

Grade 5--Fourth Nine Weeks

NF	NF	MD	MD	NBT	NBT
Add and subtract decimals	Multiply and divide decimals	Linear and Capacity Conversion	Volume	Link multiplication models to standard algorithm	Review and solidify concepts
3-5 days	10 days	8-10 days	8-10 days	4-5 days	5 days

NF (3-5 days) Add & subtract decimals (M.5.10)

Conceptual Flow	<ul style="list-style-type: none"> Add and subtract decimals to hundredths using concrete models and drawings M.5.10 	<ul style="list-style-type: none"> Add and subtract decimals to hundredths using strategies based on place value and properties M.5.10 	<ul style="list-style-type: none"> Add and subtract decimals to hundredths using the relationship between the operations. M.5.10 	<ul style="list-style-type: none"> Review and solidify addition and subtraction of decimals using concrete models, drawings, strategies based on place value, properties, and the relationship between the operations. Students should be fluent with each of these. M.5.10
Essential Goals	<ul style="list-style-type: none"> Connect previous work with adding and subtracting common fractions to addition and subtraction of decimals. 			
Ongoing Ideas	<ul style="list-style-type: none"> Decimal fractions are an alternative way to think about common fractions with denominators that are powers of 10. They are place value representations. The meaning of the operations and language used does not change when computing with common fractions and decimal fractions. 			
Daily Math Warm-Ups (Number Talk Style)	<ul style="list-style-type: none"> Identify the ones, tenths, and hundredths a decimal number is between. Foundation for rounding decimals. M.5.7 Round decimals to any place (Use place value understanding as well as pictures—quantity and number line) M.5.7 Quick images decimals to hundredths. Red Think Tank Cards (Add/Subtract Decimals) 			
Activity suggestions	<ul style="list-style-type: none"> See <i>Creating Fraction & Decimal AHAs</i>, p 98 Target 10 and First to 1, <i>Fundamentals</i>, Red Book My Math: pages 303-366 	<ul style="list-style-type: none"> See <i>Creating Fraction & Decimal AHAs</i>, pp. 98-109 Module 5, <i>Math in Practice</i>- pg. 99-119 	<ul style="list-style-type: none"> See <i>Creating Fraction & Decimal AHAs</i>, pp. 98-109 	<ul style="list-style-type: none"> See <i>Creating Fraction & Decimal AHAs</i>, pp 98-109. Splash Math Review

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NF (10 days) Multiply & divide decimals (M.5.10)

Conceptual Flow	<ul style="list-style-type: none"> Revisit and solidify fraction multiplication using the area model. Focus on denominators of 10 or 100. Foundation for M.5.10 	<ul style="list-style-type: none"> Connect decimal fraction multiplication to common fraction multiplication using concrete models and drawings. M.5.10 	<ul style="list-style-type: none"> Connect decimal fraction multiplication using concrete models or drawings to strategies based on place value, properties, and the relationship of the operations. M.5.10 Connect to written methods. M.5.10 	<ul style="list-style-type: none"> Revisit common fraction division and the related conceptual language translations. Foundation for M.5.10 Divide decimal fractions using concrete models and drawings. M.5.10 	<ul style="list-style-type: none"> Connect decimal fraction division using concrete models or drawings to strategies based on place value, properties, and the relationship between the operations. M.5.10 Connect to written methods. M.5.10
Essential Goals	<ul style="list-style-type: none"> Use an area model to multiply decimals. Connect decimal multiplication to common fraction multiplication. Use previous work with the conceptual translations for division and the division of common fractions to divide decimal fractions. 				
Ongoing Ideas	<ul style="list-style-type: none"> The meaning of the operations and language used does not change when computing with common fractions and decimal fractions. 				
Daily Math Warm-Ups (Number Talk Style)	<ul style="list-style-type: none"> Review powers of 10 and multiplying whole numbers by powers of 10. Foundation for M.5.5 Examine patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. M.5.5 My Math: pages 93-110, 411-416, 429-434, & 461-466 Red Think Tank Cards (Multiplying/Dividing Decimals) 				
Activity suggestions	<ul style="list-style-type: none"> See <i>Creating Fraction & Decimal AHAs</i>, pp. 110-117. 	<ul style="list-style-type: none"> See <i>Creating Fraction & Decimal AHAs</i>, pp. 110-117. Module 6, <i>Math in Practice</i>- pg. 120-134 My Math: pages 385-422 	<ul style="list-style-type: none"> See <i>Creating Fraction & Decimal AHAs</i>, pp. 110-117. Straighten Up 	<ul style="list-style-type: none"> See <i>Creating Fraction & Decimal AHAs</i>, pp. 118-121 Module 6, <i>Math in Practice</i>- pg. 134-141 My Math: pages 429-466 (No long division) 	<ul style="list-style-type: none"> See <i>Creating Fraction & Decimal AHAs</i>, pp. 118-121.

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MD (8-10 days) Linear and Capacity Conversion (M.5.18)

Conceptual Flow	<ul style="list-style-type: none"> Recommend prior to Spring Break when it is warmer outside...Examine the relative size of units of capacity (gallons, quarts, pints, cups). Foundation for M.5.18 Through the activity, review and solidify unit sizes. Foundation for M.5.18 	<ul style="list-style-type: none"> Size of units determine the amount needed. The smaller the unit, the more that is needed (will need to multiply). The larger the unit, fewer are needed (will need to divide). Foundation for M.5.18 	<ul style="list-style-type: none"> Use conversion in solving multi-step real-world problems (in, ft, yd, cm, m). M.5.18 Solve conversion problems involving capacity. M.5.18 Convert among different-sized standard measurement units within a given system (metric and customary). M.5.18
Essential Goals	<ul style="list-style-type: none"> Identify linear units based on size. Understand that linear measurement measures distance (1D measure). Understand and describe the relative size of units. Understand that the smaller the unit the more that is needed; The larger the unit, fewer are needed. Use the above understandings to “convert” between different sized units. Identify capacity units based on size. 		
Ongoing Ideas	<ul style="list-style-type: none"> Understand that coordinate grid representations show the relationship between numbers. Understand that you can use the relationship between units of measure to rewrite a known measurement in smaller or larger units. Understand the relationship of places in our base 10 system. Understand that the smaller the unit, the more you will need. 		
Daily Math Warm-Ups (Number Talk Style)	<ul style="list-style-type: none"> What unit would you use to measure _____? Why? About how many would you need? Multi-step problems (e.g., Think of the number of inches in a yard. Double it. Add the number of half inches in an inch. How many more is needed to get to 100?) Powers of 10 and multiplying decimal numbers by powers of 10. M.5.5 Linear measurement conversion problems, including word problems. Red Think Tank Cards (Capacity and Conversion) 		
Activity suggestions	<ul style="list-style-type: none"> Small kid’s swimming pool, 5 gallon buckets placed at least 10 yards from the pool (one per group of 3 or 4), containers (gallon, quart, pint, cup). Without knowing the next unit of measure, students find the number of each unit of measure that is needed to fill the 5-gallon bucket. 	<ul style="list-style-type: none"> Use cash register tape to measure a relatively long distance (about 35 yards or more). Begin with yd strips. As groups finish, have them measure the same distance with a foot strip, followed by inch squares. Can repeat with m, dm, and cm. 	<ul style="list-style-type: none"> Linear measurement lab. <ul style="list-style-type: none"> - Stations set-up to measure length. - Students measure in one unit then convert to a different unit. - Students defend whether multiplication or division is needed based on the relative sizes of the units (e.g., smaller will need more so multiply). My Math: pages 801-806
			<ul style="list-style-type: none"> Metric Olympics Extension: After scores are determined, convert them within the measurement system My Math: pages 807-832 (avoid long division sections) & 851-864 My Math: pages 833-844 & 865-882 Module 11, <i>Math in Practice</i>- pg. 215-231

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MD (8-10 days) Volume (M.5.20, M.5.21, M.5.22)

Conceptual Flow	<ul style="list-style-type: none"> Develop the understanding that volume is a cubic measure. M.5.20 Recommend that this is introduced using odd shaped quick images. Students will naturally “break” the figures into simpler pieces. This leads to M.5.22a Through activities introduce the term “unit cube”. M.5.20a Understand that a solid figure that can be packed without gaps or overlaps using “b” unit cubes is said to have a volume of “b” unit cubes. M.5.20b 	<ul style="list-style-type: none"> Create shapes using multi-links cubes with a given volume. Foundation for M.5.21 Find volumes of a variety of solids using cubic cm, cubic in, cubic ft, and improvised units. M.5.21 	<ul style="list-style-type: none"> Relate volume to multiplication and addition. M.5.22 Have students determine strategies for finding the volume of right rectangular prisms using multiplication. M.5.22a Connect to using the product of the dimensions or the product of the height and the area of the base. M.5.22a 	<ul style="list-style-type: none"> Use threefold whole number products (such as with volume) to represent the Associative Property. M.5.22a Apply the formulas for finding volume of right rectangular prisms to solve real world math problems. M.5.22b Use the additive nature of volume to solve real world problems involved non-overlapping parts. M.5.22c
Essential Goals	<ul style="list-style-type: none"> Understand that volume is a cubic unit of measure. Understand that volume is a measure of solid figures and involves the packing of cubic units. Connect volume to multiplication of 3 factors. Volume is additive. Find volumes of solid figures composed of two or more non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts. Can be done through quick images. M.5.22c 			
Ongoing Ideas	<ul style="list-style-type: none"> Understand that you can use the relationship between units of measure to rewrite a known measurement in smaller or larger units. 			
Daily Math Warm-Ups (Number Talk Style)	<ul style="list-style-type: none"> Powers of 10 and multiplying decimal numbers by powers of 10. M.5.5 Mental math multi-step problems. (Think of the number of half inches in a foot. Separate into 2 equal groups. Divide by the number of inches in a foot. Multiply by the number of feet in a yard. What would you need to do to get to $4\frac{1}{2}$?) Red Think Tank Cards (Volume) Volume Quick Images 			
Activity suggestions	<ul style="list-style-type: none"> Comparing Area and Volume Quick build and Quick images—odd shapes made with multi-links cubes. Volume Visual Interactive My Math: pages 935-978 Interactive Volume of Rectangular Prism 	<ul style="list-style-type: none"> Volume Scavenger Hunt with Manipulatives Measurement and Data: Volume 	<ul style="list-style-type: none"> Cari’s Aquarium Breaking Apart Composite Solids Module 13, <i>Math in Practice</i>- pg. 245-262 	<ul style="list-style-type: none"> <i>Great Tasks</i>, pp. 165-172. The Fish Tank

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NBT (4-5 days)

Link multiplication models to standard algorithm (M.5.8)

Conceptual Flow	<ul style="list-style-type: none"> Review and solidify models and properties for multiplication (area model, equal grouping model, Distributive Property, partial products. Foundation for M.5.8 	<ul style="list-style-type: none"> Connect vertical representations to the standard multiplication algorithm by challenging students to determine strategies for combining “two steps”/two partial products as is done in the standard algorithm. Foundation for M.5.8 	<ul style="list-style-type: none"> Use the standard multiplication algorithm as another option for multiplying multi-digit numbers. M.5.8
Essential Goals	<ul style="list-style-type: none"> Understand the connection between partial products and the Distributive Property. Understand and then describe the ways in which the standard multiplication algorithm collapses “multiple steps” of a partial product approach into one. 		
Ongoing Ideas	<ul style="list-style-type: none"> The relationship between models for operations, pictures, strategies, properties, and standard algorithms. 		
Daily Math Warm-Ups (Number Talk Style)	<ul style="list-style-type: none"> Powers of 10 and multiplying decimal numbers by powers of 10. M.5.5 Red Think Tank Cards (Multiplication/Standard Algorithm) 		
Activity suggestions	<ul style="list-style-type: none"> Area Models to Algorithms Module 3, <i>Math in Practice</i>- pg. 74-83 	<ul style="list-style-type: none"> Give students a completed multiplication problem using partial products. Give students the same problem that has been solved using the standard algorithm. Have students identify the relationship between the two representations. 	<ul style="list-style-type: none"> Great tasks pp. 153-158 Elmer's Multiplication Error My Math: pages 131-142

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NBT (5 days) Review and solidify concepts

Conceptual Flow	<ul style="list-style-type: none"> Continue to develop comfort with the standard multiplication algorithm. M.5.8 	<p>After the “test”</p> <ul style="list-style-type: none"> Review and solidify number sense concepts related to whole numbers, common fractions, and decimal fractions (includes representing, comparing, place value, rounding, powers of 10, etc.). 	<ul style="list-style-type: none"> Review and solidify fraction computation strategies linking visual models, conceptual language, and symbolic representations. Use to solve multi-step word problems. 	<ul style="list-style-type: none"> Review and solidify decimal computation strategies linking visual models, conceptual language, and symbolic representations. Use to solve multi-step word problems. Multiply whole numbers and decimals by powers of 10. 	<ul style="list-style-type: none"> Review and solidify knowledge of measurement units, the concept the smaller the unit the more you’ll need, and use to convert.
Essential Goals	<ul style="list-style-type: none"> Review and solidify key 5th grade number and operations concepts, including fraction and decimal computation. Students should be fluent with visual models, conceptual language, and symbolic representations. Ensure that students can show an understanding of word problem contexts by illustrating the problem and creating appropriate word problems for a given operations. 				
Ongoing Ideas	<ul style="list-style-type: none"> The relationship between models for operations, pictures, strategies, properties, and standard algorithms. 				
Daily Math Warm-Ups (Number Talk Style)	<ul style="list-style-type: none"> Use multiple computation strategies, with particular attention given to the properties, to solve word problems involving the four operations. 				
Activity suggestions	<ul style="list-style-type: none"> Review Games and Activities Review Questions Performance Tasks Mathematics Practice Tests Smarter Balanced Practice Tests (Click Sign In, then select grade level) 				