

# Shrewsbury Borough School Curriculum Guide

## Grade 1: Mathematics

First Marking Period Mathematics	Second Marking Period Mathematics	Third Marking Period Mathematics	Fourth Marking Period Mathematics
<p><b>Unit Theme 1:</b> <u>Reinforce prior knowledge</u></p> <ul style="list-style-type: none"> <li>Review number sense</li> <li>Recognize and represent numbers on a ten frame</li> <li>Compare order of numbers (greater than, less than, equal to)</li> </ul> <p><b>Unit Theme 2:</b> <u>Extend the counting sequence</u></p> <ul style="list-style-type: none"> <li>Count to 120</li> <li>Read and write numerals and represent a number of objects with a written numeral</li> </ul> <p><b>Unit Theme 3:</b> <u>Understand place value</u></p> <ul style="list-style-type: none"> <li>Understand that the two digits of a two-digit number represent amounts of tens and ones</li> <li>10 can be thought of as a bundle of ten ones called a “ten”</li> <li>Numbers from 11-19 of a ten and one, two, three</li> </ul>	<p><b>Unit Theme 4:</b> <u>Represent and solve problems involving addition and subtraction</u></p> <ul style="list-style-type: none"> <li>Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions</li> <li>Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20</li> </ul> <p><b>Unit Theme 5:</b> <u>Understand and apply properties of operations and the relationship between addition and subtraction</u></p> <ul style="list-style-type: none"> <li>Apply properties of operations as strategies to add and subtract (commutative property and associative property)</li> <li>Understand subtraction as an unknown-addend</li> </ul>	<p><b>Unit Theme 8:</b> <u>Tell and write time</u></p> <ul style="list-style-type: none"> <li>Identify the hour and minute hands on a clock</li> <li>Show and tell time to the hour using digital and analog clocks</li> <li>Show and tell time to the half hour using digital and analog clocks</li> </ul> <p><b>Unit Theme 9:</b> <u>Geometry: Reason with shapes and their attributes</u></p> <ul style="list-style-type: none"> <li>Identify and name standard plane shapes</li> <li>Build and draw shapes to possess defining attributes</li> <li>Combine two-dimensional geometric shapes to make new two-dimensional geometric shapes</li> <li>Break apart larger shapes to make smaller shapes</li> <li>Identify plane shapes that are the same size and the same shape</li> </ul>	<p><b>Unit Theme 11:</b> <u>Use place value understanding and properties of operations to add and subtract</u></p> <ul style="list-style-type: none"> <li>Adding within 100 using a two-digit number and a one digit number, adding a two digit number and a multiple of ten, using concrete models, drawings, and strategies based on place value</li> <li>Relate the addition and subtraction strategy to a written method and explain the reasoning used</li> <li>Understand that in adding two-digit numbers, one adds tens and tens, ones and ones, and sometimes it is necessary to compose a ten</li> <li>Mentally find 10 more or 10 less than a number without having to count</li> <li>Subtract multiples of 10 in the range 10-90 using</li> </ul>

<p>ones etc.</p> <ul style="list-style-type: none"> <li>• Numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones)</li> <li>• Compare two two-digit numbers based on meaning of the tens and ones digits, using symbols <math>&gt;</math>, <math>=</math>, <math>&lt;</math></li> </ul>	<p>problem</p> <p><b>Unit Theme 6:</b> <u>Add and subtract within 20</u></p> <ul style="list-style-type: none"> <li>• Relate counting to addition and subtraction</li> <li>• Demonstrate fluency for addition and subtraction</li> <li>• Use several strategies to solve addition and subtraction problems</li> </ul> <p><b>Unit Theme 7:</b> <u>Work with addition and subtraction equations</u></p> <ul style="list-style-type: none"> <li>• Understand the meaning of an equal sign and determine whether the equation is true or false</li> <li>• Determine the unknown whole number within an addition and subtraction equation relating three whole numbers</li> </ul>	<ul style="list-style-type: none"> <li>• Identify geometric solids and sort them by various attributes</li> <li>• Partition circles and rectangles into two and four equal shares, (describe using words <i>halves, fourths, quarters</i>)</li> </ul> <p><b>Unit Theme 10:</b> <u>Measurement</u></p> <ul style="list-style-type: none"> <li>• Compare and order lengths of objects</li> <li>• Estimate, measure, and compare lengths of objects by using a nonstandard unit</li> </ul>	<p>concrete models, drawings, and strategies based on place value</p> <p><b>Unit Theme 12:</b> <u>Represent and interpret data</u></p> <ul style="list-style-type: none"> <li>• Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less than in another</li> </ul>
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<u>ESSENTIAL QUESTIONS</u>	<u>ESSENTIAL QUESTIONS</u>	<u>ESSENTIAL QUESTIONS</u>	<u>ESSENTIAL QUESTIONS</u>
<p>How can the terms greater than and less than express the relationship between numbers?</p> <p>How can you represent and recognize numbers to 10 on a tens frame?</p> <p>How can a known part of 10 be used to find the missing part?</p> <p>How can a number be broken into groups of 10 and leftover ones?</p> <p>How can you use tens frames to show numbers 11 to 20 as a group of 10 and some more?</p> <p>How can you use groups of ten to count?</p> <p>How many tens make up each of the decade numbers from 10 to 90?</p> <p>When objects are grouped in sets of 10 and leftovers (ones), how do you write the number for how many there are in all?</p>	<p>How can you write a number sentence to show addition and subtraction using the appropriate symbols?</p> <p>What are helpful strategies for addition facts with 0, 1, or 2?</p> <p>How can you identify and complete double facts?</p> <p>How can you use a doubles fact to find the answer to a near-doubles fact?</p> <p>How can a tens frame help simplify addition?</p> <p>How can drawing a picture help you to solve problems and help you check if your answers make sense?</p> <p>How can you use patterns and counting as strategies for remembering subtraction facts with 0, 1, and 2?</p> <p>How can you use addition facts to solve a subtraction fact?</p> <p>Is there a related addition fact for every subtraction fact?</p>	<p>How do the hands on the clock show time?</p> <p>What are the different ways that you write and see times on clocks?</p> <p>How do you tell time to the half-hour?</p> <p>How can plane shapes be combined to make new plane shapes?</p> <p>How can breaking apart larger shapes make new smaller shapes?</p> <p>How can attributes be used to sort solid figures?</p> <p>How can you compare and then order concrete objects according to length?</p> <p>How can you estimate and measure length with nonstandard units?</p> <p>How can you divide a shape into equal parts?</p>	<p>How does adding the values of digits produce the total value of the number?</p> <p>How can you use tens and ones models to represent a number in different ways?</p> <p>How is adding groups of 10 similar to adding numbers less than 10?</p> <p>What changes when you add tens to a two-digit number?</p> <p>How do two-digit numbers change when multiples of ten are added or subtracted to and from them?</p> <p>How do you know when to regroup when adding or subtracting with two-digit numbers?</p> <p>How can you identify the greater two-digit number using the symbols <math>&lt;</math>, <math>&gt;</math>, <math>=</math>?</p> <p>What questions can you answer by looking at a picture and bar graph?</p> <p>How can tally marks be used to record information?</p>

<p><b><u>MATERIALS</u></b> <i>envision MATH Topics 1-7, 16-17</i></p> <p><b><u>TECHNOLOGY</u></b></p> <p><a href="http://www.neoK12.com">www.neoK12.com</a> <a href="http://www.gamequarium.com">www.gamequarium.com</a> <a href="http://www.funbrain.com">www.funbrain.com</a> <a href="http://www.brainpop.com">www.brainpop.com</a></p>	<p>How can you use two given numbers in a subtraction problem to find a missing addend?</p> <p><b><u>MATERIALS</u></b> <i>envision MATH Topics 18</i></p> <p><b><u>TECHNOLOGY:</u></b></p> <p><a href="http://www.aplusmath.com">www.aplusmath.com</a> <a href="http://www.ixl.com">www.ixl.com</a> <a href="http://www.funbrain.com">www.funbrain.com</a></p>	<p><b><u>MATERIALS</u></b> <i>envision MATH Topics 8, 14, 15</i></p> <p><b><u>TECHNOLOGY:</u></b></p> <p><a href="http://www.neoK12.com">www.neoK12.com</a> <a href="http://www.gamequarium.com">www.gamequarium.com</a> <a href="http://www.brainpop.com">www.brainpop.com</a> <a href="http://www.ixl.com">www.ixl.com</a></p>	<p>How can you use information in a tally chart to make a bar graph and answer question</p> <p><b><u>MATERIALS</u></b> <i>envision MATH topics 10,11, 12, 2</i></p> <p><b><u>TECHNOLOGY:</u></b></p> <p><a href="http://www.gamequarium.com">www.gamequarium.com</a> <a href="http://www.funbrain.com">www.funbrain.com</a> <a href="http://www.brainpop.com">www.brainpop.com</a></p>
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**CCSS:**

NBT.1. Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.

NBT.2. Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases: 10 can be thought of as a bundle of ten ones — called a “ten.”The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).

NBT.3. Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols  $>$ ,  $=$ , and  $<$ .

**CCSS:**

OA.1. Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

OA.2. Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

OA.3. Apply properties of operations as strategies to add and subtract. Examples: If  $8 + 3 = 11$  is known, then  $3 + 8 = 11$  is also known. (Commutative property of addition.) To add  $2 + 6 + 4$ , the second two numbers can be added to make a ten, so  $2 + 6 + 4 = 2 + 10 = 12$ . (Associative property of addition.)

OA.4. Understand subtraction as an unknown-addend problem. For example, subtract  $10 - 8$  by

**CCSS:**

MD.3. Tell and write time in hours and half-hours using analog and digital clocks.

MD.1. Order three objects by length; compare the lengths of two objects indirectly by using a third object.

MD.2. Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.

G.1. Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size) ; build and draw shapes to possess defining attributes.

**CCSS:**

NBT.4. Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, 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 and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.

NBT.5. Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.

NBT.6. Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), 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 and explain the reasoning used.

	<p>finding the number that makes 10 when added to 8. Add and subtract within 20.</p> <p>OA.5. Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).</p> <p>OA.6. Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., <math>8 + 6 = 8 + 2 + 4 = 10 + 4 = 14</math>); decomposing a number leading to a ten (e.g., <math>13 - 4 = 13 - 3 - 1 = 10 - 1 = 9</math>); using the relationship between addition and subtraction (e.g., knowing that <math>8 + 4 = 12</math>, one knows <math>12 - 8 = 4</math>); and creating equivalent but easier or known sums (e.g., adding <math>6 + 7</math> by creating the known equivalent <math>6 + 6 + 1 = 12 + 1 = 13</math>).</p> <p>OA.7. Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For example, which of the following equations are true and which are false? <math>6 = 6</math>, <math>7 = 8 - 1</math>, <math>5 + 2 = 2 + 5</math>, <math>4 + 1 = 5 + 2</math>.</p> <p>OA.8. Determine the unknown whole number in an addition or subtraction equation relating three</p>	<p>G.2. Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.</p> <p>G.3. Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.</p>	<p>MD.4. Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.</p>
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<p><b>ASSESSMENT:</b></p> <p><b>Formative Assessment:</b>  Teacher Observation  Student sheets  Response sheets  Performance based assessment</p> <p><b>Summative Benchmark Assessments:</b>  End of Module Assessment  Portfolio Assessment  MAP Testing</p>	<p>whole numbers. For example, determine the unknown number that makes the equation true in each of the equations <math>8 + ? = 11</math>, <math>5 = \_ - 3</math>, <math>6 + 6 = \_</math>.</p> <p><b>ASSESSMENT:</b></p> <p><b>Formative Assessment:</b>  Teacher Observation  Student Sheets  Response Sheets  Performance Based Assessment</p> <p><b>Summative Benchmark Assessments:</b>  End of Module Assessment  Portfolio Assessment  MAP Testing</p>	<p><b>ASSESSMENT:</b></p> <p><b>Formative Assessment:</b>  Teacher Observation  Student sheets  Response sheets  Performance based assessment</p> <p><b>Summative Benchmark Assessments:</b>  End of Module Assessment  Portfolio Assessment  MAP Testing</p>	<p><b>ASSESSMENT:</b></p> <p><b>Formative Assessment:</b>  Teacher Observation  Student sheets  Response sheets  Performance based assessment</p> <p><b>Summative Benchmark Assessments:</b>  End of Module Assessment  Portfolio Assessment  MAP Testing</p>
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