



Danville District No. 118

Mathematics – Third Grade

Curriculum and Scope and Sequence

First Quarter

- Common Core – Operations and Algebraic Thinking (3.OA)**
- Common Core – Number and Operations in Base Ten (3.NBT)**
- Common Core – Number and Operations – Fractions (3.NF)**
- Common Core – Measurement and Data (3.MD)**
- Common Core – Geometry (3.G)**

State Standard	Objectives	Action Plan	Resources
<p><u>CC: Number and Operations in Base Ten</u></p> <p>Use place value understanding and properties of operations to perform multi-digit arithmetic.</p>	<p>The student will be able to:</p> <ul style="list-style-type: none"> Use place value understanding to round whole numbers to the nearest 10 or 100. (3.NF.1) Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. (3.NBT.2) 	<p>Read and write three digit and four digit numbers.</p> <p>Use place value blocks to represent numbers in different ways.</p> <p>Write numbers in expanded form on the place value chart</p> <p>Read and write numbers in the ten and hundred thousand.</p> <p>Locate and compare whole numbers on the number line.</p>	<p><i>enVision Math</i></p> <p>Topic 1-Numeration</p> <p>Topic 2- Number Sense: Addition and Subtraction</p> <p>Topic 3- Using Place Value to Add and Subtract</p> <p>Place value blocks</p> <p>Place value chart – TT4</p> <p>ENO Board with number line</p> <p>Bar diagram</p>

Math FLEX intervention is thirty minutes each day in addition to core instruction.

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		<p>Identify patterns on a number line and calculate missing labels.</p> <p>Demonstrate comparison of whole numbers by writing number sentences.</p> <p>Addition will be modeled by using counters.</p> <p>Represent parts that are joined to create a whole by using a bar diagram.</p> <p>Draw a picture to represent the solution to a problem.</p> <p>Use counters to demonstrate the changes in quantities when subtracting.</p> <p>Apply mental math to addition and subtraction.</p> <p>Explore with concrete materials to demonstrate Commutative,</p>	<p>Number Tiles</p> <p>Counters</p> <p>Hundred Chart – TT7</p> <p>Number Cards – TT5 and TT6</p> <p>Subtract Three-Digit Numbers – TT35</p>
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		<p>Associative, and Identity Properties of Addition.</p> <p>Introduce the concept of rounding and continue with estimation</p> <p>Solve problems through estimation and rounding.</p> <p>Develop understanding through word problems and check answers for reasonableness.</p> <p>Solve three digit subtraction problems by breaking down into smaller, easier subtraction problems.</p>	
<p><u>CC: Operations and Algebraic Thinking (3.OA)</u></p> <p>Represent and solve problems involving multiplication and division.</p> <p>Understand properties of multiplication and the relationship between multiplication and division.</p> <p>Solve problems involving the four operations, and identify and explain</p>	<p>The student will be able to:</p> <ul style="list-style-type: none"> • Interpret products of whole numbers, e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each. (3.OA.1) • Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. (3.OA.3) • Apply properties of operations as strategies to multiply and divide. (3.OA.5) • Solve two-step word problems using the four operations. 	<p>Write multiplication sentences for repeated addition situations and find products.</p> <p>Create multiplication sentences for arrays and use to find products.</p>	<p>Topic 4- Meanings of Multiplication</p> <p>Counters – TT17</p> <p>Place Value Blocks – TT18</p> <p>ENO Board Visual Bridge – Interactive component</p>

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<p>patterns in arithmetic.</p>	<p>(3.OA.8)</p> <ul style="list-style-type: none"> Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. (3.OA.9) 	<p>Apply the Commutative Property of Multiplication to problem solving.</p> <p>Use objects, words, numbers, and technology to provide explanation for understanding.</p>	<p>enVision</p> <p>AIMSweb – M-CAP</p> <p>AIMSweb – M-COMP</p>
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Danville District No. 118
Mathematics – Third Grade
Curriculum and Scope and Sequence
Second Quarter

Common Core – Operations and Algebraic Thinking (3.OA)
 Common Core – Number and Operations in Base Ten (3.NBT)
 Common Core – Number and Operations – Fractions (3.NF)
 Common Core – Measurement and Data (3.MD)
 Common Core – Geometry (3.G)

State Standard	Objectives	Action Plan	Resources
<p>CC: Operations and Algebraic Thinking (3.OA)</p> <p>Represent and solve problems involving multiplication and division.</p> <p>Understand properties of multiplication and the relationship between multiplication and division.</p> <p>Solve problems involving the four operations, and identify and explain patterns in arithmetic.</p>	<p>The student will be able to:</p> <ul style="list-style-type: none"> • Interpret whole-number quotients of whole numbers, e.g., interpret $56 \div 8$ as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. (3.OA.2) • Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. (3.OA.3) • Determine the unknown whole number in a multiplication or division equation relating three whole numbers. (3.OA.4) • Apply properties of operations as strategies to multiply and divide. (3.OA.5) • Understand division as an unknown-factor problem. (3.OA.6) • Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division. (3.OA.7) • Solve two-step word problems using the four operations. (3.OA.8) • Identify arithmetic patterns (including patterns in the 	<p>Apply patterns to multiply one, two, five, nine, and 10 as factors.</p> <p>Solve for one problem and use the solution to complete a second problem.</p> <p>Use counters to build and break apart an array.</p> <p>Activate prior knowledge of known facts and doubles to determine products.</p> <p>Multiply numbers applying the Associative Property.</p>	<p><i>enVision Math</i></p> <p>Topic 5- Multiplication facts: Use Patterns</p> <p>Topic 6- Multiplication Facts: Use Known Facts</p> <p>Topic 7- Meanings of Division</p> <p>Topic 8- Division Facts</p> <p>Counters</p>

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	<p>addition table or multiplication table), and explain them using properties of operations. (3.OA.9)</p>	<p>Solve multi-step problems.</p> <p>Model division problems involving sharing and record solutions using number sentences.</p> <p>Utilize multiplication tables to problem solve division.</p> <p>Create equations to represent the problem situation.</p> <p>Write and solve number stories using division.</p> <p>Demonstrate multiplication and division problems by using two-color tiles and drawing a visual representation.</p> <p>Recite quotients to division facts. Understand the inverse relationship between multiplication and division.</p>	<p>Hundred chart</p> <p>Bar diagrams</p> <p>Two-color tiles – TT16</p> <p>Multiplication Chart – TT8</p> <p>Multiplication Table – TT9</p> <p>Number Line – TT10</p> <p>Place Value Blocks – TT19</p> <p>2+5 As Factors – TT36</p> <p>9 As a Factor – TT37</p> <p>X with 0 and 1 – TT38</p> <p>10 As a Factor – TT39</p> <p>ENO Board Visual Bridge – Interactive component enVision</p> <p>AIMSweb – M-CAP</p> <p>AIMSweb – M-COMP</p>
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		Solve multi-step problems.	
CC: Number and Operations in Base Ten Use place value understanding and properties of operations to perform multi-digit arithmetic.	The student will be able to: <ul style="list-style-type: none"> Multiply one-digit whole numbers by multiples of 10 in the range 10-90 (e.g., 9×80, 5×60) using strategies based on place value and properties of operations. (3.NBT.3) 	Recognize patterns when multiplying by groups of five and 10.	
CC: Measurement and Data (3.MD) Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.	The student will be able to: <ul style="list-style-type: none"> Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters. (3.MD.8) 	Apply an array model to demonstrate an understanding of multiplication.	

**Danville District No. 118
Mathematics – Third Grade
Curriculum and Scope and Sequence
Third Quarter**

Common Core – Operations and Algebraic Thinking (3.OA)
Common Core – Number and Operations in Base Ten (3.NBT)
Common Core – Number and Operations – Fractions (3.NF)
Common Core – Measurement and Data (3.MD)
Common Core – Geometry (3.G)

State Standard	Objectives	Action Plan	Resources
<p>CC: Number and Operations - Fractions</p> <p>Develop understanding of fractions as numbers.</p>	<p>The student will be able to:</p> <ul style="list-style-type: none"> • Understand a fraction $1/b$ as 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 sizes $1/b$. (3.NF.1) • Understand a fraction as a number on the number line; represent fractions on a number line diagram (3.NF.2) <ul style="list-style-type: none"> ○ Represent a fraction $1/b$ on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. (3.NF.2a) ○ Represent a fraction a/b on a number line diagram by marking off a lengths $1/b$ from 0. (3.NF.2b) • Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. (3.NF.3) <ul style="list-style-type: none"> ○ Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. (3.NF.3a) ○ Recognize and generate simple equivalent fractions, e.g., $1/2 = 2/4$, $4/6 = 2/3$. (3.NF.3b) ○ Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. (3.NF.3c) ○ Compare two fractions with the same numerator 	<p>Identify and divide regions into equal sized parts.</p> <p>Know the names for fractional parts that apply to a whole region.</p> <p>Identify variables as unknown quantities.</p> <p>Find and write fractions on a number line.</p> <p>Shade a portion of paper strips and estimate the fractional part that is represented.</p> <p>Use fraction strips to</p>	<p><i>enVision Math</i></p> <p>Topic 9- Understanding Fractions</p> <p>Topic 10- Fraction Comparison and Equivalence</p> <p>Topic 11-Two Dimensional Shapes and their Attributes</p> <p>Topic 12-Time</p> <p>Centimeter grid paper</p>

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	<p>or the same denominator by reasoning about their size. (3.NF.3d)</p>	<p>solve problems.</p> <p>Demonstrate fractional order by placing quantities from least to greatest on a number line.</p> <p>Examine fractions with the same numerator and conclude those with a larger denominator are the lesser fraction.</p> <p>Determine that there is more than one fractional name that identifies a specific point on a number line.</p>	<p>– TT11</p> <p>Crayons</p> <p>Two color counters</p> <p>Paper strips</p> <p>Number lines</p> <p>Fraction strips – TT22</p> <p>Fraction Cards – TT20 and TT21</p> <p>Fractions – TT45</p>
<p><u>CC: Operations and Algebraic Thinking</u></p> <p>Represent and solve problems involving multiplication and division.</p>	<p>The student will be able to:</p> <ul style="list-style-type: none"> Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. (3.OA.3) 	<p>Construct a diagram or picture to represent fractional parts.</p> <p>Make a table and search for patterns to solve problems.</p>	<p>Use Objects and Draw a Picture – TT42</p>

<p>CC: Geometry</p> <p>Reason with shapes and their attributes.</p>	<p>The student will be able to:</p> <ul style="list-style-type: none"> Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). (3.G.1) Partition shapes into parts with equal areas. (3.G.2) 	<p>Identify and draw line segments using a straightedge.</p> <p>Create angles with pipe cleaners or paper strips and secure with fasteners.</p> <p>Demonstrate right, obtuse, and acute angles.</p> <p>Draw shapes based on mathematical riddles that indicate sides, polygons, and vertices.</p> <p>Sort shapes by sides and lengths of angles.</p> <p>Divide polygons or put together to make new shapes.</p>	<p>Geoboards</p> <p>Pentominoes</p> <p>Shape manipulatives</p> <p>Ruler</p> <p>Pipe cleaners</p> <p>Dot paper – TT14</p> <p>Tangrams – TT28</p> <p>Polygons – TT29</p> <p>Triangles – TT43</p> <p>Quadrilaterals – TT44</p>
<p>CC: Measurement and Data</p> <p>Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.</p>	<p>The student will be able to:</p> <ul style="list-style-type: none"> Tell and write time to the nearest minute and measure time intervals in minutes. (3.MD.1) 	<p>Represent fractions on the clock. For example $\frac{1}{2}$, $\frac{1}{4}$, etc.</p> <p>Calculate the duration of an event</p>	<p>Clock model – TT25</p> <p>ENO Board</p> <p>Visual Bridge – Interactive component</p> <p>enVision</p>

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		<p>based on start and end time.</p> <p>Represent time in units.</p> <p>Compare and contrast analog vs. digital clocks.</p>	<p>AIMSweb – M-CAP</p> <p>AIMSweb – M-COMP</p>
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**Danville District No. 118
Mathematics – Third Grade
Curriculum and Scope and Sequence
Fourth Quarter**

Common Core – Operations and Algebraic Thinking (3.OA)
Common Core – Number and Operations in Base Ten (3.NBT)
Common Core – Number and Operations – Fractions (3.NF)
Common Core – Measurement and Data (3.MD)
Common Core – Geometry (3.G)

State Standard	Objectives	Action Plan	Resources
<p>CC: Measurement and Data</p> <p>Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.</p> <p>Represent and interpret data.</p> <p>Geometric measurement: understand concepts of area and relate area to multiplication and to addition.</p> <p>Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.</p>	<p>The student will be able to:</p> <ul style="list-style-type: none"> • Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). (3.MD.2) • Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. (3.MD.3) • Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. (3.MD.4) • Recognize area as an attribute of plane figures and understand concepts of area measurement. (3.MD.5) <ul style="list-style-type: none"> ○ A square with side length 1 unit, called “a unit square,” is said to have “one square unit” of area, and can be used to measure area. (3.MD.5a) ○ A plane figure which can be covered without gaps or overlaps by n unit square is said to have an area of n square units. (3.MD.5b) • Measure areas by counting unit squares (square cm, square m, square in, square ft., and improvised units). (3.MD.6) • Relate area to the operations of multiplication and addition. (3.MD.7) <ul style="list-style-type: none"> ○ Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying 	<p>Identify geometric shapes and determine the distance around the figure.</p> <p>Utilize appropriate tools to find perimeter of polygons.</p> <p>Match shapes to a given perimeter</p> <p>Count and determine square units of a region.</p> <p>Use standards units and counting to determine the area of</p>	<p><i>enVision Math</i></p> <p>Topic 13- Perimeter</p> <p>Topic 14- Area</p> <p>Topic 15- Liquid Volume & Mass</p> <p>Topic 16- Data</p> <p>Centimeter grid paper</p> <p>Ruler</p> <p>Yardstick</p> <p>Straws</p>

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	<p>the side lengths. (3.MD.7a)</p> <ul style="list-style-type: none"> ○ Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning. (3.MD.7b) ○ Use tiling to show in a concrete case that the area of rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$. (3.MD.7c) ○ Recognize area as additive. (3.MD.7d) <ul style="list-style-type: none"> • Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters. (3.MD.8) 	<p>a shape.</p> <p>Apply a formula to determine the area of a rectangle.</p> <p>Use the area of a rectangle to model Distributive Property.</p> <p>Solve complex problems for determining area and perimeter of irregular shapes.</p> <p>Use appropriate tools to estimate and measure cups, pints, quarts, gallons, liters, and milliliters.</p> <p>Use appropriate tools to determine mass in grams, kilograms, pounds, and ounces</p> <p>Solve problems by creating visual representations.</p> <p>Record data on a line plot as a method to organize findings from an experiment.</p>	<p>Craft sticks</p> <p>Assorted sizes of containers to determine capacity</p> <p>Pan balance</p> <p>Dollar bill</p> <p>Stapler</p> <p>Line plot – TT48</p> <p>Pictograph</p> <p>Bar Graph</p> <p>Sandwich Survey – TT30</p> <p>Per of Common Shapes – TT46</p> <p>Customary Units of Capacity – TT47</p> <p>Pictographs and Bar Graphs – TT49</p> <p>Pictographs – TT50</p> <p>ENO Board</p> <p>Visual Bridge – Interactive component enVision</p>
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		<p>Read and interpret data from line plots, pictographs, and bar graphs.</p> <p>Gather data and construct graphs.</p>	<p>AIMSweb – M-CAP</p> <p>AIMSweb – M-COMP</p>
<p>CC: Geometry</p> <p>Reason with shapes and their attributes.</p>	<p>The student will be able to:</p> <ul style="list-style-type: none"> Partition shapes into parts with equal areas. (3.G.2) 	<p>Create shapes with given areas.</p> <p>Match shapes to a given area or perimeter.</p>	