# MCSD - CURRICULUM MAP

- **Math - Grade 3**
- **Revised: 2020/2021**

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<tr>
<th>Unit</th>
<th>Curriculum Standards (NYSNG)</th>
<th>Concepts (Understandings)</th>
<th>Skills (What students actually do)</th>
<th>Major Assessments (Tests, projects, etc.)</th>
<th>Time Frame (Number of weeks)</th>
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| **Quarter 1** | 3.NBT.4a, 3.NBT.4b, 3.NBT.1  | - Understand that the digits of a four-digit number represent amounts of thousand, hundreds, tens, and ones.  
- Read and write four-digit numbers using base-ten numerals, number names, and expanded form.  
- Use place value understanding to round whole numbers to the nearest 10 or 100.  
- Interpret products of whole numbers (Number of Groups and Items in Each Group)  
- Interpret whole-number quotients of whole numbers  
- Use multiplication and division within 100 to solve word problems in situations involving equal groups, and arrays for numbers 0-5. (Order: 0, 1, 2, 5, 3, 4)  
- Determine the unknown whole number in a multiplication or division equation relating three whole numbers. (0 - 5 only)  
- Apply properties of operations as strategies to multiply and divide - Commutative Property Only  
- Identify specific digits to represent thousand, hundreds, tens and ones in numbers from 1-9,999.  
- Write and identify numbers in standard form.  
- Round numbers to show estimation using vertical number lines and strategies.  
- Interpret 5 x 7 as the total number of objects in 5 groups of 7 objects each. Show 5x7 expresses a total number as well.  
- Interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares. Show 56 ÷ 8 expresses a number of groups as well.  
- Use drawings and equations with a symbol for the unknown to represent and solve problems.  
- Determine unknown numbers that make multiplication and division equations true.  
- Show that the number of groups and items in each group can be switched and the multiplication equation will remain true.  
- Find 56 ÷ 8 by finding the number that makes 56 when multiplied by 8. | 1. Array Model Project (TC)  
2. Problem Sets with repeated practice  
3. Student exit-tickets  
4. Teacher-Created Topic Quizzes, Assessments and Slides | 9–10 |
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<tr>
<td></td>
<td>Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities for numbers 6-10.</td>
<td>Determine the unknown whole number in a multiplication or division equation relating three whole numbers. (6-10 only)</td>
<td>Apply properties of operations as strategies to multiply and divide - Distributive and Associative Property</td>
<td>Understand division as an unknown-factor problem. (Rewrite as multiplication 0-10) See as ( \div ).</td>
<td>Fluently solve single-digit multiplication and related divisions (0-10), using strategies such as the relationship between multiplication and division or properties of operations.</td>
<td>Use drawings and equations with a symbol for the unknown to represent and solve problems.</td>
<td>Determine unknown numbers that make multiplication and division equations true.</td>
<td>Show that the number of groups and items in each group can be switched and the multiplication equation will remain true.</td>
<td>Ex. Find 56 ( \div ) 8 by finding the number that makes 56 when multiplied by 8.</td>
<td>Ex. Knowing that 8 \times 5 = 40, one knows 40 ( \div ) 5 = 8</td>
<td>Represent word problems using equations, and assess the reasonableness of the answer using mental math and estimations.</td>
<td>Use a range of strategies to add and subtract within 1,000</td>
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1. Measurement Labs (TC)  
2. Problem Sets with repeated practice  
3. Student exit-tickets  
4. Teacher-Created Topic Quizzes, Assessments and Slides  

9-10
- Solve two-step word problems posed with whole numbers and having whole-number answers using the four operations.
- Fluently add and subtract within 1,000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.
- Multiply one-digit whole numbers by multiples of 10 in the range 10-90 using strategies based on place value and properties of operations.
- Measure and estimate liquid volumes and masses of objects using grams (g), kilograms (kg), and liters (L).
- Add, subtract, multiply, or divide to solve one-step word problems involving masses or liquid volumes that are given in the same units.
- Know from memory all products of two one-digit numbers (1-10).
- Identify and extend arithmetic patterns (including patterns in the addition table or multiplication table).
- Use knowledge of single digit multiplication and relate it to multiples of 10 (ex. 9 x 90)
- Use measurement tools and pictures of tools to identify measurements (g, kg, L)
- Use drawings such as a beaker to represent word problems relating to measurements
- Know with automaticity all multiplication facts of two one-digit numbers 0-10
- Use a multiplication table with accuracy and identify patterns

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<tr>
<th>Quarter 3</th>
<th>3. NBT.1 (Review) 3.MD.5 3.MD.7 3.G.2 3.NF.1 3.NF.2</th>
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<tr>
<td>3. NBT.1</td>
<td>Use place value to round whole numbers to the nearest 10 or 100. Recognize area as an attribute of plane figures and understand concepts of area measurement. Relate area to the operations of multiplication</td>
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<td>3. MD.7</td>
<td>Round numbers to show estimation using vertical number lines and strategies. Recognize a unit square, and a plane figure that can be covered without gaps or overlaps by n unit squares. The plane is said to have an area of n square units.</td>
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<tr>
<td>3. MD.5</td>
<td>1. Area Design Project 2. Fraction Labs 3. Problem Sets with repeated practice 4. Student exit-tickets 5. Teacher-Created Topic Quizzes,</td>
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<td>3. G.2</td>
<td>10-11</td>
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| 3.NF.3 | - Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole.
- Understand a unit fraction, 1/b, is the quantity formed by 1 part when a whole is partitioned into b equal parts. Understand a fraction a/b as the quantity formed by a parts of size 1/b.
- Understand and represent a fraction as a number on a number line (Denominators: 2, 3, 4, 6, 8)
- Explain equivalent fractions and compare fractions by reasoning about their size. | - Find the area of rectangles and irregular shapes that can be split into multiple rectangles and added together.
- Partition a shape into 4 parts with equal area and describe the area of each part as ¼ of the area of the shape.
- Understand and visually show that fractions are written as parts over wholes.
- Represent a fraction 1/b on a number line by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Represent that each part has the size 1/b.
  ○ Represent a fraction a/b on a number line by marking off a lengths 1/b from 0. Recognize the new interval as a/b.
- Understand two fractions as equivalent if they are the same size or the same point on a number line.
  ○ Recognize and generate equivalent fractions with an explanation.
  ○ Express whole numbers as fractions and identify fractions that are equivalent to whole numbers
  ○ Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons rely on the two fractions referring to the same whole. Use <, =, > to compare and justify conclusions. | Assessments and Slides |
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<td>● Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step &quot;how many more&quot; and &quot;how many less&quot; problems using information presented in a scaled picture graph or a scaled bar graph. ● Determine the unknown whole number in a multiplication or division equation relating three whole numbers. ● Fluently solve single-digit multiplication and related divisions, using strategies such as the relationship between multiplication and division or properties of operations. ● Know from memory all products of two one-digit numbers. ● Fluently add and subtract within 1,000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction ● Understand a fraction as a number on the number line; represent fractions on a number line. ● Represent a fraction 1/b on a number line by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. ● Recognize that each part has size 1/b and that the endpoint of the part starting at 0 locates the number 1/b on the number line. ● Represent a fraction a/b on a number line by marking off a lengths 1/b from 0. Recognize that fraction.</td>
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<td>● Generate and organize data. ● Rotate tape diagrams vertically. ● Create scaled bar graphs. ● Solve one and two step problems involving graphs. ● Model and apply the distributive property with arrays to decompose units as a strategy for multiplication. ● Find related multiplication facts. ● Solve 2 step word problems using multiplication and division. ● Assessing the reasonableness of answers. ● Rounding 2 digit measurements to the nearest ten and hundred on a vertical number line. ● Specify and partition a whole into equal parts. ● Identify and count unit fractions by drawing pictorial models. ● Represent and identify fractional parts of different wholes. ● Partition a whole into equal parts and define the equal parts to identify the unit fraction numerically. ● Build non-unit fractions less than one whole. ● Represent a fraction a/b on a number line and marking off lengths from zero. ● Measure by quarter and half inches. ● Finding perimeter and/or area of polygons. ● Identify polygons based on attributes.</td>
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the resulting interval has size $\frac{a}{b}$ and that its endpoint locates the number $\frac{a}{b}$ on the number line.

- Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters.
- Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.
- Solve real-world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths or finding one unknown side length given the perimeter and other side lengths.
- Identify rectangles with the same perimeter and different areas or with the same area and different perimeters.
- Recognize and classify polygons based on the number of sides and vertices (triangles, quadrilaterals, pentagons, and hexagons). Identify shapes that do not belong to one of the given subcategories.

### ROUTINES

#### 3.MD.1

- Tell and write time to the nearest minute and measure time intervals in minutes. Solve one-step word problems involving addition and subtraction of time intervals in minutes.

#### 1.

- Identify Time (Daily, Ongoing-Skill)

- Relate skip counting by 5 on the clock.
- Count by 5’s and 1’s on a number line.
- Solving word problems involving time within 1 hour where you can count forward or backward on a number line/clock.