

Grade 2

Welcome to **math curriculum design maps** for Manhattan-Ogden USD 383, striving to produce learners who are:

- **Effective Communicators** who clearly express ideas and effectively communicate with diverse audiences,
- **Quality Producers** who create intellectual, artistic and practical products which reflect high standards
- **Complex Thinkers** who identify, access, integrate, and use available resources
- **Collaborative Workers** who use effective leadership and group skills to develop positive relationships within diverse settings.
- **Community Contributors** who use time, energies and talents to improve the welfare of others
- **Self-Directed Learners** who create a positive vision for their future, set priorities and assume responsibility for their actions. [Click here for more.](#)

Overview of Math Standards

Teams of teachers and administrators comprised the pK-12+ Vertical Alignment Team to draft the maps below. The full set of Kansas College and Career Standards (KCCRS) for Math, adopted in 2010, can be found [here](#).

To reach these standards, teachers use [Math in Focus](#) curriculum, resources, assessments and supplemented instructional interventions with Every Day Counts Calendar Math, Daily Spiral Reviews, Fact Fluency Tests, additional websites and app for specific skills.

Standards of Mathematical Practice

- 1: Make sense of problems and persevere in solving them
- 2: Reason abstractly and quantitatively
- 3: Construct viable arguments and critique the reasoning of others
- 4: Model with mathematics
- 5: Use appropriate tools strategically
- 6: Attend to precision
- 7: Look for and make use of structure
- 8: Look for and express regularity in repeated reasoning. [Click here for more.](#)

Additionally, educators strive to provide math instruction centered on:

- 1: **Focus** - Teachers significantly narrow and deepen the scope of how time and energy is spent in the math classroom. They do so in order to focus deeply on only the concepts that are prioritized in the standards.
- 2: **Coherence** - Principals and teachers carefully connect the learning within and across grades so that students can build new understanding onto foundations.
- 3: **Fluency** - Students are expected to have speed and accuracy with simple calculations; teachers structure class time and/or homework time for students to memorize, through repetition, core functions.
- 4: **Deep Understanding** - Students deeply understand and can operate easily within a math concept before moving on. They learn more than the trick to get the answer right. They learn the math.
- 5: **Application** - Students are expected to use math concepts and choose the appropriate strategy for application even when they are not prompted.
- 6: **Dual Intensity** - Students are practicing and understanding. There is more than a balance between these two things in the classroom – both are occurring with intensity. [Click here for more.](#)

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Unit/Chapter	KCCRS Standards	Vocabulary	Essential Questions	Resources	I Can Learning Target
<p>1. Numbers to 1,000: Counting, Place Value, Comparing Numbers, Order and Pattern</p>	<p>Number & Operations in Base Ten (NBT) 2.NBT.1. Understand place value. Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones. 2.NBT.2. Count within 1000; skip-count by 5s, 10s, 100s. 2.NBT.3. Read and write numbers to 1000 using base-ten numerals, number names, and expanded form. 2.NBT.4. Compare two three-digit numbers using $>$, $=$, and $<$ symbols to record the results of comparisons. 2.NBT.6. Use place value understanding and properties of operations to add and subtract. Add up to four two-digit numbers using strategies. 2.NBT.8. Use place value understanding and properties of operations to add and subtract. Mentally add or subtract 10 or 100 to a given number 100–900.</p> <p>Operations and Algebraic Thinking 2.OA.3. Work with equal groups of objects to gain foundations for multiplication. Determine whether a group of objects (up to 20) has an odd or even number.</p>	<p>hundreds standard form word form expanded form number names value</p>	<p>How do we understand place value and use properties of operations to add and subtract?</p>	<p>Engage New York: NBT 1-4: Module 3 Topics A-G, Lessons 1-21 NBT6 & 8: Module 4 Topic A, Lessons 3 & 4 NBT8: Module 5 Topic A, Lessons 1-4 Topic D, Lessons 19-20 Roads to reasoning</p>	<p>NBT.1 I can understand and use hundreds, tens & ones. NBT.1 I can show that I understand that a bundle of ten "tens" is called a "hundred". NBT.1 I can show that I understand the numbers I use when I count by hundreds, have a certain number of hundreds, 0 tens and 0 ones. NBT.2 I can count to 1,000 by 1s, 5s, 10s and 100s. NBT.3 I can read and write numbers to 1,000 in different ways. NBT.4 I can compare three-digit numbers using $<$, $=$, and $>$ because I understand hundreds, tens and ones. NBT.6 I can add up to four 2-digit numbers. NBT.8 I can add and subtract 10 or 100 to any number from 100 to 900 in my head.</p>
<p>2. Addition up to 1,000: Addition Without Regrouping, Addition with</p>	<p>Number and Operations in Base Ten (NBT) 2.NBT.5 Use place value understanding and properties of operations to add and</p>	<p>addition facts number line regroup compose</p>	<p>How do we understand place value and use properties of</p>		<p>NBT.5 I can add two-digit numbers. NBT.5 I can subtract two-digit numbers.</p>

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Regrouping in Ones, Addition with Regrouping in Tens, Addition with Regrouping in Ones and Tens	<p>subtract. Fluently add and subtract within 100 using strategies.</p> <p>2.NBT.7. Add and subtract within 1000 using concrete models or drawings and strategies.</p> <p>2.NBT.9. Explain why addition and subtraction strategies work, using place value and the properties of operations.</p> <p>Operations and Algebraic Thinking 2.OA.2. Add and subtract within 20. Fluently add and subtract within 20 using mental strategies all sums of two one-digit numbers.</p>	decompose	operations to add?		<p>NBT.7 I can use strategies to add numbers within 1000 and know when to regroup.</p> <p>NBT.9 I can explain why adding and subtracting strategies work using what I know about place value.</p> <p>OA.2 I know my addition facts.</p>
<p>3. Subtraction up to 1,000: Subtraction Without Regrouping, Subtraction with Regrouping in Tens and Ones, Subtraction with Regrouping in Hundreds and Tens, Subtraction with Regrouping in Hundreds, Tens and Ones, Subtraction Across Zeros</p>	<p>Number and Operations in Base Ten</p> <p>2.NBT.5. Use place value understanding and properties of operations to add and subtract. Fluently add and subtract within 100 using strategies based on place value.</p> <p>2.NBT.7. Add and subtract within 1000 using concrete models or drawings and strategies based on place value, and/or the relationship between addition and subtraction.</p> <p>2.NBT.9. Explain why addition and subtraction strategies work, using place value and the properties of operations.</p> <p>Operations and Algebraic Thinking 2.OA.2. Add and subtract within 20. Fluently add and subtract within 20 using</p>	subtraction facts	How do we understand place value and use properties of operations to subtract?		<p>NBT.7 I can use strategies to subtract numbers within 1000 and know when to regroup.</p> <p>NBT.9 I can explain why adding and subtracting strategies work using what I know about place value.</p> <p>OA.2 I know my subtraction facts.</p>

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	mental strategies all sums of two one-digit numbers.				
<p>4. Using Bar Models: Addition and Subtraction: Using Part-Part-Whole in Addition/Subtraction, Adding On and Taking Away Sets, Comparing Two Sets</p>	<p>Operations and Algebraic Thinking 2.OA.1. Represent and solve problems involving addition and subtraction. Use addition and subtraction within 100 to solve one- and two-step word problems by using drawings and equations with a symbol for the unknown number to represent the problem.</p>		<p>How can we use representations to solve problems involving addition and subtraction?</p>	<p>Thinking Blocks app</p>	<p>OA.1 I can use strategies to solve addition word problems. OA.1 I can use strategies to solve subtraction word problems.</p>
<p>5. Multiplication and Division: How to Multiply, How to Divide, Real-World Problems</p>	<p>Operations and Algebraic Thinking 2.OA.3. Work with equal groups of objects to gain foundations for multiplication. 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.</p>	<p>repeated addition repeated subtraction</p>	<p>How can we use equal groups of objects to represent multiplication and division?</p>		<p>OA.3 I can write a number sentence to show how adding two of the same number will equal an even number.</p>
<p>6. Multiplication Tables of 2, 5, and 10: Multiplying 2: Skip-counting, Multiplying 2: Using Dot Paper, Multiplying 5: Skip-counting, Multiplying 5: Using Dot Paper, Multiplying 10: Skip-counting, Divide</p>	<p>Number and Operations in Base Ten 2.NBT.2. Understand place value. Count within 1000; skip-count by 5s, 10s, 100s</p> <p>Operations and Algebraic Thinking 2.OA.3. Work with equal groups of objects to gain foundations for multiplication. 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;</p>	<p>skip count rows/columns</p>	<p>How can we use known multiplication facts to find other multiplication and division facts?</p>		<p>NBT.2 I can count to 1,000 by 1s, 5s, 10s and 100s.</p> <p>OA.4 I can use addition to help me figure out how many objects are in an array.</p>

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Using Related Multiplication Facts	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.				
7. Metric Measurement of Length: Measuring in Meters, Comparing Lengths in Meters, Measuring in Centimeters, Comparing Lengths in Centimeters, Real-World Problems	Measurement and Data 2.MD.1. Measure and estimate lengths in standard units. Measure the length of an object by selecting and using appropriate tools such as rulers. 2.MD.2. Measure the length of an object twice, using length units of different lengths for the two measurements. 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. 2.MD.5. Relate addition and subtraction to length. Use addition and subtraction within 100 to solve word problems involving lengths. 2.MD.6. Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points. 2.MD.9. Represent and interpret data. Generate measurement data by lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object.	yard meter measuring tape meter stick yardstick	How is measurement used in the real world?		MD.1 I can use different tools to measure objects. MD.2 I can use two different units to measure the same object and tell how the measurements compare. MD.3 I can estimate the lengths of objects using inches, feet, centimeters and meters. MD.4 I can tell the difference in the lengths of two different objects. MD.5 I can use addition and subtraction to solve measurement problems. MD.6 I can make and use a number line. MD.9 I can make a table to organize information about measurement.

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Chapters 8-10	Not aligned to KCCRS				
11. Money: Coins and Bills, Comparing Amounts of Money, Real-World Problems	Measurement and Data 2.MD.8. Work with time and money. Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols.	quarter half dollar dollar cents	How is money used in the real world?		MD.8 I can count money to help me solve word problems.
12. Fractions: Understanding Fractions, Comparing Fractions, Adding and Subtracting Like Fractions	Geometry 2.G.3. Reason with shapes and their attributes. Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words <i>halves</i> , <i>thirds</i> , <i>half of</i> , <i>a third of</i> , etc.	thirds halves half of a third of	How can we understand and represent shapes and their attributes?		G.3 I can divide shapes into equal parts and describe the parts with words like halves or thirds.
13. Customary Measurement of Length: Measuring in Feet, Comparing Lengths in Feet, Measuring in Inches, Comparing Lengths in Inches, Real-World Problems	Measurement and Data 2.MD.1. Measure and estimate lengths in standard units. Measure the length of an object using 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 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. 2.MD.5. Relate addition and subtraction to length. Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units.	foot/feet (ft) ruler length width	How is measurement used in the real world?		MD.1 I can use different tools to measure objects. MD.2 I can use two different units to measure the same object and tell how the measurements compare. MD.3 I can estimate the lengths of objects using inches, feet, centimeters and meters. MD.4 I can tell the difference in the lengths of two different objects. MD.5 I can use addition and subtraction to solve measurement problems.

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14. Time: The Minute Hand, Reading and Writing Time, Using A.M. and P.M., Elapsed Time	Measurement and Data 2.MD.7. Work with time and money. Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.	a.m. p.m.	How is time used in the real world?		MD.7 I can tell time to five minutes.
Chapters 15-16	Not aligned to KCCRS				
17. Picture Graphs: Reading Picture Graphs with Scales, Making Picture Graphs	Measurement and Data 2.MD.10. Represent and interpret data. Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple problems using information presented in a bar graph.	picture graph bar graph rows columns	How can we represent and use data?		MD.10 I can draw a picture graph to share number information.
18. Lines and Surfaces: Parts of Lines and Curves, Flat and Curved Surfaces	Geometry 2.G.1. Reason with shapes and their attributes. Recognize and draw shapes having specified attributes, such as a given number of angles or equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.	line plot quadrilaterals pentagon hexagon angles faces	How do we understand shapes and their attributes?		G.1 I can name and draw shapes. (I know triangles, quadrilaterals, pentagons, hexagons and cubes.)
19. Shapes and Patterns: Plane Shapes, Solid Shapes, Making	Geometry 2.G.1. Reason with shapes and their attributes. Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.12 Identify triangles, quadrilaterals, pentagons, hexagons, and cubes. 2.G.2. Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.	line plot quadrilaterals pentagon hexagon angles faces	How do we understand shapes and their attributes?		G.1 I can name and draw shapes. (I know triangles, quadrilaterals, pentagons, hexagons and cubes.) G.2 I can find the area of a rectangle by breaking it into equal sized squares.