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DM = Dimensions Math

Preschool

Standard	Standard Description	DM	Chapter	Lesson
1. Number and Quantity				
P.CC.A Counting & Cardinality: Know number names and the count sequence.				
P.CC.A.1	Count verbally or sign to at least 20 by ones.	PKA	4	1
			6	2
Counting & Cardinality: Recognize the number of objects in a small set				
P.CC.B.2	Instantly recognize, without counting, small quantities of up to five objects and say or sign the number.	KA	2	1, 2
Counting & Cardinality: Understand the relationship between numbers and quantities.				
P.CC.C.3	Say or sign the number names in order when counting, pairing one number word that corresponds with one object, up to at least 10.	PKA	4	1–13
P.CC.A.4	Use the number name of the last object counted to answer "How many?" questions for up to approximately 10 objects.	PKA	4	1–13
			6	1–13
P.CC.A.5	Accurately count as many as five objects in a scattered configuration or out of a collection of more than five objects.	PKA	4	12–14
P.CC.A.6	Understand that each successive number name refers to a quantity that is one larger.		6	5
Counting & Cardinality: Compare numbers.				
P.CC.D.7	Identify whether the number of objects in one group is more than, less than or the same as objects in another group for up to at least five objects.	PKB	10	1–5
P.CC.D.8	Identify and use numbers related to order or position from first to fifth.	PKB	8	1–5

Standard	Standard Description	DM	Chapter	Lesson
Counting & Cardinality: Associate a quantity with written numerals up to 5 and begin to write numbers.				
P.CC.E.8	Associate a number of objects with a written numeral 0–5.	PKA	5	1–8
P.CC.E.9	Recognize and, with support, write some numerals up to 10. (Lessons in DM PreK do not include writing numerals.)	PKA	7	1–9
2. Algebra and Functions				
Operations & Algebraic Thinking: Understand addition as adding to and understand subtraction as taking away from.				
P.OA.A.1	Represent addition and subtraction in different ways, such as with fingers, objects, and drawings.	PKB	11	1–6
P.OA.A.2	Solve addition and subtraction problems set in simple contexts. Add and subtract up to at least five to or from a given number to find a sum or difference up to 10.	PKB	12	1–8
P.OA.A.3	With adult assistance, begin to use counting on (adding 1 or 2, for example) from the larger number for addition.	KB	9	5, 6
Operations & Algebraic Thinking: Understand simple patterns.				
P.OA.B.4	Fill in missing elements of simple patterns.	PKA	3	1–4
P.OA.B.5	Duplicate simple patterns in a different location than demonstrated, such as making the same alternating color pattern with blocks at a table that was demonstrated on the rug. Extend patterns, such as making an eight-block tower of the same pattern that was demonstrated with four blocks.	PKA	3	1–4
P.OA.B.6	Identify the core unit of sequentially repeating patterns, such as color in a sequence of alternating red and blue blocks.	PKA	3	1–4

Standard	Standard Description	DM	Chapter	Lesson
3. Data, Statistics, and Probability				
Measurement & Data: Measure objects by their various attributes using standard and nonstandard measurement and use differences in attributes to make comparisons.				
P.MD.A.1	Use comparative language, such as shortest, heavier, biggest, or later.	PKA	2	1–5
P.MD.A.2	Compare or order up to five objects based on their measurable attributes, such as height or weight.	PKA	2	1–5
P.MD.A.3	Measure using the same unit, such as putting together snap cubes to see how tall a book is.	KA	5	4, 7, 9
4. Geometry				
Geometry: Identify, describe, compare, and compose shapes.				
P.G.A.1	Name and describe shapes in terms of length of sides, number of sides, and number of angles/corners.	PKB	9	1, 5–10
P.G.A.2	Correctly name basic shapes (circle, square, rectangle, triangle) regardless of size and orientation.	PKB	9	5–10
P.G.A.3	Analyze, compare, and sort two-and three-dimensional shapes and objects in different sizes. Describe their similarities, differences, and other attributes, such as size and shape.	PKB	9	5–10
P.G.A.4	Compose simple shapes to form larger shapes.	PKB	9	4, 10
Geometry: Explore the positions of objects in space.				
P.G.B.5	Understand and use language related to directionality, order, and the position of objects, including up/down and in front/behind.	PKB	9	3, 4
P.G.B.6	Correctly follow directions involving their own position in space, such as “Stand up” and “Move forward.”	PKB	9	3

Kindergarten

Standard	Standard Description	DM	Chapter	Lesson
1. Number and Quantity				
Counting & Cardinality: Know number names and the count sequence.				
K.CC.A.1	Count to 100 by ones and by tens.	KB	12	1–8
K.CC.A.2	Count forward beginning from a given number within the given sequence (instead of having to begin at 1).	KB	12	2–8
K.CC.A.3	Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).	KA	2	6–11
			3	7–10
		KB	7	2–9
Counting & Cardinality: Count to determine the number of objects.				
K.CC.B.4	Apply the relationship between numbers and quantities and connect counting to cardinality. a. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object. b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted. c. Understand the concept that each successive number name refers to a quantity that is one larger.	KB	7	1–11
K.CC.B.5	Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.	KA	3	1–10
		KB	7	1–11

Standard	Standard Description	DM	Chapter	Lesson
Counting & Cardinality: Compare numbers.				
K.CC.C.6	Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group.	KA	6	1–5
K.CC.C.7	Compare two numbers between 1 and 10 presented as written numerals.	KA	6	3, 4, 5
Number & Operations in Base Ten: Work with numbers 11–19 to gain foundations for place value.				
K.NBT.A.1	Compose and decompose numbers from 11 to 19 into ten ones and some further ones, and record each composition or decomposition by a drawing or equation (such as 18=10+8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.	KB	7	1–7
2. Algebra and Functions				
Operations & Algebraic Thinking: Model and describe addition as putting together and adding to, and understand subtraction as taking apart and taking from.				
K.OA.A.1	Represent addition and subtraction with objects, fingers, mental images, drawings, (drawings need not show details, but should show the mathematics in the problem), sounds, acting out situations, verbal explanations, expressions, or equations.	KB	8	1–14
			9	1–12
			10	1–12
K.OA.A.2	Solve addition and subtraction word problems, and add and subtract within 10.	KB	9	1–12
			10	1–12
			11	1–6
K.OA.A.3	Decompose numbers less than or equal to 10 into pairs in more than one way, and record each decomposition by a drawing or equation.	KB	8	1–14
			10	1–12

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K.OA.A.4	For any number from 1 to 9, find the number that makes 10 when added to the given number, and record the answer with a drawing or equation.	KB	8	11
K.OA.A.5	Fluently add and subtract within 5.	KB	8	5, 6
			9	7, 8, 11
			10	4, 5, 6, 7
			11	7, 10
3. Data, Statistics, and Probability				
Measurement & Data: Describe and compare measurable attributes.				
K.MD.A.1	Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.	KA	5	1–10
K.MD.A.2	Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference.	KA	5	1–10
Measurement & Data: Classify objects and count the number of objects in each category.				
K.MD.B.3	Classify objects into given categories; count the objects in each category and sort the categories by count. Limit category counts to be less than or equal to 10.	KA	1	2–6
			4	11
4. Geometry				
Geometry: Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).				
K.G.A.1	Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.	KA	4	4–7
K.G.A.2	Correctly name shapes regardless of their orientation or overall size.	KA	4	3–12
K.G.A.3	Identify shapes as two-dimensional (lying in a plane, "flat") and three dimensional ("solid").	KA	4	2

Standard	Standard Description	DM	Chapter	Lesson
Geometry: Analyze, compare, create, and compose shapes.				
K.G.B.4	Analyze and compare, two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts, and other attributes.	KA	4	4–8, 10
K.G.B.5	Model objects in the world by building shapes from components.	KA	4	1–12
K.G.B.6	Compose simple shapes to form larger shapes.	KA	4	10

Grade 1

Standard	Standard Description	DM	Chapter	Lesson
1. Number and Quantity				
Number & Operations in Base Ten: Extend the counting sequence.				
1.NBT.A.1	Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral. Students count within 100, not 120, in the DM textbook. The DM Teacher's Guide has extension for counting to 120.	1B	12	1, 2
			16	1
Number & Operations in Base Ten: Understand place value.				
1.NBT.B.2	Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases: a. 10 can be thought of as a bundle of ten ones, called a "ten". b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).	1A	5	1
		1B	12	1, 2
			16	1, 2
1.NBT.B.3	Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <. Symbols are not used until DM 2A.	1B	12	4
			16	4
Number & Operations in Base Ten: Use place value understanding and properties of operations to add and subtract.				
1.NBT.C.4	Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or	1B	12	1–3
			13	1–6
			16	2–4
			17	1–5

Standard	Standard Description	DM	Chapter	Lesson
	the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.			
1.NBT.C.5	Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.	1B	12	3
			16	3
			17	2, 9
1.NBT.C.6	Subtract multiples of 10 in the range 10–90 from multiples of 10 in the range 10–90 (positive or zero differences), 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.	1B	12	3
			16	3
			17	2, 9
2. Algebra and Functions				
Operations & Algebraic Thinking: Represent and solve problems involving addition and subtraction.				
1.OA.A.1	Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions.	1A	3	1–6
			4	1–8
			5	5, 6
			6	1–5
			7	1–4
		1B	11	1, 2
1.OA.A.2	Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20.	1B	13	7

Standard	Standard Description	DM	Chapter	Lesson
Operations & Algebraic Thinking: Understand and apply properties of operations and the relationship between addition and subtraction.				
1.OA.B.3	Apply properties of operations as strategies to add and subtract. (Students need not use formal terms for these properties.)	1A	3	4
			4	7
			5	5, 6
			6	1–3
			7	1–3
1.OA.B.4	Understand subtraction as an unknown-addend problem within 20.	1A	4	1–7
			5	6
Operations & Algebraic Thinking: Add and subtract within 20.				
1.OA.C.5	Relate counting to addition and subtraction.	1A	3	5
			4	3
1.OA.C.6	Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten; decomposing a number leading to a ten; using the relationship between addition and subtraction; and creating equivalent but easier or known sums.	1A	3	4, 5
			4	3
			6	1–3
			7	1–3
Operations & Algebraic Thinking: Work with addition and subtraction equations.				
1.OA.D.7	Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false.	1A	3	1, 4
			7	1, 2
1.OA.D.8	Determine the unknown whole number in an addition or subtraction equation relating three whole numbers.	1A	3	4
			4	6, 7
			5	2
1.NBT.5	Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.	1B	12	3
			16	3
			17	2, 9

Standard	Standard Description	DM	Chapter	Lesson
3. Data, Statistics, and Probability				
Measurement & Data: Measure lengths indirectly and by iterating length units.				
1.MD.A.1	Order three objects by length; compare the lengths of two objects indirectly by using a third object.	1B	10	1, 2
1.MD.A.2	Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps.	1B	10	3
Measurement & Data: Tell and write time.				
1.MD.B.3	Tell and write time in hours and half-hours using analog and digital clocks.	1B	18	1, 2
Measurement & Data: Represent and interpret data.				
1.MD.C.4	Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.	1B	11	3
4. Geometry				
Geometry: Reason with shapes and their attributes.				
1.G.A.1	Distinguish between defining attributes versus non-defining attributes; build and draw shapes to possess defining attributes.	1A	8	1, 2
1.G.A.2	Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.	1A	8	3

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1.G.A.3	Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares	1B	15	1, 2

Grade 2

Standard	Standard Description	DM	Chapter	Lesson
1. Number and Quantity				
Number & Operations in Base Ten: Understand place value.				
2.NBT.A.1	Understand that the digits of a three-digit number represent amounts of hundreds, tens, and ones. Understand the following as special cases: a. 100 can be thought of as a bundle of ten tens, called a "hundred." b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).	2A	1	4, 5
NBT.A.2	Count within 1000; skip-count by 5s, 10s, and 100s.	2A	1	4, 7
			7	1, 2, 7
NBT.A.3	Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.	2A	1	4, 5
NBT.A.4	Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.	2A	1	6
Number & Operations in Base Ten: Use place value understanding and properties of operations to add and subtract.				
NBT.B.5	Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. Lessons in DM 2A include addition and subtraction within 1,000.	1B	17	1–12
		2A	3	1–10
NBT.B.6	Add up to four two-digit numbers using strategies based on place value and properties of operations. DM 2A textbook lessons covers adding up to three 3-digit numbers. DM Teacher's Guide 2A has an extension on adding up to four 2-digit numbers.	2A	3	5, 7

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2.NBT.B.7	Add and subtract within 1000, 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. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.	2A	3	1–12
		2B	8	1–10
		2B	8	1–10
NBT.B.8	Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.	2B	1	2, 7
NBT.B.9	Explain why addition and subtraction strategies work, using place value and the properties of operations.	2A	2	1–4
			3	1–10
		2B	8	1–9
2. Algebra and Functions				
Operations & Algebraic Thinking: Represent and solve problems involving addition and subtraction.				
2.OA.A.1	Use addition and subtraction within 100 to solve one-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions. Lessons in chapter 2 of DM 2A cover sums to 20. All the lessons in chapter 3 of DM 2A include addition and subtraction within 1,000.	1B	17	1–12
		2A	2	1, 2, 3
			3	1–12
Operations & Algebraic Thinking: Add and subtract within 20.				
2.OA.B.2	Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.	2A	2	1–4

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Operations & Algebraic Thinking: Work with equal groups of objects to gain foundations for multiplication.				
2.OA.C.3	Determine whether a group of objects (up to 20) has an odd or even number of members; write an equation to express an even number as a sum of two equal addends.	3A	4	6
2.OA.C.4	Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends. Lessons include totals to 40 in DM 1B, and to 100 in DM 2A.	1B	14	1
		2A	6	1–3
3. Data, Statistics, and Probability				
Measurement & Data: Measure and estimate lengths in standard units.				
2.MD.A.1	Measure the length of an object to the nearest whole by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.	2A	4	1, 3, 4, 5, 7
2.MD.A.2	Measure the length of an object twice, using different "length units" for the two measurements; describe how the two measurements relate to the size of the unit chosen.	2A	4	1
2.MD.A.3	Estimate lengths using units of inches, feet, centimeters, and meters.	2A	4	2, 4, 7
2.MD.A.4	Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.	2A	4	1, 5
Measurement & Data: Relate addition and subtraction to length.				
2.MD.B.5	Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, units.	2A	4	1, 3, 5, 8
2.MD.B.6	Represent whole numbers as lengths from 0 on a number line with equally spaced			

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	points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram. Students do not use a number line to add or subtract past 20 in Dimensions Math. They represent numbers on number lines greater than 100 in 3A, labeled with intervals of 10 or 100. Number lines are used in 3A to illustrate some mental math strategies. Students do relate calculations to length with the use of bar models in problem solving.			
Measurement & Data: Work with time and money.				
2.MD.C.7	Tell and write time from analog and digital clocks in five minute increments, using a.m. and p.m.	1B	18	3
		2B	12	1, 3
MD.C.8	Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately.	1B	19	2, 3, 4
		2B	10	1
Measurement & Data: Represent and interpret data.				
2.MD.D.9	Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Present the measurement data in a line plot, where the horizontal scale is marked off in whole-number units. Line plots are not covered until DM 4B.			
2.MD.D.10	Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a picture graph or a bar graph. DM 1B does not include bar graphs. DM 2B lessons include situations involving multiplication and arenot limited to four categories.	1B	12	3
		2B	14	1, 2, 3

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4. Geometry				
Geometry: Reason with shapes and their attributes.				
2.G.A.1	Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. (Sizes are compared directly or visually, not compared by measuring.) Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.	2B	14	1
2.G.A.2	Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.	2B	11	1, 2
2.G.A.3	Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc. Describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.	2B	11	1, 2, 33

Grade 3

Standard	Standard Description	DM	Chapter	Lesson
1. Number and Quantity				
Number & Operations in Base Ten: Use place value understanding and properties of operations to perform multi-digit arithmetic.				
3.NBT.A.1	Use place value understanding to round whole numbers to the nearest 10 or 100.	3A	1	9, 10
3.NBT.A.2	Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. DM 2A covers addition and subtraction within 1,000. DM 3A lessons include addition and subtraction within 10,000.	2A	3	1–12
		3A	3	1–7
3.NBT.A.3	Multiply one-digit whole numbers by multiples of 10 in the range 10–90 using strategies based on place value and properties of operations.	3A	5	1
Number & Operations—Fractions: Develop understanding of fractions as numbers.				
3.NF.A.1	Understand a unit fraction $1/b$ as the quantity formed by 1 part when a whole is partitioned into b equal parts. Understand a fraction a/b as the quantity formed by a parts of size $1/b$.	2B	11	2, 3, 4
		3B	9	1–4
3.NF.A.2	Understand a fraction as a number on the number line; represent fractions on a number line. a. Represent a fraction $1/b$ on a number line by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size $1/b$ and that the endpoint of the part starting at 0 locates the number $1/b$ on the number line. b. Represent a fraction a/b on a number line by marking off a lengths $1/b$ from 0. Recognize that the resulting interval has size a/b and that its endpoint	3B	9	2, 3, 4
			10	1

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	locates the number a/b on the number line.			
3.NF.A.3	Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. b. Recognize and generate equivalent fractions. Explain why the fractions are equivalent.	3B	9	2, 3, 4
		3B	10	1, 2, 3
2. Algebra and Functions				
Represent and solve problems involving multiplication and division.				
3.OA.A.1	Interpret products of whole numbers. DM 2 covers multiplication where one of the factors is 2, 3, 4, 5, or 10, and division by 2, 3, 4, 5, or 10. DM 3 reviews the concepts, and continues with the rest of the multiplication and division facts (as well as multiplication and division of two- and three-digit numbers by 2, 3, 4, or 5.)	2A	6	1, 2, 3
		3A	4	1, 2, 4
3.OA.A.2	Interpret whole-number quotients of whole numbers.	2A	6	4, 5
		3A	4	3, 4
3.OA.A.3	Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities.	2A	7	1–11
		2B	9	1–9
		3A	4	1–10
		3B	8	1, 2, 6, 7
3.OA.4	Determine the unknown whole number in a multiplication or division equation relating three whole numbers.	2A	7	1–11
		2B	9	1–9
		3A	4	1–10
		3B	8	1, 2, 6, 7

Standard	Standard Description	DM	Chapter	Lesson
Operations & Algebraic Thinking: Apply properties of multiplication and the relationship between multiplication and division.				
3.OA.B.5	Apply properties of operations as strategies to multiply and divide	2A	7	1–11
		2B	9	1–9
		3A	4	1–10
		3B	8	1, 2, 6, 7
3.OA.B.6	Interpret division as an unknown-factor problem.	2A	6	4, 5
		3A	4	3, 4
Operations & Algebraic Thinking: Multiply and divide within 100.				
3.OA.C.7	Fluently solve single-digit multiplication and related divisions, using strategies such as the relationship between multiplication and division or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.	2A	7	1–11
		2B	9	1–9
		3A	4	1–10
		3B	8	1, 2, 6, 7, 10
Operations & Algebraic Thinking: Solve problems involving the four operations, and identify and extend patterns in arithmetic.				
3.OA.D.8	Solve two-step word problems posed with whole numbers and having whole-number answers using the four operations. Represent these problems using equations or expressions with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. The DM textbooks and workbooks use blanks, not letters, for unknowns. The DM Teacher's Guide includes optional material where letters are used instead of blanks.	3A	2	11, 12
			3	6, 7
			4	9, 10
			5	6, 7, 8, 9
			6	5, 9
		3B	8	5, 10
			11	7, 8

Standard	Standard Description	DM	Chapter	Lesson
3.OA.9	Identify and extend arithmetic patterns (including patterns in the addition table or multiplication table) and explain them using properties of operations.	3A	1	7
			2	5
		3B	8	1, 2, 6, 7
3. Data, Statistics, and Probability				
Measurement & Data: Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.				
3.MD.A.1	Tell and write time to the nearest minute and measure time intervals in minutes. Solve one-step word problems involving addition and subtraction of time intervals in minutes. DM 3B lessons include adding and subtracting time intervals in hours and minutes, not just minutes.	2B	12	1–4
		3B	14	1–3
3.MD.A.2	Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units DM 3B lessons include compound units, e.g. 4 kg 20 g. Multiplicative comparison problems are included in DM 3.	2A	5	1, 2
		2B	13	1, 2, 3
		3B	11	1–8
Measurement & Data: Represent and interpret data.				
3.MD.B.3	Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in a scaled picture graph or a scaled bar graph. DM 2B lessons have scales in intervals of 2, 3, 4, or 5.	2B	14	1, 2, 3
		3A	7	1, 2, 3
3.MD.B.4	Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show	4B	9	3

Standard	Standard Description	DM	Chapter	Lesson
	the data by making a line plot where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters. Students measure lengths to various fractions in the WB when learning about fractions, but line plots are not covered until DM 4B.			
Measurement & Data: Geometric measurement: understand concepts of area and relate area to multiplication and to addition.				
3.MD.C.5	Recognize area as an attribute of plane figures and understand concepts of area measurement. a. A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area. b. A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units.	3B	13	1, 2
3.MD.C.6	Measure areas by counting unit squares.	3B	13	1, 2
3.MD.C.7	Use concepts of area and relate area to the operations of multiplication and addition. a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths. b. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning. c. Use tiling to show in a concrete case that the area of a rectangle with whole-	3B	13	3, 5, 9

Standard	Standard Description	DM	Chapter	Lesson
	number side length a and side length b + c is the sum of a × b and a × c. Use area models to represent the distributive property in mathematical reasoning.			
Geometric measurement: Recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.				
3.MD.D8	Solve real-world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.	3B	13	6–9
4. Geometry				
Geometry: Reason with shapes and their attributes.				
3.G.A.1	Explain that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.	2B	15	2, 4, 6
		3B	12	4, 6
3.G.A.2	Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole.	3B	9	1
			13	1

Grade 4

Standard	Standard Description	DM	Chapter	Lesson
1. Number and Quantity				
Number & Operations in Base Ten: Generalize place value understanding for multi-digit whole numbers.				
4.NBT.A.1	Explain that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right.	4A	1	1, 2
4.NBT.A.2	Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.	4A	1	1, 2, 4
4.NBT.A.3	Use place value understanding to round multi-digit whole numbers to any place.	4A	1	5, 6
Number & Operations in Base Ten: Use place value understanding and properties of operations to perform multi-digit arithmetic.				
4.NBT.4	Fluently add and subtract multi-digit whole numbers using a standard algorithm.	4A	2	1–4
4.NBT.5	Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. DM 3 lessons cover multiplying a whole number of up to three digits by a one-digit number.	3A	5	1–9
		3B	8	2, 8
		4A	4	1–6
4.NBT.6	Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the	3A	6	1–9
		3B	8	2, 8
		4A	5	1, 2, 3

Standard	Standard Description	DM	Chapter	Lesson
	relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. DM 3 lessons cover dividing a whole number of up to three digits.			
4.NBT.6	Find whole-number quotients and remainders with up to four-digit dividends and one-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.	3A	6	1–9
		3B	8	2, 8
		4A	5	1, 2, 3
Number & Operations—Fractions: Extend understanding of fraction equivalence and ordering.				
4.NF.A.1	Explain why a fraction a/b is equivalent to a fraction $a \times n/b \times n$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.	3B	10	2
		4B	6	1
4.NF.A.2	Compare two fractions with different numerators and different denominators. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions.	3B	10	4, 5, 6
		4A	6	2
Number & Operations—Fractions: Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.				
4.NF.B.3	Understand a fraction a/b with a > 1 as a sum of fractions $1/b$. a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.	3B	10	7, 8, 9
		4A	6	3–6
			7	1–7

Standard	Standard Description	DM	Chapter	Lesson
	b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions. c. Add and subtract mixed numbers with like denominators. d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators. DM 3B lessons cover adding and subtracting fractions with the same denominator. DM 4A lessons include adding and subtracting fractions with related denominators.			
4.NF.B.4	Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. a. Understand a fraction a/b as a multiple of $1/b$. b. Understand a multiple of a/b as a multiple of $1/b$, and use this understanding to multiply a fraction by a whole number.	4A	8	1, 2, 3
Number & Operations—Fractions: Understand decimal notation for fractions, and compare decimal fractions.				
4.NF.C.5	Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.	4B	12	1–4
4.NF.C.6	Use decimal notation for fractions with denominators 10 or 100.	4B	12	1–4
4.NF.C.7	Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when two decimals refer to the same whole. Record the results of comparisons with the	4B	12	8

Standard	Standard Description	DM	Chapter	Lesson
	symbols >, =, or <, and justify the conclusions.			
2. Algebra and Functions				
Operations & Algebraic Thinking: Use the four operations with whole numbers to solve problems.				
4.OA.A.1	Interpret a multiplication equation as a comparison. Represent verbal statements of multiplicative comparisons as multiplication equations.	3A	4	8, 9, 10
		4A	4	1–4
4.OA.A.2	Multiply or divide to solve word problems involving multiplicative comparison, distinguishing multiplicative comparison from additive comparison.	3A	4	8, 9, 10
		4A	4	1–8
4.OA.A.3	Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations or expressions with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. The DM textbook and workbook use blanks, not letters, for unknowns. The DM Teacher's Guide includes optional material where letters are used instead of blanks.	4A	2	1–5
			3	5
			4	4, 8
			5	4–7
Operations & Algebraic Thinking: Gain familiarity with factors and multiples.				
4.OA.B.4	Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite.	4A	3	1, 3, 4

Standard	Standard Description	DM	Chapter	Lesson
Operations & Algebraic Thinking: Generate and analyze patterns.				
4.OA.C.5	Generate a number or shape pattern that follows a given rule. Identify and informally explain apparent features of the pattern that were not explicit in the rule itself. This is not explicitly covered in a specific lesson in DM 4, other than increasing or decreasing by the digit in one or more places. Some problems in the workbook do include analyzing patterns.	5B	12	5
3. Data, Statistics, and Probability				
Measurement & Data: Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.				
4.MD.A.1	Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table.	4B	10	1–8
4.MD.A.2	Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.	4B	10	1–8
			13	1–9
4.MD.A.3	Apply the area and perimeter formulas for rectangles in real world and mathematical problems.	4B	11	1–6

Standard	Standard Description	DM	Chapter	Lesson
Measurement & Data: Represent and interpret data.				
4.MD.B.4	Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots.	4A	9	3
Measurement & Data: Geometric measurement: understand concepts of angle and measure angles.				
4.MD.C.5	Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement. a. Recognize an angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through 1/360 of a circle is called a "one degree angle," and can be used to measure angles. b. An angle that turns through nn one-degree angles is said to have an angle measure of n degrees.	3B	12	1–3
		4B	15	1
4.MD.C.6	Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.	4B	15	2, 3
4.MD.C.7	Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems.	4B	15	4, 5, 6

Standard	Standard Description	DM	Chapter	Lesson
4. Geometry				
Geometry: Draw and identify lines and angles, and classify shapes by properties of their lines and angles.				
4.G.A.1	Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures. Points, line segments, and rays are defined in the DM Teacher's Guide only with a supplementary activity.	4B	15	3
			16	1, 2, 3
4.G.A.2a	Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.	3B	12	4, 5
		4B	16	3–6
4.G.A.3	Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.	4B	16	5

Grade 5

Standard	Standard Description	DM	Chapter	Lesson
1. Number and Quantity				
Number & Operations in Base Ten: Understand the place-value system.				
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 represents in the place to its left.	5A	1	1
		5B	9	6, 7
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. Exponents are not used in DM 5.	5A	1	1–5
		5B	9	6, 7
5.NBT.A.3	Read, write, and compare decimals to thousandths. a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form. b. Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.	5B	9	1, 2, 3
5.NBT.A.4	Use place value understanding to round decimals to any place.	5B	9	4
Number & Operations in Base Ten: Perform operations with multi-digit whole numbers and with decimals to hundredths.				
5.NBT.A.5	Fluently multiply multi-digit whole numbers using a standard algorithm. DM 4A lessons cover multiplying a number of up to 5-digits by a 1-digit number and by a 2-digit number and a number of up to 3 digits by a 2-digit	4A	4	1–8
		5A	3	1, 2

Standard	Standard Description	DM	Chapter	Lesson
	number. DM 5A lessons review multiplying by a two-digit number.			
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.	5A	3	4–9
5.NBT.7	Add, subtract, multiply, and 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. DM 4A lessons cover adding and subtracting decimals to hundredths and multiplying and dividing decimals to hundredths by a 1-digit whole number. DM 5B lessons cover adding and subtracting decimals to thousandths, multiplying decimals to thousandths by a decimal of up to 2 digits, dividing decimals by a 2-digit whole number, and dividing a whole number by a decimal.	4B	13	1–9
			14	1–9
		5B	10	1–10
Number & Operations—Fractions: Use equivalent fractions as a strategy to add and subtract fractions.				
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.	4A	7	2–7
		5A	4	2–9

Standard	Standard Description	DM	Chapter	Lesson
	DM 4A lessons cover adding and subtracting fractions with related denominators.			
5.NF.2	Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.	5A	4	2–9
Number & Operations—Fractions: Apply and extend previous understandings of multiplication and division to multiply and divide fractions.				
5.NF.B.3	Interpret a fraction as division of the numerator 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.	4A	6	7, 8
		5A	4	1
5.NF.B.4	Apply and extend previous understandings of multiplication to multiply a fraction by a whole number or a fraction. a. Interpret the product a/b × q as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations a × q ÷ b. b. Find the area of a rectangle with fractional side lengths by tiling it with rectangles 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.	4A	8	1–9
		5A	5	1–11
			7	2

Standard	Standard Description	DM	Chapter	Lesson
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 × a)/(n × b) to the effect of multiplying a/b by 1.	5A	5	2–8
5.NF.B.6	Solve real world problems involving multiplication of fractions and mixed numbers.	5A	5	1–9
5.NF.B.7	Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. b. Interpret division of a whole number by a unit fraction, and compute such quotients. c. Solve real-world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions.	5A	6	1, 4

Standard	Standard Description	DM	Chapter	Lesson
2. Algebra and Functions				
Operations & Algebraic Thinking: Write and interpret numerical expressions.				
5.OA.A.1	Apply the order of operations to evaluate numerical expressions with these symbols.	5A	2	2, 3
5.OA.B.2	Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them.	5A	2	1–4
Operations & Algebraic Thinking: Analyze patterns and relationships.				
5.OA.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.	5B	12	5
3. Data, Statistics, and Probability				
Measurement & Data: Convert like measurement units within a given measurement system.				
5.MD.A.1	Convert among different-sized standard measurement units within a given measurement system, and use these conversions in solving multi-step, real-world problems.	4B	10	1–9
		5A	7	1
		5B	9	8
Measurement & Data: Represent and interpret data.				
5.MD.B.2	Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots.	4A	9	3
		5B	12	3
Measurement & Data: Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition				
5.MD.C.3	Recognize volume as an attribute of solid figures and understand concepts of volume measurement.	5A	8	1

Standard	Standard Description	DM	Chapter	Lesson
	a. 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. b. 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.	5A	8	1
5.MD.C.5	Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume. a. 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 b. Apply the formulas V = l × w × h and V = B × h for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems.	5A	8	2–4
4. Geometry				
Geometry: Graph points on the coordinate plane to solve real-world and mathematical problems.				
5.G.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	5B	12	4

Standard	Standard Description	DM	Chapter	Lesson
	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 one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond.			
5.G.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.	4A	9	1, 2
		5B	12	4, 5, 6
Geometry: Classify two-dimensional figures into categories based on their properties.				
5.G.3	Explain that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category.	5B	11	3, 6
5.G.4	Classify two-dimensional figures in a hierarchy based on properties.	5B	11	3, 6