St. Peter School   **Quincy, Illinois**

Grade 3 Math

Diary map is based on the 2017-2018 school year. Information may change year to year. Months are guidelines and items may be done at different times of the year.

Month	Essential Questions	Content	Skills	Assessment	Resources	Technology

Common Core Standards for Mathematical Content			**Common Core Standards for Mathematical Practice**			
Operations and Algebraic Thinking			MP.1	Make sense of problems and persevere in solving them.		
3.OA.A	Represent and solve problems involving multiplication and division.		MP.2	Reason abstractly and quantitatively.		
3.OA.B	Understand properties of multiplication and the relationship between multiplication and division.		MP.3	Construct viable arguments and critique the reasoning of others.		
			MP.4	Model with mathematics.		
3.OA.C	Multiply and divide within 100.		MP.5	Use appropriate tools strategically.		
3.OA.D	Solve problems involving the four operations and identify and explain patterns in arithmetic.		MP.6	Attend to precision.		
			MP.7	Look for and make use of structure.		
			MP.8	Look for and express regularity in repeated reasoning.		
Number and Operations in Base Ten						
3.NBT.A	Use place value understanding and properties of operations to perform multi-digit arithmetic.		*Practice standards are ongoing all year.			
Number and Operations—Fractions						
3.NF.A	Develop understanding of fractions as numbers.					
Measurement and Data						
3.MD.A	Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.					
3.MD.B	Represent and interpret data.					
3.MD.C	Geometric measurement: understand concepts of area and relate area to multiplication and to addition.					
3.MD.D	Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.					
Geometry						
3.G.A	Reason with shapes and their attributes.					
Aug.-Sept. **Standards:** 3.NBT.A.1	**Place Value** How can numbers be expressed, ordered and compared?	**Place Value** -Place value through thousands -Compare numbers -Order numbers -Round to the nearest ten -Round to the nearest hundred -Problem solving	**Place Value** -Read, write, and identify place value of whole numbers through thousands -Use place value to compare numbers -Use number line and place value to order numbers through thousands	**Place Value** McGraw-Hill *My Math* Grade 3, Volume 1 (2016) -student book -assessment masters	**Place Value** McGraw-Hill *My Math* Grade 3, Volume 1 (2016) -student book -assessment masters -Worksheets (teacher created) -Base-ten blocks	**Place Value** -Elmo -SMART Board

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			-Round numbers to the nearest ten -Round numbers to the nearest hundred -Use the four-step plan to solve problems			
Standards: 3.NBT.A.2 3.OA.D.9	**Addition** How can place value help to add larger numbers?	**Addition** -Addition Properties (Associative, Commutative, Identity) -Patterns in the addition table -Addition patterns -Estimation of sums -Add three and four-digit numbers -Problem solving	**Addition** -Use the addition properties to add whole numbers -Identify patterns in the addition table -Use place value to identify addition patterns -Estimate sums using rounding -Add three and four-digit numbers with regrouping -Use the four-step plan to solve problems	**Addition** McGraw-Hill *My Math* Grade 3, Volume 1 (2016) -student book -assessment masters	**Addition** McGraw-Hill *My Math* Grade 3, Volume 1 (2016) -student book -assessment masters -Worksheets (teacher created)	**Addition** -Elmo -SMART Board
Oct. **Standards:** 3.NBT.A.2	**Subtraction** How are the operations of subtraction and addition related?	**Subtraction** -Estimation of differences -Subtraction with regrouping -Subtraction of three and four-digit numbers -Subtraction across zeros -Problem Solving: Estimate or Exact Answer	**Subtraction** -Estimate differences using rounding to the nearest ten or hundred -Use regrouping to subtract three and four digit numbers -Use regrouping to subtract across zeros -Determine whether an estimate or an exact answer is needed to solve a problem	**Subtraction** McGraw-Hill *My Math* Grade 3, Volume 1 (2016) -student book -assessment masters	**Subtraction** McGraw-Hill *My Math* Grade 3, Volume 1 (2016) -student book -assessment masters -Worksheets (teacher created)	**Subtraction** -Elmo -SMART Board
Standards: 3.OA.A.1 3.OA.A.3	**Understand Multiplication** What does multiplication	**Understand Multiplication** -Hands on model	**Understand Multiplication** -Use models to explore	**Understand Multiplication** McGraw-Hill *My Math*	**Understand Multiplication** McGraw-Hill *My Math*	**Understand Multiplication** -Elmo

Month	Essential Questions	Content	Skills	Assessment	Resources	Technology
	mean?	multiplication -Multiplication as repeated addition -Arrays and Multiplication -Commutative Property -Problem-Solving: Make a Table -Multiplication to find combinations	the meaning of multiplication -Relate multiplication and addition -Use arrays to explore and model multiplication -Use the make a table strategy to solve problems -Use multiplication to find the total number of combinations that can be made when given two groups of objects	Grade 3, Volume 1 (2016) -student book -assessment masters	Grade 3, Volume 1 (2016) -student book -assessment masters -Worksheets (teacher created)	-SMART Board
Nov. **Standards:** 3.OA.A.2 3.OA.C.7	**Understand Division** What does division mean?	**Understand Division** -Hands on model division -Division as equal sharing -Division and subtraction relationship -Relate division and multiplication -Inverse operations -Problem-solving	**Understand Division** -Explore two meanings of division -Model division as equal sharing -Use models to relate division and subtraction -Explore how division and multiplication are related -Divide using related multiplication facts -Use models to solve problems	**Understand Division** McGraw-Hill *My Math* Grade 3, Volume 1 (2016) -student book -assessment masters	**Understand Division** McGraw-Hill *My Math* Grade 3, Volume 1 (2016) -student book -assessment masters -Worksheets (teacher created)	**Understand Division** -Elmo -SMART Board
Dec. **Standards:** 3.OA.D.9 3.OA.A.3 3.OA.A.4	**Multiplication and Division Patterns** What is the importance of patterns in learning multiplication and division?	**Multiplication and Division Patterns** -Patterns in the multiplication table -Multiply by 2 -Divide by 2	**Multiplication and Division Patterns** -Identify and explain patterns in the multiplication table -Use arrays and drawings to multiply by 2 -Use models and related multiplication facts to	**Multiplication and Division Patterns** McGraw-Hill *My Math* Grade 3, Volume 1 (2016) -student book -assessment masters	**Multiplication and Division Patterns** McGraw-Hill *My Math* Grade 3, Volume 1 (2016) -student book -assessment masters -Worksheets (teacher created)	**Multiplication and Division Patterns** -Elmo -SMART Board

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Month	Essential Questions	Content	Skills	Assessment	Resources	Technology
			divide by 2			
Jan. **Standards:** 3.OA.D.9 3.OA.C.7 3.NBT.A.3	**Multiplication and Division Patterns** What is the importance of patterns in learning multiplication and division?	**Multiplication and Division Patterns** -Multiply by 5 -Divide by 5 -Problem-solving: Look for a Pattern -Multiply by 10 -Multiples of 10 -Divide by 10	**Multiplication and Division Patterns** -Use different strategies, including patterns, to multiply by 5 -Use different strategies, including related multiplication facts, to divide by 5 -Solve problems by looking for a pattern -Use different strategies, including patterns, to multiply by 10 -Use basic facts and patterns to multiply a number by a multiply of 10 -Use different strategies, including related multiplication facts, to divide by 10	**Multiplication and Division Patterns** McGraw-Hill *My Math* Grade 3, Volume 1 (2016) -student book -assessment masters -Multiplication fact quizzes (teacher created)	**Multiplication and Division Patterns** McGraw-Hill *My Math* Grade 3, Volume 1 (2016) -student book -assessment masters -Worksheets (teacher created)	**Multiplication and Division Patterns** -Elmo -SMART Board
Feb. **Standards:** 3.OA.A.3 3.OA.A.4 3.OA.D.9 3.OA.A.2	**Multiplication and Division** What strategies can be used to learn multiplication and division facts?	**Multiplication and Division** -Multiply by 3 -Divide by 3 -Double a known fact -Multiply by 4 -Divide by 4 -Problem Solving Investigation: Extra or Missing Information -Multiply by 0 and 1 -Divide with 0 and 1	**Multiplication and Division** -Use different strategies such as arrays, equal groups, and properties to multiply by 3 -Use different strategies, including related multiplication facts, to divide by 3 -Explore how to double a known fact in order to multiply -Double a known fact to multiply by 4	**Multiplication and Division** McGraw-Hill *My Math* Grade 3, Volume 1 (2016) -student book -assessment masters -Multiplication fact quizzes (teacher created)	**Multiplication and Division** McGraw-Hill *My Math* Grade 3, Volume 1 (2016) -student book -assessment masters -Worksheets (teacher created)	**Multiplication and Division** -Elmo -SMART Board -iPad -Variety of math apps

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			-Use different strategies, including related multiplication facts, to divide by 4 -Solve a problem by identifying extra or missing information -Use different strategies such as equal groups, patterns, and properties to multiply by 0 and 1 -Use division rules to divide with 0 and 1				
Standards: 3.OA.A.3 3.OA.D.9 3.OA.C.7	**Apply Multiplication and Division** How can multiplication and division facts with smaller numbers be applied to larger numbers?	**Apply Multiplication and Division** -Multiply by 6 -Multiply by 7 -Divide by 6 and 7	**Apply Multiplication and Division** -Use different strategies, including doubling a known fact, to multiply by 6 -Use different strategies such as properties, arrays, and decomposing factors to multiply by 7 -Use different strategies, including arrays and repeated subtraction, to divide by 6 and 7	**Apply Multiplication and Division** McGraw-Hill *My Math* Grade 3, Volume 1 (2016) -student book -assessment masters -Multiplication fact quizzes (teacher created)	**Apply Multiplication and Division** McGraw-Hill *My Math* Grade 3, Volume 1 (2016) -student book -assessment masters -Worksheets (teacher created)	**Apply Multiplication and Division** -Elmo -SMART Board -iPad -Variety of math apps	Commented [PH1]:
March **Standards:** 3.OA.D.9 3.OA.A.3	**Apply Multiplication and Division** How can multiplication and division facts with smaller numbers be applied to larger numbers?	**Apply Multiplication and Division** -Multiply by 8 -Multiply by 9 -Divide by 8 and 9 -Area of rectangles	**Apply Multiplication and Division** -Use different strategies, such as arrays, drawings, and known facts to multiply by 8 -Use different strategies, such as properties, known facts, or patterns, to multiply by 9	**Apply Multiplication and Division** McGraw-Hill *My Math* Grade 3, Volume 1 (2016) -student book -assessment masters -Multiplication fact quizzes (teacher created)	**Apply Multiplication and Division** McGraw-Hill *My Math* Grade 3, Volume 1 (2016) -student book -assessment masters -Worksheets (teacher created)	**Apply Multiplication and Division** -Elmo -SMART Board -iPad -Variety of math apps	

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			-Use different strategies, such as equal groups, repeated subtraction, and related multiplication facts, to divide by 8 and 9 -Understand what area represents			
April **Standards:** 3.OA.A.1 3.OA.A.2	**Apply Multiplication and Division** How can multiplication and division facts with smaller numbers be applied to larger numbers?	**Apply Multiplication and Division** -Problem-Solving Investigation: Make an Organized List -Multiply by 11 and 12 -Divide by 11 and 12	**Apply Multiplication and Division** -Make an organized list to solve problems -Use different strategies, such as patterns, models, and arrays, to multiply by 11 and 12 -Use different strategies, such as equal groups, repeated subtraction, and related facts, to divide by 11 and 12	**Apply Multiplication and Division** McGraw-Hill *My Math* Grade 3, Volume 1 (2016) -student book -assessment masters	**Apply Multiplication and Division** McGraw-Hill *My Math* Grade 3, Volume 1 (2016) -student book -assessment masters -Worksheets (teacher created)	**Apply Multiplication and Division** -Elmo -SMART Board -iPad -Variety of math apps
Standards: 3.OA.B.5 3.OA.D.8	**Properties and Equations** How are properties and equations used to group numbers?	**Properties and Equations** -Hands on: Take Apart to Multiply -The Distributive Property -Hands on: Multiply Three Factors -The Associative Property -Write Expressions -Evaluate Expressions -Write Equations -Solve Two-Step Word Problems -Problem-Solving	**Properties and Equations** -Explore how to take apart factors to multiply -Apply the Distributive Property of Multiplication to find products -Explore how to find the product of three factors -Apply the Associative Property of Multiplication to find products -Write expressions using the four operations	**Properties and Equations** McGraw-Hill *My Math* Grade 3, Volume 1 (2016) -student book -assessment masters	**Properties and Equations** McGraw-Hill *My Math* Grade 3, Volume 1 (2016) -student book -assessment masters	**Properties and Equations** -Elmo -SMART Board -iPad -Variety of math apps

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		Investigation: Use Logical Reasoning	-Write then find the value expressions -Represent one-and two-step word problems using equations with a variable -Represent and solve two-step word problems using equations with a variable -Use logical reasoning to solve problems			
May **Standards:** 3.NF.A.1 3.NF.A.2B 3.NF.A.3B 3.NF.A.3C 3.NF.A.3D	**Fractions** How can fractions be used to represent numbers and their parts?	**Fractions** -Unit Fractions -Part of a Whole -Part of a Set -Problem-Solving Investigation: Draw a Diagram -Hands on: Fractions on a Number Line -Equivalent Fractions -Fractions as one whole -Compare Fractions	**Fractions** -Explore and model unit fractions -Read and write fractions that name part of a whole -Use models to represent fractions that name part of a set -Draw a diagram to solve problems -Represent fractions on a number line -Use models to find equivalent fractions -Express whole numbers as fractions and recognize fractions equivalent to whole numbers -Use models to compare 2 fractions and record the results	**Fractions** McGraw-Hill *My Math* Grade 3, Volume 1 (2016) -student book -assessment masters	**Fractions** McGraw-Hill *My Math* Grade 3, Volume 1 (2016) -student book -assessment masters	**Fractions** -Elmo -SMART Board -iPad -Variety of math apps