Chagrin Falls Schools
Curriculum Map
Grade Level/Subject: Advanced 4th grade Math

Date Range	**Unit**	**ODE Standards** R/E-Review and extend (purple) I- Introduce (Green) D-Develop (Blue) M-Master (Yellow, red if last time)	**Key Vocabulary** An asterisk [*] identifies those terms for which Word Resource Cards are available	**Assessment** Should include formative, summative, common, progress monitoring	**Resources**	**Learning Objectives (What will the student be able to do?)**
late August - Sept	**Unit 1- Multiplicative Thinking**	**3.OA.1** Interpret products of whole numbers **3.OA.3** Solve multiplication story problems with products to 100 involving situations of equal groups **3.OA.4** Solve for the unknown in a multiplication equation involving 3 whole numbers **3.OA.5** Multiply using the commutative and distributive properties **3.OA.7** Fluently multiply with products to 100 using strategies **3.MD.7a** Demonstrate that the area of a rectangle with whole-number side lengths can be found by multiplying the side lengths **3.MD.7b** Represent the product of two numbers as the area of a rectangle with side lengths equal to those two numbers **3.MD.7c** Use the area model for multiplication to illustrate the distributive property **3.MD.7d** Find the area of a figure that can be decomposed into non-overlapping rectangles **4.OA.1** Write a multiplication equation to represent a verbal statement of a multiplicative comparison **4.OA.2** Solve story problems involving a multiplicative comparison using multiplication or division **4.OA.4** Find all factor pairs for a whole number between 1 and 100 **4.OA.4** Demonstrate an understanding that a whole number is a multiple of each of its factors **4.OA.4** Determine whether a whole number between 1 and 100 is prime or composite **4.MD.1** Identify the relative sizes of centimeters, meters, and kilometers; grams and kilograms; ounces and pounds; milliliters and liters; seconds minutes and hours **4.MD.1** Express a measurement in a larger unit in terms of a smaller unit within the same system of measurement	equation* groups of multiplication multiplicative comparison multiply* strategy unit* area* commutative property of multiplication* dimension* factor* factor pair(s)* product* centimeter (cm)* dimension* inch (in.)* linear measurement meter (m)*	The school year may start with MAP or iReady testing Unit 1 Pre Assessment Multiplication and Division Checkpoint Unit 1 Post Assessment	Grade 4 Family Resources Blog: Three tips for effectively implementing problem strings in the 4th gr classroom Blog: A Better Math Journal (4th grade)	The students will use strategies to determine single digit multiplication facts. The student will use arrays, number lines and ratio tables to multiply. The students will be able to solve multiplication or division. The student will find the area of a figure that can be decomposed into rectangles. The student will demonstrate and understanding of factors and multiples. The student will be able to determine whether a number is prime or composite.
October	**Unit 2- Multi digit Multiplication**	**4.OA.3** Solve multi-step story problems involving only whole numbers, using addition, subtraction, multiplication, and division	equation* groups of multiplication	Unit 2 Pre Assessment	Unit 2 Overview	The student will be able to use area models, ratio tables, and

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	and Early Division	**Supports 4.OA** Solve single-step story problems involving division with remainders **4.NBT.1** Demonstrate an understanding that in a multidigit number, each digit represents ten times what it represents in the place to its right **4.NBT.5** Multiply a 2- or 3-digit whole number by a 1-digit whole number using strategies based on place value and the properties of operations **4.NBT.5** Multiply two 2-digit numbers using strategies based on place value and the properties of operations **4.NBT.5** Use equations or rectangular arrays to explain strategies for multiplying with multi-digit numbers **4.NBT.6** Divide a 2-digit number by a 1-digit number, with a remainder, using strategies based on place value, the properties of operations, or the relationship between multiplication and division **4.NBT.6** Use equations or rectangular arrays to explain strategies for dividing a multi-digit number by a 1-digit number **4.MD.3** Apply the area formula for a rectangle to solve a problem	multiplicative comparison multiply* strategy unit* commutative property of multiplication* efficient product* ratio table* factor* product* area model of multiplication* array* model multiply* multiplication open number line rectangular array tile array area* dimension* divide* factor* quotient*	Module 2 Checkpoint Module 3 Checkpoint Unit 2 Post Assessment	How to Multiply (video) Blog: Multiplication Strategies	rectangular arrays to multiply and divide. The student will be able to demonstrate an understanding that in a multi-digit number each digit represents ten times what it represents in the place to the right. The student will be able to use the distributive property to multiply. The student will be able to interpret the remainder as it relates to a simple story problem involving division.
November	**Unit 3- Fractions and Decimals**	**4.NF.1** Use a visual model to explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) **4.NF.1** Use visual models to generate and recognize equivalent fractions	decimal* denominator* equal* equation* equivalent fractions* fraction*	Unit 3 Pre Assessment Module 2 Checkpoint	Adding Fractions Game	The student will be able to use a variety of models to illustrate understanding of fraction equivalence.

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Curriculum Map
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		4.NF.2 Compare two fractions with different numerators and different denominators, use the symbols >, =, and < to show those comparisons, and explain why one fraction must by greater than or less than another **4.NF.3a** Explain addition of fractions as joining parts referring to the same whole **4.NF.3b** Express a fraction as the sum of other fractions with the same denominator in more than one way, and write equations to match **4.NF.3c** Add and subtract fractions and mixed numbers with like denominators **4.NF.3d** Solve story problems involving addition or subtraction of fractions referring to the same whole and with like denominators **4.NF.4a** Demonstrate an understanding that a fraction a/b is a multiple of the unit fraction 1/b; write an equation showing that a fraction a/b is the product of a × 1/b **4.NF.4b** Multiply a fraction by a whole number; demonstrate an understanding that any multiple of a/b is also a multiple of the unit fraction 1/b **4.NF.5** Express a fraction with denominator 10 as an equivalent fraction with denominator 100 **4.NF.5** Add a fraction with denominator 10 to a fraction with denominator 100 by rewriting the first fraction as an equivalent fraction with denominator 100 **4.NF.6** Write fractions with denominators 10 and 100 in decimal notation **4.NF.7** Compare two decimal numbers with digits to the hundredths place, use the symbols >, =, and < to show those comparisons, and explain why one decimal number must be greater than or less than another	divide* division quotient* share/shares eighths equivalent fourths halves improper fraction* mixed number* sixteenths whole sixths thirds twelfths equal parts numerator* twelfths whole area* region unit* product* sum or total* mixed number* pattern* ratio table* hundredth* tenth*	Module 3 Checkpoint Unit 3 Post Assessment	Picture Books for Fractions and Decimals Game: Battleship Decimals Blog: Movement with Fractions on a Geoboard	The student will be able to decompose fractions in different ways. The student will be able to add and subtract fractions and mixed numbers with like denominators The student will be able to tenths and hundredths by renaming the tenths fraction into hundredths first. The student will be able to compare decimals. The student will be able to multiply a fraction be a whole number.
December	**Unit 4- Addition, Subtraction and Measurement**	**4.OA.3** Solve multi-step story problems involving only whole numbers using addition, subtraction, multiplication, and division **4.NBT.1** Demonstrate an understanding that in a multi-digit number, each digit represents ten times what it represents in the place to its right **Supports 4.NBT** Fluently add and subtract multi-digit whole numbers, using an algorithm or another strategy	algorithm* constant difference conversion expanded form* give and take meter (m)* milliliter (ml)* ounce (oz.)*	Unit 4 Pre Assessment Module 1 Checkpoint	Reference: Choosing Algorithms Strategically	The student will be able to read, write and compare whole numbers in both standard (number) form and expanded form.

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		4.NBT.2 Read and write multi-digit whole numbers represented with base-ten numerals, number names, and expanded form; compare pairs of multi-digit numbers; use >, =, and < symbols to record comparisons **4.NBT.3** Round multi-digit whole numbers to the nearest hundred, thousand, and ten thousand **4.NBT.4** Use the standard algorithm with fluency to add and subtract multi-digit whole numbers **4.MD.1** Identify the relative sizes of centimeters, meters, and kilometers; grams and kilograms; ounces and pounds; milliliters and liters; seconds minutes and hours **4.MD.1** Express a measurement in a larger unit in terms of a smaller unit within the same system of measurement **4.MD.1** Record equivalent measurements in different units from the same system of measurement using a 2-column table **4.MD.2** Solve story problems involving distance, time, liquid volume and mass using addition, subtraction, multiplication, and division of whole numbers **4.MD.2** Solve story problems that involve expressing measurements given in a larger unit in terms of a smaller unit within the same system of measurement; use diagrams to represent measurement quantities	pound (lb.)* digit hundred thousand rounding* ten thousand million addend regrouping sum or total* benchmark capacity centimeter (cm)* cup* customary system* foot (ft.)* gallon (gal.)* gram (g)* inch (in.)* kilogram (kg)* liquid liter (l)* mass* metric system* mile (mi.)* millimeter (mm)* pint (pt.)* quart (qt.)* scale* volume* weight kilometer (km)* decade elapsed time*	Module 3 Checkpoint Unit 3 Post Assessment	Game: Dartboard Rounding Blog: Using Work Places to Support and Challenge	The student will be able to add and subtract whole numbers using the standard algorithm. The student will be able to convert equivalent measurements within the same measurement system. The student will be able to solve story problems involving distance, time, volume and mass using all four operations. The student will be able to round whole numbers to the nearest hundred, thousand, and ten thousand.

Chagrin Falls Schools
Curriculum Map
Grade Level/Subject: Advanced 4th grade Math

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			graph maximum* minimum* range* table*			
January	**Unit 5- Geometry and Measurement**	**4.MD.3** Apply the area formula for a rectangle to solve a problem **4.MD.5** Identify an angle as a geometric figure formed where two rays share a common endpoint **4.MD.5a** Measure angles by identifying the fraction of the circular arc between the points where the two rays forming the angle intersect the circle whose center is at the endpoints of those rays **4.MD.5b** Identify the measure of an angle by identifying the total number of one-degree angles through which it turns **4.MD.6** Use a protractor to measure angles in whole degrees; sketch an angle of a specified measure **4.MD.7** Decompose an angle into non-overlapping parts **4.MD.7** Express the measure of an angle as the sum of the angle measures of the non-overlapping parts into which it has been decomposed **4.MD.7** Solve problems involving finding the unknown angle in a diagram, using addition and subtraction **4.MD.7** Demonstrate an understanding that angle measure is additive 4.G.1 Identify points, lines, line segments, rays, and angles (right, acute, obtuse), parallel lines, and perpendicular lines in 2-D figures **4.G.1** Draw angles (right, acute, and obtuse) , parallel lines, and perpendicular lines **4.G.2** Classify 2-D figures based on the presence or absence of parallel lines, perpendicular lines, and angles of a specified size; identify right triangles **4.G.3** Identify and draw lines of symmetry; identify figures with line symmetry	acute angle* angle* area* formula length line of symmetry* obtuse angle* parallel* parallelogram* perimeter* perpendicular* polygon* protractor* quadrilateral* rectangle* right angle* scalene triangle* width ray* straight angle* zero angle* fraction* interior angle* rotation*	Unit 5 Pre Assessment Module 2 Checkpoint Module 3 Checkpoint Unit 5 Post Assessment	Game: Angle Shoot Blog: Problem Based Learning Game: Alien Angles Children's Book: Hamster Champs	The student will be able to calculate the area of a rectangle. The student will be able to use a protractor to measure angles in whole degrees. The student will be able to compare and classify 2 dimensional figures based on their attributes, ie. types of lines, and/or angles the figure is composed of. The student will be able to identify and draw lines of symmetry found on 2 dimensional figures. The student will be able to identify an unknown angle measurement by using and

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Curriculum Map
Grade Level/Subject: Advanced 4th grade Math

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			center circle* circumference* diameter* radius* vertex or corner*			applying their knowledge of benchmark angles (90, 180 and 360).
Mid February-Mid March	**Unit 6-Multiplication, Division, Data and Fractions**	**Supports 4.OA** Solve single-step story problems involving division with remainders **4.OA.3 S**olve multi-step story problems involving only whole numbers, using addition, multiplication and division **4.NBT.5** Multiply a 2 or 3-digit whole number by a 1-digit whole number using strategies based on place value and the properties of operations **4.NBT.5** Multiply two 2-digit numbers using strategies based on place value and the properties of operations **4.NBT.5** Use equations or rectangular arrays to explain strategies for multiplying with multi-digit numbers **4.NBT.6** Divide a 2- or 3-digit number by a 1-digit number, using strategies based on place value, the properties of operations, or the relationship between multiplication and division **4.NBT.6** Use equations or rectangular arrays to explain strategies for dividing a multi-digit number by a 1-digit number **4.NF.1 U**se a visual model to explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) **4.NF.1** Use visual models to generate and recognize equivalent fractions **4.NF.3c** Add and subtract fractions and mixed numbers with like denominators **4.NF.6** Write fractions with denominators 10 and 100 in decimal notation **4.MD.3** Apply the area and perimeter formulas for a rectangle to solve a problem **4.MD.4** Make a line plot to display a data set comprised of measurements taken in halves, fourths, and eighths of a unit	area* array* centimeter (cm)* decimal* dimension* divide* double equation* feet fraction* half* length perimeter* ratio table* remainder* rectangle* square foot whole number* array* multiply* strategy array* divide* dividend* divisor* multiply* quotient* ratio table* array* double half* multiply* strategy	Unit 6 Pre Assessment Module 2 Checkpoint Module 4 Checkpoint Unit 6 Post Assessment	Article: Arrays, multiplication and division Game: Shape Explorer Presentation: Line plots step by step	The student will be able to solve single step story problems involving division with remainders. The student will be able to use equations and arrays to model and solve multi-digit multiplication. The student will be able to divide 2-3 digit dividends and 1-digit divisors using a variety of strategies. The student will be able to calculate the area and perimeter of rectangles. The student will be able to create a line plot using data in fractional form.

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Grade Level/Subject: Advanced 4th grade Math

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April	**Unit 7- Reviewing and Extending Fractions, Decimals and Multidigit Multiplication**	**4.OA.3** Solve multi-step story problems involving only whole numbers, using addition, subtraction, multiplication, and division **4.OA.3** Write equations with a letter standing for an unknown quantity to represent a multi-step story problem **4.OA.3** Assess the reasonableness of answers to multi-step story problems using mental computation, rounding, or other estimation strategies **4.NBT.5** Multiply a 2 or 3-digit whole number by a 1-digit whole number using strategies based on place value and the properties of operations **4.NBT.5** Multiply two 2-digit numbers using strategies based on place value and the properties of operations **4.NBT.5** Use equations, rectangular arrays, or an area model to explain strategies for multiplying with multi-digit numbers **4.NF.1** Recognize equivalent fractions; use a visual model to explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) **4.NF.1** Generate a fraction equivalent to fraction a/b by multiplying the numerator (a) and denominator (b) by the same number **4.NF.2** Compare two fractions with different numerators and different denominators **4.NF.2** Use the symbols >, =, and < to record comparisons of two fractions with different numerators and different denominators **4.NF.2** Explain why one fraction must be greater than or less than another fraction **4.NF.5** Express a fraction with denominator 10 as an equivalent fraction with denominator **4.NF.5** Add a fraction with denominator 10 to a fraction with denominator 100 by rewriting the first fraction as an equivalent fraction with denominator **4.NF.6** Write fractions with denominator 10 or 100 in decimal notation. **4.NF.7** Compare two decimal numbers with digits to the hundredths place **4.NF.7** Use the symbols >, =, and < to record comparisons of two decimal numbers with digits to the hundredths place **4.NF.7** Explain why one decimal number must be greater than or less than another decimal number	compare decimal* equivalent fractions* equation* estimate* fraction* greater than* less than* multiplication* repeated addition square foot strategy unknown number denominator* numerator* centimeter* hundredth* meter* tenth* area model of multiplication* array* dimension* partial products product* standard algorithm	Unit 7 Pre Assessment Module 2 Checkpoint Module 3 Checkpoint Unit 7 Post Assessment	Activity: Equivalent Fractions Game: Mathman Fractions Game:Fractions on a number line Game: Multiplication	The student will be able to solve multi-step word problems involving all 4 operations. The student will be able to write an with a variable to represent the unknown quantity as it relates to a story problem. The student will be able to estimate a product to check for reasonableness. The student will be able to solve multi-digit multiplication using a variety of strategies, including the standard algorithm and/or area models. The student will be able to add fractions and decimals with like denominators.

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Grade Level/Subject: Advanced 4th grade Math

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						The student will be able to generate equivalent fractions using models and by multiplying the numerator and denominator by the same number. The student will be able to compare decimals and fractions.
April	**5th grade Unit 1- Expressions, Equations and Volume**	**4.OA.3 S**olve multi-step story problems involving division with remainders **4.OA.4** Find all factor pairs for a whole number between 1 and 100 **4.OA.4** Demonstrate an understanding that a whole number is a multiple of each of its factors **4.OA.**4 Determine whether a whole number between 1 and 100 is a multiple of a given 1-digit number **4.NBT.5** Multiply a 2-, 3-, or 4-digit whole number by a 1-digit whole number, or two 2-digit numbers using strategies based on place value and the properties of operations **4.NBT.5** Use an equation, array, or rectangular array to explain strategies for multiplying with multi-digit numbers **4.NBT.6** Divide a 2-digit number by a 1-digit number, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division **4.NBT.6** Use rectangular arrays and area models to explain strategies for dividing a 2-digit number by a 1-digit number **5.OA.1** Write and evaluate numerical expressions with parentheses	equation* factor* multiple* multiply* product* expression* dimension* double evaluate halve parentheses* rectangular prism* volume* base* height length width	Beginning of the year iReady or MAP assessment Numerical Expression Checkpoint Box Work Sample Multiplication and Volume Checkpoint	Grade 5 Family Resources Blog: Three Tips for Effectively Implementing Problem Strings Cubes game on Chromebook	Student will be able to write numerical expressions with parentheses. The student will develop multiple multi-digit multiplication strategies. The student will be able to find the volume of a rectangular prism with whole number side lengths.

Chagrin Falls Schools
Curriculum Map
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		5.OA.2 Write a simple expression to record calculations with numbers, and Interpret numerical expressions without evaluating them **5.NBT.6** Divide a 3-digit whole number by a 2-digit whole number using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division **5.NBT.6** Use rectangular arrays and area models to explain strategies for dividing a 3-digit number by a 2-digit number **5.MD.3a** Demonstrate an understanding that unit cubes can be used to measure the volumes of other solid figures **5.MD.3b** Demonstrate an understanding that a solid figure that can be packed without gaps or overlaps by n unit cubes has a volume of n cubic units **5.MD.4** Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units **5.MD.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	area* array* open array* surface area* ratio table* strategy partial products	Variety of Observational assessments Unit 1 Post Assessment		
May	**5th grade Unit 2- Adding and Subtracting Fractions**	**5.NF.1** Add and subtract fractions with unlike denominators, including mixed numbers **5.NF.1** Rewrite fractions with unlike denominators as equivalent fractions with a common denominator in order to find their sum or difference **5.NF.2** Solve story problems involving addition and/or subtraction of fractions referring to the same whole, with like and unlike denominators **5.NF.2** Mentally estimate the answers to story problems involving addition of fractions with like and unlike denominators **5.NF.2** Assess the reasonableness of answers to story problems involving addition of fractions with like and unlike denominators	decimal* decimal notation denominator* dime equivalent fractions* fraction* hundredth* numerator* penny quarter tenth* twentieth	Fractions Work Sample Fraction Addition & Subtraction Checkpoint Working with Fractions Checkpoint	Fractions App from MLC Money Pieces App from MLC Adding Fractions Clocks or Money? Finding Friendly Fractions	The student will add and subtract fractions with unlike denominators. The student will be able to multiply a whole number by a fraction. The student will be able to estimate the answer to a story problem involving adding

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Curriculum Map
Grade Level/Subject: Advanced 4th grade Math

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		5.NF.3 Solve story problems involving division of whole numbers with fraction or mixed number quotients (e.g., 3 ÷ 4 = 3/4) **5.NF.4a** Solve story problems involving multiplying a whole number by a fraction **5.NF.4a** Multiply a whole number by a fraction	improper fraction* minute (min.) mixed number* sixtieth twelfth simplify unit fraction multiple* factor* product* ratio table*	Variety of Observational assessments Unit 2 Post-Assessment	Dig It Drop Zone Estimate Fractions Fractazmic Frosty Fractions Cheesy Goldfish	fractions with unlike denominators.
Last 2 weeks (if time)	**Unit 8- Playground Design**	**4.G.1** Identify points, lines, line segments, rays, and angles (right, acute, obtuse), parallel lines, and perpendicular lines in 2-D figures **4.G.1** Draw right, acute, obtuse angles, parallel lines and perpendicular lines **4.MD.1** Express a measurement in a larger unit in terms of a smaller unit within the same system of measurement **4.MD.1** Identify the relative sizes of units within a system of measurement **4.MD.1** Record equivalent measurements in different units from the same system of measurement using a 2-column table **4.MD.2** Solve story problems involving distance, liquid volume, intervals of time, mass, and money using addition, subtraction, multiplication, or division of whole numbers, fractions, or fractions **4.MD.2** Solve story problems that involve expressing measurements given in a larger unit in terms of a smaller unit within the same system of measurement **4.MD.3** Apply the perimeter and area formulas for a rectangle to solve a problem **4.MD.5** Identify an angle as a geometric figure formed where two rays share a common endpoint **4.MD.6** Use a protractor to measure angles in whole degrees; sketch an angle of a specified measure	range* spreadsheet composition compost cup* drainage gram (g)* mass* model nutrients soil effort fulcrum inclined plane lever load model pulley screw simple machine wedge	no formal assessments	Blog: Inquiry-Based Math Blog: Learning from the Playground	The student will be able to convert between larger and smaller units within the same measurement systems. The student will be able to solve story problems involving all operations, time, money, and mass. The student will be able to calculate area and perimeter of rectangles. The student will be able to measure angles using a protractor.

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Curriculum Map
Grade Level/Subject: Advanced 4th grade Math

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		4.MD Describe what mean, mode, or range indicate about data **4.MD** Determine the mean, mode, or range of a set of data comprising whole numbers, fractional numbers, or decimals **4.MD** Display and analyze data using spreadsheet software	wheel and axle generalization gravity model pendulum trend variable* length hexagon* trapezoid* wheel and axle			The student will be able to identify and draw a variety of geometric figures. The student will be able to organize and analyze data using a spreadsheet.