Saint Anthony of Padua School
Into Math Curriculum
Grade 5

Unit 1: Whole Numbers, Expressions, and Volume

Module	Lessons	Standards
M1: Whole Number Place Value and Multiplication	Recognize the 10 to 1 Relationship Among Place-Value Positions	**5.NBT.A.1** Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it presents in the place to its left.
	Use Powers of 10 and Exponents	**5.NBT.A.2** Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.
	Use a Pattern to Multiply by Multiples of 10, 100, and1,000	
	Multiply by 1-Digit Numbers	**5.NBT.B.5** Fluently multiply multi-digit whole numbers using the standard algorithm.
	Multiply by Multi-Digit Numbers	
	Develop Multiplication Fluency	
M2: Understand Division of Whole Numbers	Relate Multiplication to Division	**5.NBT.B.6** Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
	Represent Division with 2-Digit Divisors	
	Estimate with 2-Digit Divisors	
	Use Partial Quotients	
M3: Practice Division of Whole Numbers	Divide by 2-Digit Divisors	**5.NBT.B.6** Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
	Interpret the Remainder	**5.NF.B.3** Interpret a fraction as division of the numerators by the denominator (a/b = a ÷ b). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent

		the problem.
	Adjust Quotients	**5.NBT.B.6** Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
	Practice with Division	
M4: Expressions	Write Numerical Expressions	**5.OA.A.1** Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.
		5.OA.A.2 Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating the,
	Interpret Numerical Expressions	
	Evaluate Numerical Expressions	**5.OA.A.1** Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.
	Use Grouping Symbols	
M5: Volume	Use Unit Cubes to Build Solid Figures	**5.MD.C.3a** A cube with side length 1 unit, called a “unit cube,” is said to have “one cubic unit” of volume, and can be used to measure volume.
	Understand Volume	**5.MD.C.3b** A solid figure which can be packed without gaps or overlaps using *n* unit cubes is said to have a volume of *n* cubic units.
		5.MD.C.4 Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.
	Estimate Volume	
	Find Volume of Right Rectangular Prisms	**5.MD.C.5a** Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.
		5.MD.C.5b Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prism with whole number edge lengths in the context of solving real world and mathematical problems.
	Find Volume of Composed Figures	**5.MD.C.5c** Recognize volumes as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this

		technique to solve real world problems.

Unit 2: Add and Subtract Fractions and Mixed Numbers

Module	Lessons	Standards
M6: Understand Addition and Subtraction of Fractions with Unlike Denominators	Represent Fraction Sums and Differences	**5.NF.A.2** Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions to estimate mentally and assess the reasonableness of answers.
	Represent Addition with Different-Sized Parts	
	Represent Subtraction with Different-Sized Parts	
	Rewrite Fractions with a Common Denominator	**5.NF.A.1** Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.
M7: Add and Subtract Fractions and Mixed Numbers with Unlike Denominators	Use Benchmarks and Number Sense to Estimate	**5.NF.A.2** Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions to estimate mentally and assess the reasonableness of answers.
	Assess Reasonableness of Fraction Sums and Differences	**5.NF.A.1** Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.
	Assess Reasonableness of Mixed Number Sums and Differences	**5.NF.A.2** Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions to estimate mentally and assess the reasonableness of answers.
	Rename Mixed Numbers to Subtract	**5.NF.A.1** Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.
	Apply Properties of Addition	
	Practice Addition and Subtraction Using	**5.NF.A.2** Solve word problems involving addition and subtraction of

	Equations	fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions to estimate mentally and assess the reasonableness of answers.

Unit 3: Multiply Fractions and Mixed Numbers

Module	Lessons	Standards
M8: Understand Multiplication of Fractions	Explore Groups of Equal Shares to Show Multiplication	**5.NF.B.4** Interpret the product *(a/b) x q* as a part of *a* partitions of *q* into *b* equal parts; equivalently, as the result of a sequence of operations *a x q ÷ b*.
	Represent Multiplication of WHole Numbers by Fractions	
	Represent Multiplication with Unit Fractions	
	Represent Multiplication of Fractions	**5.NF.B.6** Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.
	Use Representations of Area to Develop Procedures	**5.NF.B.4** Interpret the product *(a/b) x q* as a part of *a* partitions of *q* into *b* equal parts; equivalently, as the result of a sequence of operations *a x q ÷ b*.
		5.NF.B.4b Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.
	Interpret Fraction Multiplication as Scaling	**5.NF.B.5** Interpret multiplication as scaling (resizing), by: (a) Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication. (b) Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing

		multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence *a/b = (n x a) / (n x b)* to the effect of multiplying *a/b* by 1.
	Multiply Fractions	**5.NF.B.4** Interpret the product *(a/b) x q* as a part of *a* partitions of *q* into *b* equal parts; equivalently, as the result of a sequence of operations *a x q ÷ b*.
M9: Understand and Apply Multiplication of Mixed numbers	Explore Area and Mixed Numbers	**5. NF.B4b** Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.
	Multiply Mixed Numbers	**5.NF.B.6** Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.
	Practice Multiplication with Fractions and Mixed Numbers	**5.NF.B.4** Interpret the product *(a/b) x q* as a part of *a* partitions of *q* into *b* equal parts; equivalently, as the result of a sequence of operations *a x q ÷ b*.
	Apply Fraction Multiplication to Find Area	**5.NF.B.6** Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.

Unit 4: Divide Fractions and Convert Customary Units

Module	Lessons	Standards
M10: Understand Division with Whole Numbers and Unit Fractions	Interpret a Fractions as Division	**5.NF.B.3** Interpret a fraction as division of the numerators by the denominator (a/b = a ÷ b). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem.
	Represent ad Find the Size of Equal Parts	**5.NF.B.7a** Interpret division of a unit fraction by a non-zero whole number, and compute such quotients.
	Use Representations of Division of Unit Fractions by Whole Numbers	

		5.NF.B.7c Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem.
	Represent and Find the Number of Equal-Sized Parts	**5.NF.B.7b** Interpet division of a whole number by a unit fraction, and compute such quotients.
	Use Representations of Division of Whole Numbers by Unit Fractions	**5.NF.B.7c** Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem.
M11: Divide with Whole Numbers and Unit Fractions	Relate Multiplication and Division Fractions	**5.NF.B.7a** Interpret division of a unit fraction by a non-zero whole number, and compute such quotients.
		5.NF.B.7b Interpet division of a whole number by a unit fraction, and compute such quotients.
	Divide Whole Numbers by Unit Fractions	**5.NF.B.7c** Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem.
	Interpret and Solve Division of a Whole Number by a Unit Fraction	**5.NF.B.7b** Interpet division of a whole number by a unit fraction, and compute such quotients.
	Divide Unit Fractions by Whole Numbers	**5.NF.B.7c** Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem.
	Interpret and Solve Division of a Unit Fraction by a Whole Number	**5.NF.B.7a** Interpret division of a unit fraction by a non-zero whole number, and compute such quotients.
	Solve Division Problems Using Visual Models and	**5.NF.B.7c** Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem.
	Convert Customary Measurements	**5.MD.A.1** Convert among different-sized standard measurement units

M12: Customary Measurement	Solve Multistep Customary Measurement Problems	within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.
	Represent and Interpret Measurement Data in Line Plots	**5.MD.B.2** Make a line plot to display a data set of measurements in fractions of a unit (½, ¼, ⅛). Use operations on fractions for this grade to solve problems involving information presented in line plots.
	Convert Time and Find Elapsed Time	**5.MD.A.1** Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.

Unit 5: Add and Subtract Decimals

Module	Lessons	Standards
M13:Decimal Place Value	Understand Thousandths	**5.NBT.A.1** Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it presents in the place to its left.
	Read and Write Decimals to Thousandths	**5.NBT.A.3a** Read and write decimals to thousandths using base-ten numerals, number names, and expanded form.
	Round Decimals	**5.NBT.A.4** Use place value understanding to round decimals to any place.
	Compare and Order Decimals	**5.NBT.A.3b** Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparison.
M14: Add and Subtract Decimals	Represent Decimal Addition	**5.NBT.B.7** Add, subtract, multiply,a dn divide decimals to hundredths, 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.
	Represent Decimal Subtraction	
	Assess Reasonableness of Sums and Differences	
	Add Decimals	
	Subtract Decimals	
	Use Strategies and Reasoning to Add and Subtract	

Unit 6: Multiply Decimals

Modules	Lessons	Standards
M15: Multiply Decimals and Whole Numbers	Understand Decimal Multiplication Patterns	**5.NBT.A.2** Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.
	Represent Multiplication with Decimals and Whole Numbers	**5.NBT.B.7** Add, subtract, multiply,a dn divide decimals to hundredths, 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.
	Assess Reasonableness of Products	
	Multiply Decimals by 1-Digit Whole Numbers	
	Multiply Decimals by 2-Digit Whole Numbers	
	Solve Problems Using Bar Models	
M16: Multiply Decimals	Represent Decimal Multiplication	**5.NBT.B.7** Add, subtract, multiply,a dn divide decimals to hundredths, 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.
	Multiply Decimals	
	Multiply Decimals with Zeros in the Product	

Unit 7: Divide Decimals and Convert Metric Measures

Modules	Lessons	Standards
M17: Divide Decimals	Understand Decimal Division Patterns	**5.NBT.A.2** Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.
	Represent Division of Decimals by Whole	**5.NBT.B.7** Add, subtract, multiply,a dn divide decimals to hundredths,

	Numbers	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.
	Assess Reasonableness of Quotients	
	Divide Decimals by whole Numbers	
	Represent Decimal Division	
	Divide Decimals	
	Write Zeros in the Dividend	
M18: Customary and Metric Measure	Understand Metric Conversions	**5.MD.A.1** Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.
	Solve Customary and Metric Conversion Problems	
	Solve Multistep Measurement Problems	

Unit 8: Graphs, Patterns, and Geometry

Modules	Lessons	Standards
M19: Graphs and Patterns	Describe a Coordinate System	**5.G.A.1** Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate.
	Understand Ordered Pairs	**5.G.A.2** Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.
	Use Ordered Pairs to Represent Problems	
	Generate and Identify Numerical Patterns	**5.OA.B.3** Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane.
	Identify and Graph Relationship and Patterns	

M20: Classify Two-Dimensional Figures	Identify and Classify Polygons	**5.G.B.3** Understand that attributes belonging to a category of two dimensional figures also belong to all subcategories of that category.
		5.G.B.4 Classify two-dimensional figures in a hierarchy based on properties.
	Classify and Organize Triangles	**5.G.B.3** Understand that attributes belonging to a category of two dimensional figures also belong to all subcategories of that category.
		5.G.B.4 Classify two-dimensional figures in a hierarchy based on properties.
	Classify and Organize Quadrilaterals	**5.G.B.3** Understand that attributes belonging to a category of two dimensional figures also belong to all subcategories of that category.
		5.G.B.4 Classify two-dimensional figures in a hierarchy based on properties.
	Use Venn Diagrams to Classify Two-Dimensional Figures	**5.G.B.3** Understand that attributes belonging to a category of two dimensional figures also belong to all subcategories of that category.
		5.G.B.4 Classify two-dimensional figures in a hierarchy based on properties.