Grade 4 ~ MATH ~ St. Bernard School Curriculum Map

<table>
<tr><td colspan="2">Subject: Math</td><td>Grade: 4</td></tr>
<tr><td>Dates:</td><td>Essential Questions:</td><td>Standards:</td></tr>
<tr><td>Trimester 1</td><td>❖ How does place value help represent the value of numbers?
❖ What strategies can I use to add or subtract?
❖ How are multiplication and division related?
❖ How can I communicate multiplication?
❖ How can I multiply by a two-digit number?</td><td>➢ CCSS.MATH.CONTENT.4.NBT.1 CCSS.MATH.CONTENT.4.NBT.2
➢ CCSS.MATH.CONTENT.4.NBT.3 CCSS.MATH.CONTENT.4.NBT.4
➢ CCSS.MATH.CONTENT.4.NBT.5 CCSS.MATH.CONTENT.4.NBT.6
➢ CCSS.MATH.CONTENT.4.OA.1 CCSS.MATH.CONTENT.4.OA.2
➢ CCSS.MATH.CONTENT.4.OA.3 CCSS.MATH.CONTENT.4.OA.4
➢ CCSS.MATH.CONTENT.4.OA.5</td></tr>
<tr><td colspan="2">Content:</td><td>Objectives:</td></tr>
<tr><td colspan="2">Numbers and Operations in Base Ten
• 1 Place-value
o A digit in each place represents ten times what it represents in the place to its right
o A digit in the hundred thousands place a has a value of 100,000 times the digit
o A digit in the thousands place has a value of 1,000 times the digit
o Standard form show only digits
o Expanded form shows the sum of the value of the digits
o Word form uses words to represent numbers
o Use the symbols <, >, and = to compare two numbers
o Use a place value chart
o Use a number line
o Numbers can be rounded to different place value positions
o Rounded numbers are easier to work with when solving problems
o Use place value to write and compare
o
• 2 Add and Subtract Whole Numbers
o There are different ways to round numbers
o Rounding can be used to estimate sums and differences
o Begin by adding or subtracting the ones then the tens and so on
o Regroup if necessary
o A variable can be used to represent the unknown quantity in an equation
o Mental math can be used to check the reasonableness of answers</td><td>1 Place Value
o Identify the place value of digits in multi-digit numbers
o Read and write multi-digit whole numbers.
o Compare numbers using a number line and a place-value chart.
o Order numbers by using a place-value chart and comparing the digit values.
o Estimate numbers by rounding

2 Add and Subtract Whole Numbers
o Use addition properties and subtraction rules to add and subtract
o Use patterns to solve addition and subtraction problems
o Use mental math to add and subtract
o Estimate sums and differences of multi-digit numbers
o Add multi digit whole numbers
o Subtract multi-digit whole numbers
o Subtract multi-digit numbers, when some digits are zeros
o Solve problems by drawing a diagram
o Solve multi-step word problems using addition and subtraction</td></tr>
</table>

Grade 4 ~ MATH ~ St. Bernard School Curriculum Map

○ A given rule can bused to generate terms in a pattern of numbers ○ Other features of number patterns that are not described by a rule can be identified. • **3 Understand Multiplication and Division** ○ Multiplication and division are opposite operations ○ Multiplication facts can be used to solve division problems ○ The operations of subtraction and division are related ○ One way to divide numbers is to use repeated subtraction ○ Phrases like times as many, times more, and times as much indicate comparison problems. ○ Verbal comparison statements can be represented using multiplication equations ○ The commutative property of multiplication states that the order in which numbers are multiplied does not change the product ○ The Associate Property of Multiplication states that the way in which numbers are grouped when they are multiplied does not change the product. ○ A number can be broken down or decomposed into its factors ○ A Whole number is a multiple of each of its factors. • **4 Multiply with One-digit numbers** ○ Use concepts of place value ○ Use basic facts and patterns to multiply ○ One way is to round to the greatest place value ○ Use basic facts and patterns to multiply ○ Use base ten block to model the problem ○ Use place value to find the product ○ The distributive property makes multiplying greater numbers easier ○ The distributive property combines multiplication and addition ○ Multiply the one digit number by the digit in each place of the greater number, beginning with the ones place.	**3 Understand Multiplication and Division** ○ Understand how multiplication and division are related ○ Relate division and subtraction ○ Recognize the comparison of two groups as another strategy to use when multiplying. ○ Use comparison to solve problems ○ Use multiplication properties and division rules. ○ Use the Associate Property of Multiplication to solve problems ○ Find factors and multiples of whole numbers ○ Check Answers for reasonableness. **4 Multiply with One-digit Numbers** ○ Multiply multiples of 10, 100, and 1,000 using basic facts and patterns ○ Estimate products by rounding ○ Explore multiplication using models ○ Explore multiplication using area models and partial products ○ Multiply a two-digit number by a one-digit number. ○ Explore multiplication with regrouping using models ○ Use the distributive property to make multiplication easier ○ Multiply a two digit number by a one digit number ○ Multiply a multi-digit number by a one digit number ○ Determine if a problem needs an estimate or an exact answer ○ Multiply multi-digit numbers with zeros by a one digit number.

Grade 4 ~ MATH ~ St. Bernard School Curriculum Map

<table>
<tr>
<td>

- **5 Multiply with Two-Digit Numbers**
  - The Associative Property of Multiplication can be used to multiply two numbers mentally
  - Round each number to the nearest 10
  - If both factors are rounded up, the estimate is greater than the actual product
  - If both factors are rounded down, the estimate is less than the actual product.
  - The Distributive property can uised to multiply two two-digit numbers
  - Use partial products
  - Use standard algorithm
  - Use equations with a variable to represent the unknown quantity
  - Use estimation to check that the answer is reasonable

</td>
<td>

5 Multiply with two-digit Numbers

- Use problems and algorithms to multiply by tens
- Estimate products by rounding
- Explore multiplying by two-digit numbers
- Multiplying two, two-digit numbers
- Use multiplication to solve multi-step word problems
- Solve problems by making a table

</td>
</tr>
<tr>
<td>Assessments:</td>
<td>Materials:</td>
</tr>
<tr>
<td>

Daily/Weekly formative assessments

- Exit tickets
- Verbal responses
- Performance tasks
- Exhibitions/demonstrations
- “Guided Practice” activities
- Essential question reflections/responses
- Observations
- Self/peer evaluation
- rubrics

</td>
<td>

- “My Math” text (vol. 1 and 2)
- “My Math: Interactive Guide”
- “My Math: Think Smart for the Smarter Balanced Assessment”
- “My Math: Real-World Problem-Solving Readers”
- My Math: Assessment Masters”
- Projector
- Large white-board
- Mini-Whiteboards
- Manipulatives

</td>
</tr>
</table>

Grade 4 ~ MATH ~ St. Bernard School Curriculum Map

Chapter/Unit summative assessments	• Digital resources ▪ https://www.mathsisfun.com/ ▪ https://www.khanacademy.org/ ▪ https://www.ixl.com/ ▪ http://www.webmath.com/ ▪ https://www.freemathhelp.com/ ▪ https://www.freemathhelp.com/ ▪ https://www.math-drills.com/ ▪ http://www.k5learning.com/free-math-worksheets ▪ http://www.math-aids.com/ ▪ https://www.mathworksheetsland.com/ ▪ https://www.worksheetworks.com/math.html

Grade 4 ~ MATH ~ St. Bernard School Curriculum Map

<table>
<tr><td colspan="2">Subject: Math</td><td>Grade: 4</td></tr>
<tr><td>Dates:</td><td>Essential Questions:</td><td>Standards:</td></tr>
<tr><td>Trimester 2</td><td>❖ How does division affect numbers?
❖ How are Patterns used in Mathematics?
❖ How can different fractions name the same amount?
❖ How can I use operations to model real world fractions?
❖ How are fractions and decimals related?</td><td>➢ CCSS.MATH.CONTENT.4.OA.4
➢ CCSS.MATH.CONTENT.4.NF.1
➢ CCSS.MATH.CONTENT.4.NF.2
➢ CCSS.MATH.CONTENT.4.NF.3a
➢ CCSS.MATH.CONTENT.4.NF.3b
➢ CCSS.MATH.CONTENT.4.NF.3c
➢ CCSS.MATH.CONTENT.4.NF.3d
➢ CCSS.MATH.CONTENT.4.NF.4a
➢ CCSS.MATH.CONTENT.4.NF.4b
➢ CCSS.MATH.CONTENT.4.NF.5
➢ CCSS.MATH.CONTENT.4.NF.6
➢ CCSS.MATH.CONTENT.4.NF.7</td></tr>
<tr><td colspan="2">Content:</td><td>Objectives:</td></tr>
<tr><td colspan="2">Numbers and Operations in Base Ten
• 6 Divide by a One-digit Number
o Use base-ten blocks
o Divide by forming equal groups
o The amount left over when a number cannot be divided into equal groups is the remainder
o Depending on the problem, the amount left over may be dropped, raised to the next number, or become part of the answer.
o Estimation is used at each step of the division algorithm
o Estimation is used to check
o Reasonableness of solutions
o Use basic facts and patterns
o Connect multiplication and division using fact families and inverse operations
o The algorithm use to find 1 digit quotients can be used find greater quotient.</td><td>6 Divide by a One-digit Number
o Use basic facts and patterns to divide mentally
o Estimate quotients using compatible numbers, basic facts and place value.
o Use place value and models to explore dividing by one-digit numbers
o Solve problems by making a model
o Divide with remainders and check using multiplication and addition.
o Interpret what the remainder means in the context if division problem.
o Determine where to place the first digit dividing
o Use the Distributive Property and partial quotients to divide.
o Solve division problems with greater numbers.
o Solve division problems that result in quotients that gave zeros
o Solve multi-step word problems using more than one operation.</td></tr>
</table>

Grade 4 ~ MATH ~ St. Bernard School Curriculum Map

Operations in Algebraic Thinking

- **7 Patterns and Sequences**
  - Find a rule that describes the relationship between the numbers in a pattern
  - Use the rule to extend the pattern
  - A sequence is an arrangement of terms in a pattern
  - Features of sequence that are not describe by a rule can be identified.
  - Write an equation to describe a pattern between the input and output numbers in a table
  - Use equations to extend patterns.
  - Rules that tell which operations to perform first are called the order of operations
  - The order of operations ensures that a problem can have only one correct answers.
  - Represent real life situations using equations with two or more operations
  - Substitute input values into equations to find output values

Number and Operations- Fractions

- **8 Fractions**
  - A whole number is a multiple of each of its factors
  - Fractions that represent the same part of a number are equivalent
  - The parts of equivalent fractions may be different, but the two fractions themselves are the same size
  - Multiplication and division can be used to find equivalent fractions
  - To create an equivalent fraction, multiply or divide the numerator and denominator of a fraction by the same number
  - Two fractions with different numerators and denominator of a fraction by the same number
  - Two fractions with different numerators and different numerators and different denominators can be compared using a benchmark fraction
  - A benchmark fraction is a common fraction like ½

7 Patterns and Sequences

- Describe nonnumeric growing and repeating patterns

- Identify, describe, and extend numeric patterns
- Extend patterns and write observation about the pattern
- Look for a pattern to solve problems
- Find and use rules to write addition and subtraction equations
- Find and use rules to write multiplication and division equations.
- Use the order of operations to solve problems
- Explore equations with two operations
- Use table s to recognize and write equations with two or more operations

8 Fractions

- Find Factors and multiples of whole numbers
- Determine if a number is prime or composite
- Explore equivalent fractions
- Find equivalent fractions
- Write a fraction in simplest form.
- Compare and order fractions.
- Use benchmark fractions to compare and order numbers.
- Use logical reasoning to solve problems
- Represent mixed numbers by decomposing them into a sum of whole numbers and fruit and unit fractions.
- Write mixed numbers and improper fractions.

Grade 4 ~ MATH ~ St. Bernard School Curriculum Map

<table>
<tr>
<td>

- **9 Operations with Fractions**
  - Fractions have the same denominators are called like fractions
  - Unit fractions can be used to model the addition of like fractions
  - Adding fractions is like joining parts and subtracting fractions is like separating parts of the same whole
  - To add or subtract like fractions, add or subtract the numerators and keep the same denominator
  - Replace mixed numbers with equivalent improper fractions
  - Check subtraction of mixed numbers by using addition
  - Use models
  - Use repeated addition
  - Use equations and properties

- **10 Fractions and Decimals**
  - A digit in one place represents 10 times what it represents in the place to its right
  - A base-ten model can be used to show tenths
  - A place value chart can be used to show tenths and hundredths
  - Use place value
  - Use a number line
  - Decimals and fractions can show equivalent amounts
  - Use models or number lines
  - Write the tenths fraction as an equivalent fraction with a denominator

-

</td>
<td>

9 Operations with Fractions

- Use models to add like fractions
- Add like fractions
- Use models to subtract like fractions
- Subtract like fractions
- Work backward to solve problems
- Add Mixed numbers
- Subtract mixed numbers
- Use models to multiply fraction
- Multiply fractions by whole numbers

10 Fractions and Decimals

- Explore using place value charts and grids to model decimals
- Model and describe tenths as part of the base-ten system
- Model and describe hundredths as part of the base ten system,
- Explore using grids and number lines to model the as relationship between decimals and fractions
- Identify, read, and write tenths and hundredths as decimals and fractions
- Use place value and equivalent fractions to add two fractions with respective denominators 10 and 100
- Compare and order decimals to hundredths by reasoning about their size
- Find extra or missing information when solving problems

</td>
</tr>
<tr>
<td>Assessments:</td>
<td>Materials:</td>
</tr>
<tr>
<td>

Daily/Weekly formative assessments

- Exit tickets
- Verbal responses
- Performance tasks
- Exhibitions/demonstrations
- “Guided Practice” activities
- Essential question reflections/responses

</td>
<td>

- “My Math” text (vol. 1 and 2)
- “My Math: Interactive Guide”
- “My Math: Think Smart for the Smarter Balanced Assessment”
- “My Math: Real-World Problem-Solving Readers”
- My Math: Assessment Masters”
- Projector
- Large white-board

</td>
</tr>
</table>

Grade 4 ~ MATH ~ St. Bernard School Curriculum Map

• Observations
• Self/peer evaluation
• rubrics
 	
Chapter/Unit summative assessments
	• Mini-Whiteboards
	• Manipulatives
	• Digital resources
	  ▪ https://www.mathsisfun.com/
	  ▪ https://www.khanacademy.org/
	  ▪ https://www.ixl.com/
	  ▪ http://www.webmath.com/
	  ▪ https://www.freemathhelp.com/
	  ▪ https://www.freemathhelp.com/
	  ▪ https://www.math-drills.com/
	  ▪ http://www.k5learning.com/free-math-worksheets
	  ▪ http://www.math-aids.com/
	  ▪ https://www.mathworksheetsland.com/
	  ▪ https://www.worksheetworks.com/math.html

Grade 4 ~ MATH ~ St. Bernard School Curriculum Map

<table>
<tr><td colspan="2">Subject: Math</td><td>Grade: 4</td></tr>
<tr><td>Dates:</td><td>Essential Questions:</td><td>Standards:</td></tr>
<tr><td>Trimester 3</td><td>❖ Why do we convert measurements?
❖ How can conversion of measurement help me solve real world problems?
❖ Why is it important to measure perimeter and area
❖ How are different ideas about geometry connected?</td><td>➢</td></tr>
<tr><td colspan="2">Content:</td><td>Objectives:</td></tr>
<tr><td colspan="2">Measurement and Data

• 11 Customary Measurement
o Inch, foot, and yard are units of length in the customary system
o To convert larger units in the customary system to smaller units, multiply
o Capacity is the amount of liquid that a container can hold
o Cups, pints, quarts, and gallons are units of capacity in the customary system
o Ounces, pounds, and tons are units of weight in the customary system
o The method that was used to convert units of length, capacity, and weight can be used to convert units of time
o Measurements can be used recorded, in two column tables
o These line plots assemble rulers
o Use the line plots to solve problems involving addition and subtraction

• 12 Metric Measurement
o Millimeter, centimeter, meter, and kilometer are units of length in the metric system
o Before measuring the length of an object, first estimate the length to decide which unit of measurement is best to use
o Capacity is the amount of liquid that a container can hold
o Liter and milliliter are units of capacity in the metric system
o Mass is the amount of matter that an object has
o Mass is different than weight
o The method that was used to convert customary units can be used to convert metric units</td><td>11 Customary Measurement
o Estimate and measure length using customary units
o Convert customary units of length
o Estimate and measure customary capacities
o Convert customary units of capacity
o Estimate and measure customary units of Weight
o Convert customary units of weight
o Convert units in time
o Display measurement date in a line plot
o Solve problems involving measurement
o Solve problems using the guess, check, and revise strategy.

12 Metric Measurement
o Estimate and measure lengths within the metric system
o Estimate and measure metric capacities
o Estimate and measure mass and learn the difference between weight and mass
o Make an organized list to solve problems
o Convert metric units
o Solve problems involving measurement</td></tr>
</table>

Grade 4 ~ MATH ~ St. Bernard School Curriculum Map

○ To convert larger units to smaller units, multiply; to convert smaller units to larger units, divide. ○ If necessary convert so that all measurements in a problem have the same units ○ Use the four operations to solve • **13 Perimeter and Area** ○ Add side lengths ○ The perimeter of a rectangle is P= (2xl) + (2xw), where l is the length and w is the width. ○ The perimeter of a square is P=4s, where "s" is the length ○ Count unit squares ○ Use the formula A=LxW ○ Use the Formula A=S x S ○ Two rectangles can have the same perimeters, the same areas, or both. • **14 Geometry** ○ Parallel lines are the same distance apart and never meet ○ Perpendicular lines form right angles ○ Use a protractor ○ Use degrees to describe the angle measures ○ Use the measures of the angles ○ Triangles may be acute (all acute angles), right (1 right angles, or obtuse (1 obtuse angle) ○ Classify the angles ○ Determine if there are any sides that are parallel or perpendicular ○ A line of symmetry is a line across a figure such that the figure can be folded along the line into matching parts	**13 Perimeter and Area** ○ Find the perimeter of a figure ○ Solve a simpler problem to solve problems ○ Explore the area of a figure ○ Find the areas of a rectangles and squares ○ Relate areas to perimeter **14 Geometry** ○ Draw points, lines, line segments, and rays and identify these in two dimensional figures ○ Draw Parallel, intersecting, and perpendicular lines and identify these in two dimensional figures ○ Understand concepts of angles and angle measurement ○ Use concepts of angle measurement to classify angles ○ Use a protractor to measure angles to the nearest degree. ○ Use a protractor to draw angles of a specific measure. ○ Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical situations. ○ Classify triangles based on angel measure and describe triangles using their attributes. ○ Identify figures with line symmetry and draw lines of symmetry ○ Solve problems
Assessments:	**Materials:**
Daily/Weekly formative assessments • Exit tickets	• "My Math" text (vol. 1 and 2) • "My Math: Interactive Guide"

Grade 4 ~ MATH ~ St. Bernard School Curriculum Map

• Verbal responses • Performance tasks • Exhibitions/demonstrations • "Guided Practice" activities • Essential question reflections/responses • Observations • Self/peer evaluation • rubrics Chapter/Unit summative assessments	• "My Math: Think Smart for the Smarter Balanced Assessment" • "My Math: Real-World Problem-Solving Readers" • My Math: Assessment Masters" • Projector • Large white-board • Mini-Whiteboards • Manipulatives • Digital resources ▪ https://www.mathsisfun.com/ ▪ https://www.khanacademy.org/ ▪ https://www.ixl.com/ ▪ http://www.webmath.com/ ▪ https://www.freemathhelp.com/ ▪ https://www.freemathhelp.com/ ▪ https://www.math-drills.com/ ▪ http://www.k5learning.com/free-math-worksheets ▪ http://www.math-aids.com/ ▪ https://www.mathworksheetsland.com/ ▪ https://www.worksheetworks.com/math.html