5th Grade Curriculum Guide - 2022-2023

5th Grade BIG-M Transition Guide

Mathematical Thinking and Reasoning Standards

Yellow highlight: New grade-level concepts.

Standards	Learning Targets Place Value, Multiplication, and Expressions – Go Math! Ch. 1	NOT Aligned Go Math! Lessons	Suggested Time Frame
MA.5.NSO.1.1 MA.5.NSO.2.1 MA.5.AR.1.1 MA.5.AR.2.1 MA.5.AR.2.2 MA.5.AR.3.2 MA.5.M.1.1 MA.5.M.2.1	•Recognize the 10 to 1 relationship among place value positions. •Read and write whole numbers through hundred millions. •Model, read, and write decimals to the thousandths. •Express how the value of a digit in a multi-digit number with decimals to the thousandths changes if the digit moves one or more places to the left or right. •Multiply by one-and two-digit numbers using properties and a standard algorithm. •Use multiplication to solve division problems. •Write numerical expressions and evaluate numerical expressions using order of operations.	(see notes) 1.1 1.2 1.3 1.5 1.9	17 days
Notes:	•The skill taught in lessons **1.1** and **1.2** have been moved to the 4th grade standards. They are considered gap skills and should be taught this school year. •The skills taught in lesson **1.3** are not directly addressed in the BEST standards. •The skills taught in lesson **1.5** are not directly addressed in the BEST standards, though instruction on this skill will assist students in fluency and automaticity.		

<table>
<tr><td></td><td colspan="2">•Lesson 1.9 goes above the expectation of the standard. MA.5.AR.2.2 allows for any combination of operations and includes parentheses, whole numbers, decimals, and fractions. It does not include exponents or nested grouping symbols.
•Unlike in MAFS, students are expected to have fluency with the multiplication algorithm. Students also need to have procedural reliability (develop an accurate and reliable method that aligns with their understanding of place value), before they become proficient with the algorithm.</td></tr>
<tr><td>Additional Resources</td><td>Manipulatives
Place value chart
Multiplication chart to 120
Grid paper
Base-ten blocks
Digit cards
Number cubes
Number lines</td><td>Literature
It Started with Pizza by Dawn McMillan
Night Skies, by Dawn McMillan
My Lemonade Stand by Dawn McMillan
The Story of the Order of Operations: PEMDAS by Mrs. Kim Huffstetler
Ten Times Better by Richard Michelson</td></tr>
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Standards	Learning Targets Divide Whole Numbers - Go Math! Ch. 2	NOT Aligned GoMath Lessons	Suggested Time Frame
MA.5.NSO.2.2 MA.5.AR.1.1 MA.5.AR.1.3 MA.5.M.1.1 MA.5.FR.1.1	•Divide up to five-digit dividends by one-digit or two-digit divisors using a variety of strategies/methods. •Divide with two-digit divisors using base-ten blocks, place value, partial quotients, and other strategies/methods. •Estimate quotients using compatible numbers. •Solve division problems and determine when to write a remainder as a fraction. •Solve real-world problems based on place value, the properties of operations, and/or the relationship between multiplication and division as well as the strategies solve a simpler problem and draw a diagram. •Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	(see notes) 2.1 2.2 2.8 2.9	16 days
Notes:	•Lesson **2.1** and **2.2** have been moved to the 4th grade standards. They are considered gap skills, and should be taught this school year. •MA.5.FR.1.1 - Lesson **2.7** addresses writing a remainder as a fraction, but instruction must lead students to make the connection between fractions and division (see the BIG-M). •The strategy used in lesson **2.8** is not required in the BEST standards, though instruction on this skill will assist students in assessing the reasonableness of their solution. •The strategy used in lesson **2.9** is not required by the standard, however problem solving within division is included in the standard. •Unlike in MAFS, students are expected to have fluency with the division algorithm. Students also need to have procedural reliability (develop an accurate and reliable method that aligns with their understanding of place value), before they become proficient with the algorithm.		
Additional Resources	**Manipulatives** • Place value chart	**Literature** • A Remainder of One by Elinor Pinezez	

	• Multiplication chart to 120 • Grid paper • Base-ten blocks • Digit cards • Number cubes • Number lines	• *The Doorbell Rang by Pat Hutchins • The Great Divide: A Mathematical Marathon by Dayle Ann Dodds • *Divide and Ride by Stuart Murphy • The Multiplying Menace Divides, Pam Calvert

Standards	Learning Targets Add and Subtract Decimals - Go Math! Ch. 3	NOT Aligned GoMath Lessons	Suggested Time Frame
MA.5.NSO.1.1 MA.5.NSO.1.2 MA.5.NSO.1.3 MA.5.NSO.1.4 MA.5.NSO.1.5 MA.5.NSO.2.3 MA.5.M.2.1	•Plot, order and compare decimals to thousandths using place value and an appropriately scaled number line. •Write and evaluate repeated factors in exponent form. •Round decimals to any place. •Add and subtract decimals using base-ten blocks and place value. •Make reasonable estimates of decimal sums and differences. •Solve real-world problems using a variety of strategies, including make a table.	(see notes)	20 days
Notes:	•Standard MA.5.NSO.1.4 requires students to use a number line to plot, order and compare decimals. Lesson **3.3** addresses comparing and ordering decimals but does not address the use of number lines. Instruction on this skill outside of what is included in the textbook will be required. •Lesson **3.4** address standard MA.5.NSO.1.5. This skill was not required by MAFS, so it was previously recommended that this lesson be skipped. The recommendation has change, and lesson 3.4 can be used as an instructional tool for this skill. •Lesson **3.12** provides an opportunity for procedural fluency practice. This lesson can be skipped based on the needs of individual classes.		
Additional Resources	**Manipulatives** • Place value chart • Multiplication chart to 120 • Grid paper • Base-ten blocks • Digit cards • Number cubes • Number lines	**Literature** • The Lion's Share by Matthew McElligott • If the World Were a Village by David Smith • Money Math by David Adler • Math Man by Teri Daniels	

Standards	Learning Targets Multiply Decimals - Go Math! Ch. 4	NOT Aligned GoMath Lessons	Suggested Time Frame
MA.5.NSO.1.1 MA.5.NSO.1.5 MA.5.NSO.2.4 MA.5.NSO.2.5	• Estimate decimal products. • Multiply a decimal and a whole number using drawings and place value. • Solve real-world problems using a variety of strategies, including draw a diagram to multiply money. • Multiply decimals using drawings and place value. • Multiply a multi-digit number with decimals to the tenths by one-tenth and one-hundredth.		13 days
Notes:	•MA.5.NSO.2.4 - this skill was not required by MAFS. This chapter does not include a lesson specific to estimation, therefore instruction on this skill outside of what is included in the textbook will be required. •Students are expected to have procedural reliability (develop an accurate and reliable method that aligns with their understanding of place value), but are not required to use the algorithm.		
Additional Resources	**Manipulatives** • Place value chart • Multiplication chart to 120 • Grid paper • Base-ten blocks • Digit cards • Number cubes • Number lines	**Literature** • The Lion's Share by Matthew McElligott • If the World Were a Village by David Smith • Money Math by David Adler • Math Man by Teri Daniels	

Standards	Learning Targets Divide Decimals - Go Math! Ch. 5	NOT Aligned GoMath Lessons	Suggested Time Frame
MA.5.NSO.1.5 MA.5.NSO.2.4 MA.5.NSO.2.5	• Estimate decimal quotients. • Divide decimals by whole numbers using drawings and place value. • Model division by decimals using drawings and place value. • Divide a multi-digit number with decimals to the tenths by one-tenth and one-hundredth. • Solve multi-step decimal problems using the strategy work backward.		14 days
Notes:	•MA.5.NSO.2.4 - this skill was not required by MAFS. This chapter does not include a lesson specific to estimation, therefore instruction on this skill outside of what is included in the textbook will be required. •Students are expected to have procedural reliability (develop an accurate and reliable method that aligns with their understanding of place value), but are not required to use the algorithm.		
Additional Resources	**Manipulatives** • Place value chart • Multiplication chart to 120 • Grid paper • Base-ten blocks • Digit cards • Number cubes • Number lines	**Literature** • The Lion's Share by Matthew McElligott • If the World Were a Village by David Smith • Money Math by David Adler • Math Man by Teri Daniels	

Standards	Learning Targets Operations with Fractions Add and Subtract Fractions - Go Math! Ch. 6	NOT Aligned GoMath Lessons	Suggested Time Frame
MA.5.FR.2.1 MA.5.NSO.2.3 MA.AR.1.2 MA.GR.2.1	• Add fractions with unlike denominators using models, drawings, properties, and equivalent fractions. • Subtract fractions with unlike denominators using models, drawings, properties, and equivalent fractions. • Make reasonable estimates of fraction sums and differences. • Add and subtract mixed numbers with unlike denominators. • Rename to find the difference of two mixed numbers. • Solve real-world problems using a variety of strategies, including work backward. • Add fractions and mixed numbers with unlike denominators using properties		14 days
Notes:			
Additional Resources	**Manipulatives** • Fraction circles • Fraction strips/bars • Fraction tiles • Grid paper	**Literature** • Funny and Fabulous Fraction Stories by Dan Greenberg • Picture Pie by Ed Emberley • Full House by Dale Dodds • Apple Fractions by Jerry Pallotta • Cut Down to Size at High Noon by Scott Sundby • The Wishing Club by Donna Jo Napoli	

Standards	Learning Targets Multiply Fractions - Go Math! Ch. 7	NOT Aligned GoMath Lessons	Suggested Time Frame
MA.5.FR.2.2 MA.5.FR.2.3 MA.AR.1.2 MA.GR.2.1 MA.5.NSO.2.1 MA.5.NSO.2.4	• Model to find the fractional part of a group. • Multiply fractions and whole numbers using models, drawings, and other strategies/methods. • Multiply fractions using models, drawings, and other strategies/methods. • 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 using models, drawings, and other strategies/methods. • Relate the size of the product compared to the size of the factor when multiplying by fractions less than one and greater than one. • Solve real-world problems including multiplication of fractions, including mixed numbers and fractions greater than 1 using a variety of strategies, including guess, check, and revise		21 days
Notes:	• Lesson **7.3** – connect the model to repeat addition to build understanding • Lesson **7.7** – use an area model • MAFS did not require the use of mixed numbers when solving real-world problems. This chapter does not include a lesson specific or question types, therefore instruction on this skill outside of what is included in the textbook will be required (or questions within the textbook must be modified to include practice.)		
Additional Resources	**Manipulatives** • Fraction circles • Fraction strips/bars • Fraction tiles • Grid paper	**Literature** • Funny and Fabulous Fraction Stories by Dan Greenberg • Picture Pie by Ed Emberley • Full House by Dale Dodds • Apple Fractions by Jerry Pallotta • Cut Down to Size at High Noon by Scott Sundby • The Wishing Club by Donna Jo Napoli	

Standards	Learning Targets Divide Fractions - Go Math! Ch. 8	NOT Aligned GoMath Lessons	Suggested Time Frame
MA.5.FR.1.1 MA.5.FR.2.4 MA.5.AR.1.1 MA.5.NSO.2.2 MA.5.GR.3.3 MA.5.DP.1.2 MA.5.NSO.2.4 MA.5.NSO.2.5	• Divide a whole number by a fraction and divide a fraction by a whole number using models, drawings, and other strategies/methods. • Solve real-world problems using a variety of strategies, including draw a diagram. • Interpret a fraction as division and solve whole-number division problems that result in a fraction or mixed number. • Represent division by drawing diagrams and writing story problems and equations.		10 days
Notes:	• Lesson **8.1** - use only problem types that divide whole numbers by a fraction		
Additional Resources	**Manipulatives** • Fraction circles • Fraction strips/bars • Fraction tiles • Grid paper	**Literature** • Funny and Fabulous Fraction Stories by Dan Greenberg • Picture Pie by Ed Emberley • Full House by Dale Dodds • Apple Fractions by Jerry Pallotta • Cut Down to Size at High Noon by Scott Sundby • The Wishing Club by Donna Jo Napoli	

Standards	Learning Targets Algebra: Patterns and Graphing - Go Math! Ch. 9	NOT Aligned GoMath Lessons	Suggested Time Frame
MA.5.DP.1.1 MA.5.DP.1.2 MA.5.AR.3.1 MA.5.AR.3.2	• Make and use line plots with fractions to solve problems, including finding the average/mean of numbers. • Collect and represent numerical data, including fractional and decimal values, using tables, and line graphs. • Graph and name points on a coordinate grid using ordered pairs. • Use two rules to generate a numerical pattern and identify the relationship between corresponding terms in the pattern. • Write a rule that can describe the pattern as an expression. • Solve real-world problems using a variety of strategies, including solve a simpler problem. • Graph the relationship between two numerical patterns on a coordinate grid. • Given a rule for a numerical pattern, use a two-column table to record the inputs and outputs.		

Notes:	•Lesson **9.1** address standard MA.5.DP.1.2. This skill was not required by MAFS, so it was previously recommended that this lesson be skipped. The recommendation has changed, and lesson 9.1 can be used as an instructional tool for this skill. •Lessons **9.3** and **9.4** address standards MA.5.DP.1.1 MA.5.DP.1.2 - these skills were not required by MAFS, so it was previously recommended that the lessons be skipped. The recommendation has changed, and lessons 9.3 and 9.4 can be used as an instructional tool for this skill. •Lesson **9.6** addresses MA.5.AR.3.1, but does not include specifics to write the pattern as an expression, therefore instruction on this skill outside of what is included in the textbook will require.	
Additional Resources	**Manipulatives** • Number lines (empty/open – horizontal and vertical) • Coordinate grid (quadrant 1)	**Literature** • Patterns in Nature by Dawn McMillan • Tikki Tikki Tembo by Arlene Mosel • Wilma Unlimited by Kathleen Krull

Standards	Learning Targets Convert Units of Measure - Go Math! Ch. 10	NOT Aligned GoMath Lessons	Suggested Time Frame
MA.5.M.1.1 MA.5.NSO.2.4 MA.5.NSO.2.5 MA.5.GR.3.1 MA.5.GR.3.2 MA.5.GR.3.3	• Compare, contrast, and covert customary units of length, capacity, and weight. • Convert measurement units to solve problems. • Compare, contrast, and convert metric units. • Solve real-world customary and metric conversions problems using a variety of strategies, including make a table. • Convert units of time to solve elapsed time problems.		
Notes:	•Lessons **10.1-10.3** can be combined into 2 days.		
Additional Resources	**Manipulatives** • Objects to weigh/measure (e.g., paper clips, pencils, crayons, books, paper, plants, scissors, erasers) • Containers to fill such as cups, beakers, boxes, liters • Color tiles and cubes (cm and inch) • Dot paper • Geoboards • Rubber bands • Grid paper • Clocks • Measurement tools (e.g., rulers, yardsticks, meter sticks, balances, protractors) • Number lines (empty and open / horizontal and vertical)	**Literature** • Sir Cumference and the Off the Chart Desserts by Cindy Neuschwander • Sir Cumference and the Isle of Immeter by Cindy Neuschwander • Lines, Bars, and Circles by Helaine Becker • The Fly on the Ceiling by Dr. Julie Glass • Me and the Measure of Things by Joan Sweeney • The Morphing Metric Family by Donna Nusrala • How Big is a Foot? by Rolf Myller • How Long, or How Wide: A Measurement Guide by Brian P. Cleary • King's Chessboard by David Birsch • On the Scale, a Weighty Tale by Brian Cleary	

Standards	Learning Targets Geometry – Go Math! Ch. 11	NOT Aligned GoMath Lessons	Suggested Time Frame
MA.5.GR.1.1 MA.5.GR.1.2 MA.5.GR.3.1 MA.5.GR.3.2 MA.5.GR.3.3 MA.5.NSO.2.4 MA.5.NSO.2.5 MA.AR.1.2	• Understand attributes of two-dimensional shapes. • Classify and compare polygons, triangles, and quadrilaterals using their properties. • Solve real-world problems using a variety of strategies, including act it out and make a table •Recognize volume as an attribute of solid figures and understand concepts of volume measurement. • Use unit cubes to measure volume. • Measure volumes by counting unit cubes, using cubic cm., cubic in., cubic ft., and improvised units. • Relate volume and addition to solve problems involving volume. • Apply volume formulas to rectangular prisms. • Recognize volume as additive for composed figures		
Notes:	•Lesson **11.4** address standardMA.5.GR.1.2. This skill was not required by MAFS, so it was previously recommended that this lesson be skipped. The recommendation has changed, and lesson 11.4 can be used as an instructional tool for this skill.		
Additional Resources	**Manipulatives** • Geoboards and Geobands (rubber bands) • Straws • Shapes including circles, triangles, pentagons, hexagons • Pattern Blocks • Tangrams • Cubes • Rectangular prisms	**Literature** • X marks the Spot by Lucille Recht Penner • Shape Up!, David Adler • Sir Cumference and the Vikings Map by Cindy Neuschwander • Perimeter, Area & and Volume: A Monster Bok of Dimensions by David A. Adler • The Greedy Triangle by Marilyn Burns	