

# Shrewsbury Borough School Curriculum Guide

## Grade 2: Mathematics

<b>First Marking Period Mathematics</b>	<b>Second Marking Period Mathematics</b>	<b>Third Marking Period Mathematics</b>	<b>Fourth Marking Period Mathematics</b>
<p><b>Unit Theme 1: Add and Subtract Within 20</b></p> <p>Master addition facts involving 0,1, or 2.</p> <p>Master addition facts in which both addends are the same.</p> <p>Master addition facts where the addends are 1 apart.</p> <p>Master addition facts involving sums or differences of 20 or less.</p> <p>Review two digit addition and subtraction with or without regrouping.</p>	<p><b>Unit Theme 3: Measure and Estimate Lengths in Standard Units</b></p> <p>Estimate and measure items that are about an inch, foot, and yard.</p> <p>Estimate and measure the lengths and heights of objects in centimeters and meters.</p> <p>Measure lengths of objects by using appropriate tools such as rulers, yardsticks, meter sticks and measuring tapes.</p>	<p><b>Unit Theme 6: Time and Money</b></p> <p>Tell time to five minutes on analog and digital clocks.</p> <p>Tell time using minutes before and after the hour.</p> <p>Identify the value of a group of half dollars, quarters, dimes, nickels and pennies.</p> <p>Show the same amount of money using different sets of coins.</p> <p>Count money amounts greater than one dollar and write the amount with a dollar sign and a decimal point.</p>	<p><b>Unit Theme 8: Understand Place Value</b></p> <p>Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones.</p> <p>Count by hundreds to 1000: Skip count by 5s, 10s, and 100s.</p> <p>Use place value models to show numbers up to 1000.</p> <p>Identify and record three-digit numbers in expanded form and standard form.</p> <p>Compare three-digit numbers using the symbols <math>&lt;</math>, <math>=</math>, <math>&gt;</math>.</p>

<p><b>Unit Theme 2: Represent and Solve Problems involving Addition and Subtraction</b></p> <p>Join two groups and write addition number sentences to tell how many in all.</p> <p>Solve problems by writing subtraction number sentences.</p> <p>Write related addition and subtraction facts.</p> <p>Draw a picture and write a number sentence to solve a story problem.</p> <p>Subtract by finding missing addends.</p>	<p><b>Unit Theme 4: Relate Addition and Subtraction to Length</b></p> <p>Use measurement to create addition and subtraction word problems within 100.</p> <p>Use a number line to represent whole numbers as lengths and number sums and differences within 100.</p> <p><b>Unit Theme 5: Geometry- Reason with Shapes and Their Attributes</b></p> <p>Identify solid figures by their faces or flat surfaces, edges and vertices.</p> <p>Recognize and name trapezoids, parallelograms, triangles, quadrilaterals, pentagons, hexagons, and cubes.</p> <p>Identify that shapes can be composed and decomposed into other shapes.</p> <p>Identify that a region can be divided into equal-sized parts in different ways and that equal sized parts of a region have the same area but not necessarily the same shape.</p>	<p><b>Unit Theme 7: Represent and Interpret Data</b></p> <p>Represent a set of data in a tally chart and in a bar graph.</p> <p>Make and use a pictograph to solve problems.</p> <p>Use data in a tally chart to make a bar graph and answer questions about the data represented in the bar graph.</p>	<p><b>Unit theme 9: Use Place Value Understanding and Properties of Operations to Add and Subtract</b></p> <p>Add and subtract multiples of 10 or 100 to and from a three digit number.</p> <p>Add and subtract within 100 using strategies based on place value and properties of operations.</p> <p>Add up to four two digit numbers using place value and properties of operations strategies.</p> <p>Mentally add or subtract 10 or 100 to a given number 100-900.</p> <p>Use place value blocks to add three digit numbers.</p> <p>Understand that in adding and subtracting three digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones: and it is required to compose and decompose tens or hundreds.</p>
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**Unit Theme 10:  
Foundations for Multiplication**

Learn to identify even and odd numbers.

Write an equation to express an even number as a sum of two equal addends.

Model multiplication by repeated addition of objects.

Build arrays to model multiplication situations.

Use multiplication number sentences to write and solve story problems.

Use arrays to investigate multiplying in any order.

**ESSENTIAL QUESTIONS**

**Unit 1-**

How are number relationships of 0, 1, and 2 more than the basis for adding with 0, 1, and 2?

What are different ways to learn and remember double facts?

How can double facts be used to learn near double facts?

**Unit 2-**

How can drawing a picture and writing a number sentence help you solve a math story problem?

How can you write a missing addend addition fact as a subtraction fact?

How can word sentences be used to show parts and the whole?

How can you represent a joining story with an addition number sentence?

How can subtraction sentences be used to find the missing part of the whole?

How can you write related addition and subtraction facts?

**ESSENTIAL QUESTIONS**

**Unit 3-**

What are inches, feet, and yards?

Which classroom objects can be used to approximate the standard units centimeter and meter?

**Unit 4-**

How can units of measurement be used to create addition and subtraction problems?

What units of measurement can we use to demonstrate addition and subtraction?

How can units of measurement help to visualize addition and subtraction?

How can a number line be used as a tool for finding sums and differences?

What strategies can be implemented to find sums and differences on a number line?

**Unit 5-**

How are attributes, such as the number of flat surfaces, vertices, and edges used to describe and classify three dimensional geometric figures?

**ESSENTIAL QUESTIONS**

**Unit 6-**

How can the hands on an analog clock be arranged to show time?

How can time be expressed using different units that are related to each other?

How are A.M. and P.M. used to designate certain time periods?

What are different ways to say the times before and after the hour?

How can you find the value of a group of quarters, dimes, nickels, and pennies?

How can you find the value of a set of mixed coins?

How do you show 100 cents, or 1 dollar, with different groups of coins?

How do you count combinations of money that include both bills and coins?

**Unit 7 –**

How can you use a bar graph to organize information and compare data?

**ESSENTIAL QUESTIONS**

**Unit 8-**

How many ones make a ten, how many tens make a hundred, and how many hundreds make a thousand?

How can a number be shown using hundreds, tens, and ones place value models?

How do the digits of a number up to 4 digits long show the value of the number?

How does a three-digit number change when it is increased or decreased by a multiple of 10 or 100?

How does understanding place value help you compare three-digit numbers?

**Unit 9-**

How can you use mental math to add multiples of 100 to a three-digit number?

How can you model and record adding three digit numbers?

How do you add or subtract three-digit numbers using paper and pencil?

	<p>How can new shapes be made by combining other shapes?</p> <p>How can cutting larger shapes make new smaller shapes?</p> <p>What does “equal parts” mean?</p> <p>How do you identify equal and unequal parts?</p> <p>How do you name one of a number of equal parts into which a shape has been divided?</p>	<p>How does showing data in a pictograph and a tally chart help you compare that data?</p> <p>How can you use the data in a tally chart to make a bar graph?</p>	<p>What should you do if you need to subtract more tens than those that are present in the tens place?</p> <p><b>Unit 10-</b> How do you know if a number is even or odd?</p> <p>How can repeated addition help you understand multiplication?</p> <p>How can an array be used to help write a multiplication sentence?</p> <p>How can you use a picture to write a multiplication story?</p> <p>Does the order of factors in multiplication affect the product?</p>
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**MATERIALS:**

Envision Math Topic 1:  
Understanding Addition and  
Subtraction

Envision Math Topic 2:  
Addition Strategies

Envision Math Topic 3:  
Subtraction Strategies

**TECHNOLOGY**

[www.woodlands-junior.kent.sch.uk/maths/numberskills](http://www.woodlands-junior.kent.sch.uk/maths/numberskills)

[www.free-training-tutorial.com/place-value-games](http://www.free-training-tutorial.com/place-value-games)  
[www.neok12.com](http://www.neok12.com)

**MATERIALS:**

Envision Math Topic 13-  
Measurement: Length and Area

Envision Math Topic 11-  
Geometry

Envision Math topic 12-  
Fractions

**TECHNOLOGY:**

[www.gamequarium.com/measurement](http://www.gamequarium.com/measurement)

[www.woodlands-junior.kent.sch.uk/maths/numberskills](http://www.woodlands-junior.kent.sch.uk/maths/numberskills)

[www.neok12.com](http://www.neok12.com)

**MATERIALS:**

Envision Math Topic 15:  
Time and Temperature

Envision Math Topic 16:  
Graphs and Probability

**TECHNOLOGY:**

[www.ixl.com/math/grade-2/interpret-line-plots](http://www.ixl.com/math/grade-2/interpret-line-plots)

[www.eduplace.com/math/mw/basic/math-time](http://www.eduplace.com/math/mw/basic/math-time)

[www2.allentownsd.org/EETT/secondgrade](http://www2.allentownsd.org/EETT/secondgrade)

[www.neok12.com](http://www.neok12.com)

**MATERIALS:**

Envision Math Topic 17-  
Numbers and Patterns to 1,000

Envision Math 18-  
Three-digit Addition and  
Subtraction

Envision Math 4-  
Place Value

Envision Math 19-  
Multiplication Concepts

**TECHNOLOGY:**

[www2.allentownsd.org/EETT/secondgrade](http://www2.allentownsd.org/EETT/secondgrade)

[www.free-training-tutorial.com/place-value-games](http://www.free-training-tutorial.com/place-value-games)

[www.gamequarium.com](http://www.gamequarium.com)

<p><b><u>CCSS</u></b></p> <p><b>2. 2.OA.2.</b> Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.</p> <p><b>2.OA.1.</b> 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.</p>	<p><b><u>CCSS</u></b></p> <p><b>2.MD.1.</b> Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.</p> <p><b>2.MD.2.</b> 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.</p> <p><b>2.MD.3.</b> Estimate lengths using units of inches, feet, centimeters, and meters.</p> <p><b>2.MD.4.</b> Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.</p> <p><b>2.MD.5.</b> 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.</p>	<p><b><u>CCSS</u></b></p> <p><b>2.MD.7.</b> Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.</p> <p><b>2.MD.8.</b> Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do you have?</p> <p><b>2.MD.9.</b> 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.</p> <p><b>2.MD.10.</b> 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.</p>	<p><b><u>CCSS</u></b></p> <p><b>2.NBT.1.</b> 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:</p> <p style="padding-left: 40px;">100 can be thought of as a bundle of ten tens — called a “hundred.” 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).</p> <p><b>2.NBT.2.</b> Count within 1000; skip-count by 5s, 10s, and 100s.</p> <p><b>2.NBT.3.</b> Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.</p> <p><b>2.NBT.4.</b> Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using <math>&gt;</math>, <math>=</math>, and <math>&lt;</math> symbols to record the results of comparisons.</p>
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	<p><b>2.MD.6.</b> 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.</p> <p><b>2.G.1.</b> 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.</p> <p><b>2.G.2.</b> Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.</p> <p><b>2.G.3.</b> 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.</p>		<p><b>2.NBT.5.</b> Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.</p> <p><b>2.NBT.6.</b> Add up to four two-digit numbers using strategies based on place value and properties of operations.</p> <p><b>2.NBT.7.</b> 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.</p> <p><b>2.NBT.8.</b> Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.</p> <p><b>2.NBT.9.</b> Explain why addition and subtraction strategies work, using place value and the</p>
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			<p>properties of operations. Explanations may be supported by drawings or objects.</p> <p><b>2.OA.3.</b> 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><b>2.OA.4.</b> 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.</p>
<p><b>ASSESSMENT:</b></p> <p><b>Formative Assessment:</b></p> <p>Teacher Observation Student sheets Response sheets Performance based assessment</p> <p><b>Summative Benchmark Assessments:</b></p> <p>End of Module Assessment Portfolio Assessment MAP Testing</p>	<p><b>ASSESSMENT:</b></p> <p><b>Formative Assessment:</b></p> <p>Teacher Observation Student sheets Response sheets Performance based assessment</p> <p><b>Summative Benchmark Assessments:</b></p> <p>End of Module Assessment Portfolio Assessment MAP Testing</p>	<p><b>ASSESSMENT:</b></p> <p><b>Formative Assessment:</b></p> <p>Teacher Observation Student sheets Response sheets Performance based assessment</p> <p><b>Summative Benchmark Assessments:</b></p> <p>End of Module Assessment Portfolio Assessment MAP Testing</p>	<p><b>ASSESSMENT:</b></p> <p><b>Formative Assessment:</b></p> <p>Teacher Observation Student sheets Response sheets Performance based assessment</p> <p><b>Summative Benchmark Assessments:</b></p> <p>End of Module Assessment Portfolio Assessment MAP Testing</p>

