • **2.NBT.2** Count forward and backward within 100 by ones, tens, and hundreds starting at any number; skip-count by 5s starting at any multiple of 5.
	UNIT 2 **NUMBERS & OPERATIONS IN BASE TEN** • **2.NBT.5** Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. • **2.NBT.8** Mentally add 10 or 100 to a given number 100 - 900, and mentally subtract 10 or 100 from a given number 100 - 900.
	MATH PRACTICE STANDARDS • Make sense of problems and persevere in solving them. • Reason abstractly and quantitatively. • Construct viable arguments and critique the reasoning of others. • Model with mathematics. • Use appropriate tools strategically. • Attend to precision. • Look for and make use of structure. • Look for and express regularity in repeated reasoning.

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MAJOR **SUPPORTING** **ADDITIONAL**

Students should spend the majority of learning on the major work of the grade level; which should account for at least 65% of the academic year (Achieve the core, n.d.)**. Major content should be emphasized via a greater number of days of instruction, depth and mastery.**

Review First grade standards include, but not limited to, 1.G.1, 1.G.2, 1.G.3, 1.OA.1, 1.0A.3,1.OA.4, 1.OA.5, 1.OA.6, 1.OA.7, AND 1.OA.8

Daily Spiral Review will be incorporated through a combination of computer based i-Ready lessons, math journal activities, skill based reviews and group projects and/or activities.

Assessment (Evidence)	*Key Concepts & Skills*	*Curriculum & Textbook Resources*	*Key Concept tools & practices*
Ready Ohio Math Assessment Resources ● Lesson Quiz ● i-Ready Diagnostic (fall, winter, spring) ● Unit Interim Assessment or i-Ready Standards Mastery ● Unit Self-check **Unit 1 Performance Task** Math in Action "Use Equal Groups to Add"	➢ Solve one and two step word problems using drawings and equations to add or subtract within 100; ➢ Use a symbol for the unknown in any position in an addition or subtraction problem; ➢ Use addition and subtraction strategies: ○ Add on ○ Remove ○ Put together ○ Take apart, and ○ Compare ➢ Fluently add and subtract within 100 using place value, properties of operations, and the relationship between addition and subtraction ➢ Fluently add and subtract within 20 using mental	**Ready Ohio** **Unit 1 Operations and Algebraic Thinking** Lesson 1: Understand mental math strategies Lesson 2: Solve one-step word problems Lesson 3: Understand how to make a ten Lesson 4: Understand even and odd numbers Lesson 5: Add using arrays Lesson 6: Solve two-step word problems **Unit 2 Number and Operations in Base Ten** Lesson 7: Add two-digit numbers Other Resources: ● Achieve the Core https://achievethecore.org/category/854/mathematics-lessons	**Available on Teacher Toolbox:** ● Interactive Tutorials ● Prerequisite Ready Lessons ● Tools for Instruction ● Math Center Activities ● Think-Share-Compare Routine (under Program Implementation) ● Ready-Central (Instructional Best Practices Videos ● http://readycentral.com/ ● Journals / Provisional Writing ● Math Models ● Discourse Cards ● Non-linguistic representations ● Resource Selector Tool (under Program Implementation)

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		strategies: ○ Use fact families ○ Doubles ○ Doubles +/- 1 ➢ Count forward and backward by 1, 10 and 100 from any given number; ➢ Mentally add or subtract 10 or 100 from any number less than 1000. ➢ Skip count by 5s forward and backward starting at a multiple of five; ➢ Understand, apply, and explain concepts of odd and even; ➢ Use addition and represent in an equation a total sum of objects in an array of 5 by 5 or smaller.	● ODE Model Curriculum Resources https://education.ohio.gov/Topics/Learning-in-Ohio/Mathematics	
Topics & Standards **Quarter 2**	**Unit 2** **OPERATIONS AND ALGEBRAIC THINKING** **Represent and solve problems involving addition and subtraction.** ● **2.OA.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. Add and subtract within 20. **NUMBERS AND OPERATIONS IN BASE TEN** **Understand place value.** ● **2.NBT.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:			

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Time Frame Weeks 1-8	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). • **2.NBT.2** Count forward and backward within 100 by ones, tens, and hundreds starting at any number; skip-count by 5s starting at any multiple of 5. • **2.NBT.3** Read and write numbers to 1000 using base-ten numerals, number names, and expanded form, and equivalent representations, e.g., 716 is 700 + 10 + 6, or 6 + 700 + 10, or 6 ones and 71 tens, etc. • **2.NBT.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. • **2.NBT.5** Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. • **2.NBT.6** Add up to four two-digit numbers using strategies based on place value and properties of operations. • **2.NBT.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; record the strategy with a written numerical method (drawings and, when appropriate, equations) and explain the reasoning used. Understand that in adding or subtracting three-digit numbers, hundreds are added or subtracted from hundreds, tens are added or subtracted from tens, ones are added or subtracted from ones; and sometimes it is necessary to compose or decompose tens or hundreds. • **2.NBT.8** Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900. • **2.NBT.9** Explain why addition and subtraction strategies work, using place value and the properties of operations. Explanations may be supported by drawings or objects.
	MATH PRACTICE STANDARDS • Make sense of problems and persevere in solving them. • Reason abstractly and quantitatively. • Construct viable arguments and critique the reasoning of others. • Model with mathematics. • Use appropriate tools strategically. • Attend to precision. • Look for and make use of structure. • Look for and express regularity in repeated reasoning.
	MAJOR **SUPPORTING** **ADDITIONAL** Students should spend the majority of learning on the major work of the grade level; which should account for at least 65% of the academic year (Achieve the core, n.d.)**. Major content should be emphasized via a greater number of days of instruction, depth and mastery.**
	Review standards include, but not limited to 1.OA.3, 1.OA.7; 2.OA.1, 2.OA.2, 2.NBT.2, 2.NBT.5, 2.NBT.8

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Assessment (Evidence)	*Key Concepts & Skills*	*Curriculum & Textbook Resources*	*Key Concept tools & practices*
Ready Ohio Math Assessment Resources ● Lesson Quiz ● i-Ready Diagnostic (fall, winter, spring) ● Unit Interim Assessment or i-Ready Standards Mastery ● Unit Self-check **Unit 2 Performance Task** Math in Action "Add, Subtract and Compare Numbers"	➢ Solve one and two step word problems using drawings and equations to add or subtract within 100; ➢ Use a symbol for the unknown in any position in an addition or subtraction problem; ➢ Use addition and subtraction strategies: ○ Add on ○ Remove ○ Put together ○ Take apart, and ○ Compare; ➢ Determine the value of digits in three digit numbers; ➢ Represent three digit numbers with an equation that represents the sum of each value of its digits; ➢ Represent three digit numbers in different ways using place value ideas: word form, expanded form, standard	**Unit 2 Number and Operations in Base Ten** Lesson 8: Subtract two-digit numbers Lesson 9: Solve one-step word problems with two-digit numbers Lesson 10: Understand three- digit numbers Lesson 11: Read and write three-digit numbers Lesson 12: Compare three- digit numbers Lesson 12A: Count forwards and backwards Lesson 13: Add three-digit numbers Lesson 14: Subtract three-digit numbers Lesson 15: Add several two-digit numbers Other Resources: ● Achieve the Core https://achievethecore.org/category/854/mathematics-lessons ● ODE Model Curriculum Resources https://education.ohio.gov/Topics/Learning-in-	**Available on Teacher Toolbox:** ● Interactive Tutorials ● Prerequisite Ready Lessons ● Tools for Instruction ● Math Center Activities ● Think-Share-Compare Routine (under Program Implementation) ● Ready-Central (Instructional Best Practices Videos ● http://readycentral.com/ ● Journals / Provisional Writing ● Math Models ● Discourse Cards ● Non-linguistic representations ● Resource Selector Tool (under Program Implementation)

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		form; and using equivalent representations; ➢ Use symbols <,>,= to compare numbers using place value to support answers; ➢ Mentally add or subtract 10 or 100 from any number less than 1000; ➢ Fluently add and subtract within 100 using place value and properties of operations of addition and subtraction; and, the relationship between addition and subtraction; ➢ Add four two-digit numbers using place value understanding and properties of operations.	Ohio/Mathematics	
Topic & Standard **Quarter 3** ***Time Frame Weeks 1-8***	**Unit 3** **OPERATIONS AND ALGEBRAIC THINKING** **Represent and solve problems involving addition and subtraction.** ● **2.OA.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. Add and subtract within 20. **MEASUREMENT & DATA** **Measure and estimate lengths in standard units.** ● **2.MD.1** Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes. ● **2.MD.2** Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.			

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- **2.MD.3** Estimate lengths using units of inches, feet, centimeters, and meters.
- **2.MD.4** Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.

Relate addition and subtraction to length.

- **2.MD.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. Drawings need not show details, but should show the mathematics in the problem. (This applies wherever drawings are mentioned in the Standards.)
- **2.MD.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.

Work with time and money.

- **2.MD.7** Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
- **2.MD.8** Solve problems with money.
  A. Identify nickels and quarters by name and value.
  B. Find the value of a collection of quarters, dimes, nickels, and pennies.
  C. Solve word problems by adding and subtracting within 100, dollars with dollars and cents with cents (not using dollars and cents simultaneously) using the $ and ¢ symbols appropriately (not including decimal notation.)

Represent and interpret data.

- **2.MD.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 creating a line plot, where the horizontal scale is marked off in whole-number units.
- **2.MD.10** Organize, represent, and interpret data with up to four categories; complete picture graphs when single-unit scales are provided; solve simple put-together, take-apart, and compare problems in a graph.

NUMBERS & OPERATIONS IN BASE TEN

Use place value understanding and properties of operations to add and subtract.

- **2.NBT.2** Count forward and backward within 100 by ones, tens, and hundreds starting at any number; skip-count by 5s starting at any multiple of 5.
- **2.NBT.5** Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.

MATH PRACTICE STANDARDS

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

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- Model with mathematics.
- Use appropriate tools strategically.
- Attend to precision.
- Look for and make use of structure.
- Look for and express regularity in repeated reasoning.

MAJOR **SUPPORTING** **ADDITIONAL**

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Review standards but not limited to: 2.OA.1, 2.OA.2, 2.NBT.2, 2.NBT.3, 2.NBT.4, 2.NBT.5, 2.NBT.6, 2.NBT.7, 2.NBT.8, 2.NBT.9

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Assessment (Evidence)		*Curriculum & Textbook Resources*	*Key Concept tools & practices*
Ready Ohio Math Assessment Resources ● Lesson Quiz ● i-Ready Diagnostic (fall, winter, spring) ● Unit Interim Assessment or i-Ready Standards Mastery ● Unit Self-check	➢ Solve one and two step word problems using drawings and equations to add or subtract within 100; ➢ Use drawings to represent story problems involving adding and subtracting units of measure; ➢ Use a symbol for the unknown in any position in an addition or subtraction problem; ➢ Use addition and subtraction	**<u>Ready Ohio</u>** **Unit 3 Measurement and Data** Lesson 16: Understand length and measurement tools Lesson 17: Measure length Lesson 18: Understand measurement with different units Lesson 19: Understand estimating length Lesson 20: Compare lengths Lesson 21: Add and subtract lengths Lesson 22: Understand reading and making line plots Lesson 23: Draw and use bar graphs and picture graphs Lesson 24: Tell and write time Other Resources: ● Achieve the Core	**Available on Teacher Toolbox:** ● Interactive Tutorials ● Prerequisite Ready Lessons ● Tools for Instruction ● Math Center Activities ● Think-Share-Compare Routine (under Program Implementation) ● Ready-Central (Instructional Best Practices Videos ● http://readycentral.com/ ● Journals / Provisional Writing ● Math Models ● Discourse Cards ● Non-linguistic representations ● Resource Selector Tool (under Program Implementation)

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		strategies: ○ Add on ○ Remove ○ Put together ○ Take apart, and compare; ➢ Use place value concepts and properties of operation to add and subtract within 100. ➢ Measure and estimate length using a variety of appropriate units; ➢ Compare the length of objects using different units of measure. ➢ Tell and write time using digital and analogue clocks; ➢ Solve problems with money: ○ Identify name and value of coins/bills ○ Calculate the value of a set of coins; ○ Problem	https://achievethecore.org/category/854/mathematics-lessons ● ODE Model Curriculum Resources https://education.ohio.gov/Topics/Learning-in-Ohio/Mathematics	

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		solve within 100 involving addition and subtraction of dollar amounts or coin amounts. ➢ Create and interpret picture graphs using single unit scales from data involving up to four categories. ➢ Create and analyze whole number horizontal line plots from a set of measurement data collected from multiple measurements.		

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Topic & Standard	**Unit 3** **MEASUREMENT & DATA** **Measure and estimate lengths in standard units.** ● **2.MD.1** Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes. ● **2.MD.4** Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit. **Represent and interpret data.** ● **2.MD.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 creating a line plot, where the horizontal scale is marked off in whole-number units.
Quarter 4 ***Time Frame Weeks 1-8***	**Unit 4** **GEOMETRY** **Reason with shapes and their attributes.** ● **2.G.1** Recognize and identify triangles, quadrilaterals, pentagons, and hexagons based on the number of sides or vertices. Recognize and identify cubes, rectangular prisms, cones, and cylinders. ● **2.G.2** Partition a rectangle into rows and columns of same-size squares and count to find the total number of them. ● **2.G.3** Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, or fourths and quarters, and use the phrases half of, a third of, or fourth of and quarter of. Describe the whole as two halves, three thirds, four fourths in real world context. Recognize that equal shares of identical wholes need not have the same shape.
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Review standards to include but not limited to, 2.NBT.3, 2.NBT.4, 2.NBT.5, 2.NBT.7, 2.NBT.8, 2.NBT.9

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Assessment (Evidence)		*Curriculum & Textbook Resources*	*Key Concept tools & practices*
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		describe units partitioned. ➢ Understand and describe the "whole" in each as have two-halves; three-thirds; four-fourths.		